

EXPLORING PARENTAL ENVIRONMENTALLY SIGNIFICANT BEHAVIORS
PERFORMED INDIVIDUALLY AND WITH CHILDREN

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

GÜNEŞ EZGİ DEMİRCİ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF ELEMENTARY AND EARLY CHILDHOOD
EDUCATION, EARLY CHILDHOOD EDUCATION

SEPTEMBER 2023

Approval of the thesis:

**EXPLORING PARENTAL ENVIRONMENTALLY SIGNIFICANT
BEHAVIORS PERFORMED INDIVIDUALLY AND WITH CHILDREN**

submitted by **GÜNEŞ EZGİ DEMİRCİ** in partial fulfillment of the requirements
for the degree of **Master of Science in Elementary and Early Childhood
Education, Early Childhood Education, the Graduate School of Social
Sciences of Middle East Technical University** by,

Prof. Dr. Sadettin KİRAZCI
Dean
Graduate School of Social Sciences

Prof. Dr. Feyza TANTEKİN ERDEN
Head of Department
Department of Elementary and Early Childhood Education

Prof. Dr. Refika OLGAN
Supervisor
Department of Elementary and Early Childhood Education

Examining Committee Members:

Assoc. Prof. Dr. Selda ARAS (Head of the Examining Committee)
Hacettepe University
Department of Elementary and Early Childhood Education

Prof. Dr. Refika OLGAN (Supervisor)
Middle East Technical University
Department of Elementary and Early Childhood Education

Assist. Prof. Dr. Fatma YALÇIN
TED University
Department of Elementary and Early Childhood Education

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last Name: Güneş Ezgi Demirci

Signature:

ABSTRACT

EXPLORING PARENTAL ENVIRONMENTALLY SIGNIFICANT BEHAVIORS PERFORMED INDIVIDUALLY AND WITH CHILDREN

DEMİRÇİ, Güneş Ezgi

M. S., The Department of Elementary and Early Childhood Education, Early
Childhood Education

Supervisor: Prof. Dr. Refika OLGAN

September 2023, 344 pages

This qualitative study aims to explore parents' definitions of various types of private and public sphere environmentally significant behaviors, their individual and collaborative engagement in these behaviors with their children, the barriers encountered while engaging in these behaviors with their children, and potential differences between mothers and fathers in terms of reported definitions, behaviors, and barriers. A phenomenological research design was used.

Data were collected from 13 mothers and ten fathers who have children between the ages of three and six and are enrolled in a preschool, using a semi-structured interview protocol. It was revealed that most of the mothers and fathers of young children have accurate, however limited knowledge on the definitions of different environmentally significant behaviors. While parents' reported behaviors align with existing literature, they exhibit low involvement in environmentally responsible consumption, non-activist behaviors in the public sphere, and environmental activism. Resource conservation behaviors are most commonly practiced, whether

individually or with children, while activism is less frequent. Both mothers and fathers tend to prefer engaging individually in all types of environmentally significant behaviors rather than involving their children. Common barriers to engaging environmentally significant behaviors with children include time constraints, urban lifestyles, lack of awareness, and mistrust in effectiveness of these behaviors. The main difference observed between mothers and fathers is that mothers engage in environmentally significant behaviors more than fathers, both individually and with their children. Study findings were discussed, offering recommendations for early childhood environmental education stakeholders.

Keywords: early childhood environmental education, parents of preschool children, environmentally significant behaviors, private/public sphere environmentally significant behaviors, barriers

ÖZ

EBEVEYNLERİN BİREYSEL OLARAK VE ÇOCUKLARI İLE BİRLİKTE GERÇEKLEŞTİRDİKLERİ ÇEVRE DOSTU DAVRANIŞLARIN ARAŞTIRILMASI

DEMİRCİ, Güneş Ezgi

Yüksek Lisans, Temel Eğitim, Okul Öncesi Eğitimi Bölümü

Tez Yöneticisi: Prof Dr. Refika OLGAN

Eylül 2023, 344 sayfa

Bu nitel çalışmanın amacı, ebeveynlerin özel ve kamusal alanda çevreci davranışlara ilişkin tanımlarını, bireysel olarak ve çocukları ile gerçekleştirdikleri özel ve kamusal alan çevreci davranışları, bu davranışları çocuklarıyla birlikte gerçekleştirmelerinin karşısındaki engelleri ve bildirilen tanımlar, davranışlar ve engeller açısından anneler ve babalar arasındaki potansiyel farklılıkları araştırmaktır. Araştırma yöntemi olarak fenomenolojik yaklaşımdan faydalanılmıştır. Veriler, üç ila altı yaş arasında, anaokuluna kayıtlı en az bir çocuğu olan 13 anne ve 10 babadan yarı yapılandırılmış görüşme protokolü aracılığıyla toplanmıştır. Katılımcıların çoğunun, özel ve kamusal alanda çevreci davranışların tanımları hakkında doğru, ancak sınırlı bilgiye sahip olduğu ortaya çıkmıştır. Ebeveynlerin bildirdiği davranışlar mevcut alan yazınıyla uyumludur fakat çevreye duyarlı tüketim, kamusal alanda aktivist olmayan davranışlar ve çevresel aktivizm konularında düşük katılım sergilemektedirler. Kaynak koruma davranışları, bireysel olarak veya çocuklarla birlikte en yaygın şekilde uygulanırken, çevresel aktivizm en az sıklıkta görülen davranış olmuştur. Hem anneler hem de babalar, özel ve kamusal alanda çevreci davranışların her

kategorisini çocuklarıyla birlikte gerçekleştirmektense bireysel olarak gerçekleştirme eğilimdedir. Çocuklarla birlikte özel ve kamusal alanda çevreci davranışlarda bulunmanın önündeki yaygın engeller arasında zaman kısıtlamaları, kentsel yaşam tarzları, farkındalık eksikliği ve bu davranışların etkililiğine duyulan güvensizlik yer almaktadır. Anneler ve babalar arasında gözlemlenen en temel fark, annelerin hem bireysel olarak hem de çocuklarıyla birlikte babalardan daha fazla özel ve kamusal alanda çevreci davranışlarda bulunmasıdır. Çalışma bulguları tartışılmış ve erken çocukluk dönemi çevre eğitimi paydaşları için öneriler sunulmuştur.

Anahtar Kelimeler: erken çocukluk çevre eğitimi, okul öncesi dönem çocuklarının ebeveynleri, çevre dostu davranışlar, özel/kamusal alan çevreçi davranışlar, engeller

*To Cincin, Leon & Kepçe,
my beloved companions and endless sources of inspiration,
for the well-being of all Earth's creatures and their habitats...*

ACKNOWLEDGMENTS

There were some incredible people who generously provided their assistance and guidance during the entire duration of this thesis composition, warranting my profound gratitude. First and foremost, I wish to convey my heartfelt appreciation to my supervisor, Prof. Dr. Refika OLGAN, for her invaluable constructive feedbacks, warm and enlightening attitude throughout this journey. Most importantly, I am grateful for her consistent use of “we”, which fostered a sense of support, ensuring I never felt alone. It has been an honor to collaborate with her and benefit from her extensive academic expertise.

I also wish to express my appreciation to the examining committee members, Assoc. Prof. Dr. Selda ARAS and Assist. Prof. Dr. Fatma YALÇIN for their valuable input, suggestions, and contributions that enhanced the quality of my study. Thanks to their warm and constructive feedback, I not only had the chance to enhance different aspects of my study but also experienced my very first thesis defense in a very positive manner that will not be forgotten. I would also like to thank Prof. Dr. Feyza TANTEKİN ERDEN and Assoc. Prof. Dr. Hasibe Özlen DEMİRCAN for their motivation, support, and caring attitudes throughout the process.

I would also like to express my gratitude to all the parents who participated, who are the unsung heroes of this study. Without their assistance, time, and sincerity, this research could never have been conducted. Furthermore, I am thankful to the individuals who facilitated contact with these parents.

My special thanks also go to my family, particularly to my mother, Pemra ÜNGÜL, whose support went beyond just emotional assistance during this process. From the writing part to the defense, she always stood behind me. I would also like to convey my appreciation to my beloved sister, Ece Su DEMİRCİ, and my precious brother, Batuhan DEMİRCİ, I love you to the moon and back. I would also like to thank

Zehra Şevval KATMER, who is not only the funniest family member but, more importantly, a true friend. She served as fuel for me throughout the writing process, as every conversation with her brought laughter and a realization of my capabilities. Thank you for always being there at the exact moment I am in need. There were other family members who called me every week to inquire about how they could assist with my thesis, provide emotional support, and share in my challenges. This support was invaluable to me, and for that, I would like to extend my heartfelt thanks to my uncle Erhan ÇATAKOĞLU and my aunt Esra AKKUŞ. Whenever I needed assistance, there was someone who would suddenly appear and help me overcome my problems; İbrahim ÜNGÜL, I want to express my gratitude for your problem-solving spirit. Finally, I would like to express my gratitude to my grandmother, Fatma ÇATAKOĞLU, for always being there for me, understanding me, and for everything she has done for me until today. Your place is unique in my heart.

When I was writing this thesis, there were some exceptional people who were always beside me. They listened to my happiness, excitement, sadness, anxiety, and more, and never left me alone. Instead, they supported me in various ways, even when it was challenging for them. Thank you, my dear friends. Beste KAYA AYÇİÇEK, from the day we met, we have experienced many events together, as life is full of surprises. Whether they were good or bad, these surprises were always better or manageable with you by my side. Thank you for always being there for me. It will always be an honor to share laughter or tears with you! I would also like to express my gratitude to Nisa Şevval KAHYAOĞLU (even though they may seem like just cookies, I will never forget the support they brought to me from you), as well as to Feyza Tuğba AKYÜZ and Ayşe Nur YAĞCI for their irreplaceable support since the beginning of my undergraduate years. Everything was made easier with you girls! Even though life has taken us to different places, separating us from the Fabb's breakfasts, I always knew that each of you was there for me throughout this process, thank you. During the preparation process of the thesis, there was one person who was always beside me, both mentally and physically, and without her motivation and support, this thesis would not have been completed; Nazlı Berfin YAPAR. I would like to thank her not only for the emotional support she provided me from day till night but also for her academic contributions to my thesis. It was, and will always be,

a pleasure to be bombastic side-eye partners with her! I would also like to express my gratitude to Hatice Şebnem ÇETKEN-AKTAŞ, who was more like a sister than a colleague in this process. Her calmness and professional experience guided my way in each step of the journey. I would also like to thank Hazal SERPEN & Nilgün ERZİNCAN with whom we experienced very similar process since we were together in the adventure of a thesis writing. I was lucky enough to share this path with you and share both happiness and sadness, now, we are all “uzman”, who would believe?! During my late-night work sessions, my door rang and there were packages from İpek ÖZTÜRK, which made me smile and find the power to continue, in addition to all those phone conversations that were empowering, thank you. Finally, I would like to thank Zeynep ERARSLAN, with whom I grew up, and I don't feel the distance even though we are far apart. Knowing your support was invaluable. Thank you all. A lot.

“Here’s a toast to my real friends...”

Last but not least, I would like to thank all of my friends, mentors, and colleagues in our department. I would like to express my gratitude to Zeliha DEMİRCİ ÜNAL, who listened to me each and every day and guided me with her invaluable recommendations, both academically and personally. I would also like to thank Ayşenur MUMCUOĞLU for always making me believe I am competent enough to complete this process and for listening to me for hours. I would also like to express my gratitude to Dr. Funda Eda TONGA, who was a source of inspiration since my undergraduate years. I would also like to thank Tuğçe Esra TERZİOĞLU, who has been an incredible mentor both when I was a student and now, as a source of information to help me improve my research and occupation. Finally, I would also like to thank Sabiha ÜZÜM, Ezgi ŞENYURT, Elif GÜVELİOĞLU, Beyza HAMAMCI and Oktay TAŞKIN for always supporting me throughout this thesis. Every day, one of you was in the corridors, asking me whether I needed help or assistance, and you enlightened me with your experiences. Thank you.

TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ.....	vi
DEDICATION	viii
ACKNOWLEDGMENTS.....	ix
TABLE OF CONTENTS	xii
LIST OF TABLES	xxi
LIST OF FIGURES.....	xxiv
CHAPTERS	
1. INTRODUCTION.....	1
1.1. Significance of the Study	6
1.2. Definition of Key Terms	16
2. LITERATURE REVIEW.....	19
2.1. Vital Signs of the Planet.....	19
2.2. A Plan of Action to the Environmental Crisis: Environmental Education	22
2.2.1. Early Childhood Environmental Education	25
2.2.1.1. Role of Parents in Early Childhood Environmental Education.....	26
2.3. Revitalizing the Planet: Environmentally Significant Behaviors.....	28
2.4. Theoretical Framework of the Study.....	33
2.4.1. Theory of Environmentally Significant Behavior (Stern, 2000).....	33
2.4.1.1. Studies Employing Stern's (2000) Categorization of Environmentally Significant Behaviors.....	38
2.4.2. Ecological Systems Theory (Bronfenbrenner, 1979).....	43
2.4.3. Social Learning Theory (Bandura, 1977).....	46
2.5. Conceptualization of Different Types of Private and Public Sphere Environmentally Significant Behaviors.....	48
2.5.1. Conceptualization of Different Types of Private Sphere Environmentally Significant Behaviors.....	48

2.5.1.1. Conceptualization of Environmentally Responsible Consumption....	49
2.5.1.2. Conceptualization of Resource Conservation	51
2.5.1.3. Conceptualization of Waste and Waste Management.....	52
2.5.2. Conceptualization of Different Types of Public Sphere	
Environmentally Significant Behaviors	56
2.5.2.1. Conceptualization of Nonactivist Behaviors in the Public Sphere	56
2.5.2.2. Conceptualization of Environmental Activism	57
2.6. Studies Related to Different Types of Private and Public Sphere	
Environmentally Significant Behaviors.....	59
2.6.1. Studies Related to Private Sphere Environmentally Significant	
Behaviors.....	59
2.6.1.1. Studies Related to Environmentally Responsible Consumption	
Behaviors.....	60
2.6.1.2. Studies Related to Resource Conservation Behaviors	64
2.6.1.3. Studies Related to Waste Management Behaviors.....	69
2.6.2. Studies Related to Public Sphere Environmentally Significant	
Behaviors.....	74
2.6.2.1. Studies Related to Nonactivist Behaviors in the Public Sphere.....	74
2.6.2.2. Studies Related to Environmental Activism.....	79
2.7. Studies Related to Barriers Towards Different Types of Private and Public	
Sphere Environmentally Significant Behaviors.....	81
2.7.1. Studies Related to Barriers Towards Private Sphere Environmentally	
Significant Behaviors	81
2.7.1.1. Studies Related to Barriers Towards Environmentally Responsible	
Consumption Behaviors	82
2.7.1.2. Studies Related to Barriers Towards Resource Conservation	
Behaviors.....	83
2.7.1.3. Studies Related to Barriers Towards Waste Management Behaviors.	85
2.7.2. Studies Related to Barriers Towards Public Sphere Environmentally	
Significant Behaviors	87
2.7.2.1. Studies Related to Barriers Towards Nonactivist Behaviors in the	
Public Sphere	87
2.7.2.2. Studies Related to Barriers Towards Environmental Activism	88

2.8. Parenting Trends in Türkiye.....	94
2.9. Summary of Literature Review	96
3. METHODOLOGY	103
3.1. The Design of the Study.....	103
3.2. Data Collection Instruments.....	105
3.2.1. Demographic Information Form	106
3.2.2. Semi-Structured Interview Protocol.....	107
3.3. Pilot Study	117
3.3.1. Sampling and Participants for the Pilot Study	118
3.3.1.1. Demographic Information of Parents in the Pilot Study	119
3.3.2. Data Collection Procedure of Pilot Study	120
3.4. The Main Study	124
3.4.1. Sampling and Participants of the Main Study	124
3.4.1.1. Demographic Information of Parents in the Main Study	126
3.4.2. Data Collection Procedure of the Main Study	127
3.5. Data Analysis	129
3.6. Trustworthiness of the Study.....	130
3.6.1. Validity.....	131
3.6.2. Reliability	132
3.7. Ethical Issues.....	133
3.8. Limitations	134
4. FINDINGS	135
4.1. Mothers' and Fathers' Definitions Regarding Different Types of Private and Public Sphere Environmentally Significant Behaviors.....	135
4.1.1. Parents' Definitions Regarding Private Sphere Environmentally Significant Behaviors	137
4.1.1.1. Parents' Definitions of "Environmentally Responsible Consumers" 137	
4.1.1.1.1. Parents' Definitions of "Environmentally Responsible Consumers" Related to Product Purchasing Process.....	139
4.1.1.1.2. Parents' Definitions of "Environmentally Responsible Consumers" Related to Product Disposal Process.....	141
4.1.1.1.3. Uncategorized Definitions	142

4.1.1.1.4. No Definition Given for “Environmentally Responsible Consumer”	142
4.1.1.2. Parents' Definitions of "Resource Conservation"	142
4.1.1.2.1. Parents’ Definitions of “Resource Conservation” Based on Renewable Resources.....	143
4.1.1.2.2. Parents’ Definitions of “Resource Conservation” Based on Energy Resources.....	143
4.1.1.2.3. Parents’ Definitions of “Resource Conservation” Based on Non-Renewable Resources.....	144
4.1.1.2.4. Uncategorized Definitions	144
4.1.1.3. Parents' Definitions of "Waste" and “Waste Management”.....	145
4.1.1.3.1. Parents' Definitions of "Waste"	145
4.1.1.3.2. Parents' Definitions of "Waste Management"	147
4.1.1.3.2.1. No Definitions Given for "Waste Management"	147
4.1.2. Parents’ Definitions Regarding Public Sphere Environmentally Significant Behaviors	148
4.1.2.1. Parents' Definitions of "Nonactivist Behaviors in the Public Sphere”	148
4.1.2.1.1. Definitions Related to Collective Environmental Activities	149
4.1.2.1.2. No Definitions Given for "Nonactivist Behaviors in the Public Sphere”	150
4.1.2.2. Parents' Definitions of "Environmental Activists”	150
4.2. Private and Public Sphere Environmentally Significant Behaviors That Mothers and Fathers Perform	151
4.2.1. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually	152
4.2.1.1. Private Sphere Environmentally Significant Behaviors That Parents Perform Individually	152
4.2.1.1.1. Environmentally Responsible Consumption Behaviors Performed by Parents Individually	152
4.2.1.1.1.1. Parents’ Behaviors Targeting Purchase of Eco-Friendly Products.....	154
4.2.1.1.1.2. Parents’ Behaviors Targeting Minimalist Consumption	157

4.2.1.1.2. Resource Conservation Behaviors Performed by Parents	
Individually	158
4.2.1.1.2.1. Behaviors Targeting Conservation of Renewable	
Resources	158
4.2.1.1.2.2. Behaviors Targeting Conservation of Non-Renewable	
Resources	161
4.2.1.1.2.3. Behaviors Targeting Conservation of Energy	161
4.2.1.1.3. Waste Management Behaviors Performed by Parents	
Individually	162
4.2.1.1.3.1. Behaviors Targeting Reduce of Waste	162
4.2.1.1.3.2. Behaviors Targeting Reuse of Waste.....	165
4.2.1.1.3.3. Behaviors Targeting Recycling of Waste	167
4.2.1.2. Public Sphere Environmentally Significant Behaviors That Parents	
Perform Individually	168
4.2.1.2.1. Parents' Nonactivist Behaviors in the Public Sphere	
Performed Individually.....	168
4.2.1.2.1.1. Behaviors Related to Participating in Environmental	
Collective Activities	168
4.2.1.2.1.2. Behaviors Exhibited When Confronted with	
Environmental Challenges	170
4.2.1.2.2. Environmental Activism Behaviors Performed by Parents	
Individually	172
4.2.2. Private and Public Sphere Environmentally Significant Behaviors	
That Parents Perform with Their Children	172
4.2.2.1. Private Sphere Environmentally Significant Behaviors That	
Parents Perform with Their Children	174
4.2.2.1.1. Environmentally Responsible Consumption Behaviors	
Performed by Parents with Their Children	174
4.2.2.1.1.1. Parents' Behaviors Targeting Purchase of Eco-Friendly	
Products Performed with Their Children	176
4.2.2.1.1.2. Parents' Behaviors Targeting Minimalist Consumption	
Performed with Their Children	177

4.2.2.1.1.3. Parents' Uncategorized Environmentally Responsible Consumption Behaviors Towards Their Children.....	178
4.2.2.1.2. Resource Conservation Behaviors Performed by Parents with Their Children	179
4.2.2.1.2.1. Parents' Behaviors Targeting Conservation of Renewable Resources Performed with Their Children.....	181
4.2.2.1.2.2. Parents' Behaviors Targeting Conservation of Energy Resources Performed with Their Children.....	182
4.2.2.1.2.3. Parents' Uncategorized Resource Conservation Behaviors Towards Their Children	183
4.2.2.1.3. Waste Management Behaviors Performed by Parents with Their Children	184
4.2.2.1.3.1. Parents' Behaviors Targeting Reduce of Waste Performed with Their Children	184
4.2.2.1.3.2. Parents' Behaviors Targeting Reuse of Waste Performed with Their Children	186
4.2.2.1.3.3. Parents' Behaviors Targeting Recycle of Waste Performed with Their Children	187
4.2.2.1.3.4. Parents' Uncategorized Waste Management Behaviors Towards Their Children	188
4.2.2.2. Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children.....	189
4.2.2.2.1. Parents' Nonactivist Behaviors in the Public Sphere Performed with Their Children	189
4.2.2.2.2. Environmental Activism Behaviors Performed by Parents with Their Children	190
4.2.3. Variations in Private and Public Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children	190
4.2.3.1. Variations in Private Sphere Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children	191

4.2.3.1.1. Variations in Environmentally Responsible Consumption Behaviors of Parents Depending on Whether They Engage Independently or With Their Children	191
4.2.3.1.2. Variations in Resource Conservation Behaviors of Parents Depending on Whether They Engage Independently or With Their Children.....	192
4.2.3.1.3. Variations in Waste Management Behaviors of Parents Depending on Whether They Engage Independently or With Their Children.....	193
4.2.3.2. Variations in Public Sphere Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children.....	195
4.2.3.2.1. Variations in Parents’ Nonactivist Behaviors in the Public Sphere Depending on Whether They Engage Independently or With Their Children	195
4.2.3.2.2. Variations in Environmental Activism Behaviors of Parents Depending on Whether They Engage Independently or With Their Children.....	196
4.3. Obstacles Stand in The Way of Mothers’ and Fathers’ Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children	197
4.3.1. Obstacles Stand in The Way of Parents’ Performing Private Sphere Environmentally Significant Behaviors with Their Children.....	199
4.3.1.1. Obstacles Stand in The Way of Parents’ Performing Environmentally Responsible Consumption Behaviors with Their Children.....	199
4.3.1.1.1. External Barriers.....	200
4.3.1.1.2. Internal Barriers	201
4.3.1.2. Obstacles Stand in The Way of Parents’ Performing Resource Conservation Behaviors with Their Children	202
4.3.1.2.1. External Barriers.....	203
4.3.1.2.2. Internal Barriers.....	204

4.3.1.3. Obstacles Stand in The Way of Parents' Performing Waste Management Behaviors with Their Children.....	205
4.3.1.3.1. External Barriers	206
4.3.1.3.2. Internal Barriers	208
4.3.2. Obstacles Stand in The Way of Parents' Performing Public Sphere Environmentally Significant Behaviors with Their Children.....	209
4.3.2.1. Obstacles Stand in The Way of Parents' Performing Nonactivist Behaviors in the Public Sphere with Their Children	210
4.3.2.1.1. External Barriers	210
4.3.2.1.2. Internal Barriers	211
4.3.2.2. Obstacles Stand in The Way of Parents' Performing Environmental Activism Behaviors with Their Children	213
4.3.2.2.1. External Barriers	214
4.3.2.2.2. Internal Barriers	215
4.4. Key Findings	216
4.4.1. Definitions of Mothers and Fathers Regarding Different Types of Private and Public Sphere Environmentally Significant Behaviors	216
4.4.2. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually	218
4.4.3. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children	219
4.4.4. Variations in Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children	221
4.4.5. Obstacles Stand in The Way of Parents' Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children	223
5. DISCUSSION, EDUCATIONAL IMPLICATIONS, AND RECOMMENDATIONS	225
5.1. Discussion	225
5.1.1. Definitions of Private and Public Sphere Environmentally Significant Behaviors.....	225
5.1.2. Private and Public Sphere Environmentally Significant Behaviors	

That Mothers and Fathers Perform	232
5.1.2.1. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually	232
5.1.2.2. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children	241
5.1.2.3. Variations in Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children.....	249
5.1.3. Obstacles Stand in The Way of Parents' Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children	251
5.2. Implications	260
5.2.1. Implications for Research.....	261
5.2.2. Implications for Practice	263
5.3. Recommendations for Further Studies	268
REFERENCES.....	272
APPENDICES	
A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE.	323
B. INVITATION FORM.....	324
C. TURKISH SUMMARY / TÜRKÇE ÖZET	326
D. THESIS PERMISSION FORM / TEZ İZİN FORMU.....	344

LIST OF TABLES

Table 1 Summary of reported barriers faced by individuals while engaging in different types of environmentally significant behaviors.....	89
Table 2 Summary of the categorization of environmentally significant behaviors	109
Table 3 Demographic Information of Parents in the Pilot Study	119
Table 4 Distribution of the Semi-Structured Interview Protocol Questions	122
Table 5 Samples of Semi-Structured Interview Protocol Questions.....	123
Table 6 Demographic Information of Mothers and Fathers in the Main Study	126
Table 7 Summary of the Definitions of Mothers and Fathers Regarding Environmentally Responsible Consumers	138
Table 8 Summary of the Definitions of Mothers and Fathers Regarding Resource Conservation	142
Table 9 Summary of the Definitions of Mothers and Fathers Regarding Waste and Waste Management	145
Table 10 Summary of the Definitions of Mothers and Fathers Regarding Nonactivist Behaviors in the Public Sphere.....	148
Table 11 Summary of the Definitions of Mothers and Fathers Regarding Environmental Activists.....	150
Table 12 Summary of the environmentally responsible consumption behaviors performed by mothers and fathers individually	155
Table 13 Summary of the resource conservation behaviors performed by mothers and fathers individually.....	159
Table 14 Summary of the waste management behaviors performed by mothers and fathers individually.....	163
Table 15 Summary of the mothers' and fathers' nonactivist behaviors in the public sphere performed individually	169
Table 16 Summary of the environmental activism behaviors performed by mothers and fathers individually	172

Table 17 Summary of the environmentally responsible consumption behaviors performed by mothers and fathers with their children	175
Table 18 Summary of the resource conservation behaviors performed by mothers and fathers with their children.....	180
Table 19 Summary of the waste management behaviors performed by mothers and fathers with their children.....	185
Table 20 Summary of the mothers’ and fathers’ nonactivist behaviors in the public sphere performed with their children	190
Table 21 Variations in environmentally responsible consumption behaviors of mothers and fathers depending on whether they engage independently or with their children.....	192
Table 22 Variations in resource conservation behaviors of mothers and fathers depending on whether they engage independently or with their children.....	193
Table 23 Variations in waste management behaviors of mothers and fathers depending on whether they engage independently or with their children.....	194
Table 24 Variations in mothers’ and fathers’ nonactivist behaviors in the public sphere depending on whether they engage independently or with their children.....	196
Table 25 Variations in environmental activism behaviors of mothers and fathers depending on whether they engage independently or with their children.....	197
Table 26. Obstacles stand in the way of mothers’ and fathers’ performing environmentally responsible consumption behaviors with their children.....	199
Table 27 Obstacles stand in the way of mothers’ and fathers’ performing resource conservation behaviors with their children.....	203
Table 28 Obstacles stand in the way of mothers’ and fathers’ performing waste management behaviors with their children	206
Table 29 Obstacles stand in the way of mothers’ and fathers’ performing nonactivist behaviors in the public sphere with their children.....	210

Table 30 Obstacles stand in the way of mothers' and fathers' performing environmental activism behaviors with their children.....	213
---	-----

LIST OF FIGURES

Figure 1 Summary the categorization of environmentally significant behaviors proposed by Stern (2000)	36
Figure 2 Value-Belief-Norm Model (Stern et al., 1999).....	38
Figure 3 Ecological Systems Theory of Bronfenbrenner (1979)	45
Figure 4 Summary of the waste management hierarchy	54
Figure 5 Theoretical Framework for Semi-Structured Interview Protocol Questions.....	113
Figure 6 Finalized Structure of Semi-Structured Interview Protocol Questions.....	116
Figure 7 Summary of The Findings Related to Parents’ Definitions Regarding Private Sphere Environmentally Significant Behaviors.....	136
Figure 8 Summary of The Findings Related to Parents’ Definitions Regarding Public Sphere Environmentally Significant Behaviors	137
Figure 9 Summary of the findings related to private sphere environmentally significant behaviors that parents perform individually.....	153
Figure 10 Summary of the findings related to public sphere environmentally significant behaviors that parents perform individually	154
Figure 11 Summary of the findings related to private sphere environmentally significant behaviors that parents perform with their children	173
Figure 12 Summary of the findings related to public sphere environmentally significant behaviors that parents perform with their children	173
Figure 13 Summary of the findings related to obstacles stand in the way of mothers’ and fathers’ performing private sphere environmentally significant behaviors with their children.....	198
Figure 14 Summary of the findings related to obstacles stand in the way of mothers’ and fathers’ performing public sphere environmentally significant behaviors with their children.....	198

CHAPTER 1

INTRODUCTION

In the Anthropocene era that we live in, we are currently experiencing the collapse of numerous, interconnected systems on which all life is ultimately dependent. In the 4.5 billion years since the earth's formation, these collapses have only ever led to one result; mass extinctions (Hickel, 2020). While the present scenario is similar to past occurrences, this is the first time in history that systems have been brought down by humans. Due to the unsustainable human activities that advance greenhouse gas accumulation (Saklani & Khurana, 2019), every living thing on land, in the water, and the air, no matter how small or great, faces diverse threats. The interconnectedness of systems causes that insect extinctions in a rainforest in Puerto Rico, United States (Lister & Garcia, 2018) somehow can contribute to a 240-day-long mega forest fire in Australia which destroyed more than 3 billion native species (Haque et al., 2021). There is a serious problem which effects the whole Earth, and although human beings still have hope, many other creatures are on the verge of extinction. Humanity has now reached an important turning point when quick action is required to save the systems from completely collapsing.

Since the main aspect of the solution is strongly related to human behavior, education is a viable option to ensure that individuals change their behaviors in a more environmentally friendly way. In order to address these serious issues and put an end to the human-caused domino effect, it is advised that only an environmentally literate public will be able to come up with practical, fact-based solutions to these serious problems (NAAEE, 2011). Obviously, an educational system had to be set up in order to raise such individuals. At this point, educational policies and research began to emphasize environmental education as being of utmost importance. Environmental education is defined as the process that aids people, communities, and organizations in learning more about the environment, developing the abilities to

investigate their environment (Hollweg et al., 2011). The most fundamental objective of environmental education is to increase individuals' environmental literacy. People who are environmentally literate have, to varying degrees, knowledge and understanding of a wide range of environmental concepts, problems, and issues, as well as a set of cognitive and affective dispositions, a set of cognitive skills and abilities, and the necessary behavioral strategies to apply this knowledge and understanding to make wise decisions in a variety of environmental contexts (Hollweg et al., 2011).

Along with the framework, the age at which environmental education is introduced is significant to guarantee the learners permanent, life-long learning. The very first level of formal schooling, early childhood education, is one of the key periods that can be recognized in this regard. According to Shonkoff & Richter (2007), the early years of life are when the majority of the brain's circuitry is built. Young children's early experiences provide the groundwork for their future learning, behavior, and health. These claims are supported by a wealth of environmental education research on how early experiences have a significant impact on environmentally significant behaviors (Evans et al., 2018), as well as their predictors, including ecological awareness (Corraliza & Collado, 2019), environmental attitudes (Ewert et al., 2005; Otto et al., 2019), and nature relatedness (Phenice & Griffore, 2003). Numerous studies have also linked positive childhood experiences in the outdoors to the emergence of environmental concern and engagement in environmentally significant behaviors in adulthood (Chawla, 2007; Rosa et al., 2018). That is why, early childhood is regarded as a crucial age for developing environmental literacy, and research on and techniques for early childhood environmental education have gained traction (NAAEE, 2010). According to a framework report prepared by NAAEE (2010), early childhood environmental education is a holistic notion that includes both academic knowledge of the natural world and the development of emotions, attitudes, and skills. Early childhood environmental education offers opportunities to experience the delight of being close to nature, developing a feeling of wonder, an appreciation for the beauty and the mystery of the natural world, and respect for other living things (NAAEE, 2010).

Early childhood environmental education programs encompass details regarding different dimensions; staff development, education practices, assessment techniques, site design, indoor-outdoor classroom design, inclusion of materials to educative practices, and maintenance of the whole concept. In addition to these factors, the philosophy's core places a strong emphasis on including the parents, the children's background, and their culture in the program (NAAEE, 2010). Early childhood education programs and homes are the two environments that have the biggest impact on how young children develop. That is why, it is essential that these two parties have a good working relationship, and children gain hands-on experience with the topics covered in school curricula at their home too, by equal emphasis given by their parents (Halgunseth, 2009).

Based on diverse theories of child development and countless research studies, it is commonly known that parents have a substantial impact on their children, particularly during their early years. Bronfenbrenner (1979) stated that parents are one of the most key agents in a child's microsystem, and from the perspective of ecological systems, there is a strong probability that parental norms, beliefs, attitudes, and practices affect a child's development. In a similar vein, Bandura (1977) also emphasized that children learn from one another through observation, modeling, and imitation, and parents serve as strong, high-probability role models for their children. These theories have been supported by a number of research findings in the field of environmental education.

Different research showed that family is a crucial contributing factor that determines people's environmentally significant behavior (Chawla, 1998). Various research studies have demonstrated that there is a transfer of nature connectedness (Soga et al., 2018), environmental values (Grønhøj & Thøgersen, 2009; Scopelliti et al., 2021), concern (Casalo & Escario, 2016; Meeusen, 2014), attitudes (Grønhøj & Thøgersen, 2009; Leppanen et al., 2012), environmentally significant behaviors (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012), and ecological awareness (Ewert et al., 2005) from parents to their children. Despite this, the underlying details among the positive relationships between parental and children's environmental knowledge, values, and behaviors remain unknown.

According to Jia & Yu (2021), one of the understudied factors is the active involvement of parents in environmentally significant behaviors with their children. In their study, they noted that parents' environmentally significant behaviors might not have an impact on their children's environmentally significant behaviors unless the children witness their parents' behaviors, and participate in environmentally significant behaviors with them. There have been very few studies on the specific types of environmentally significant behaviors engaged in by parents together with their children from different cultures, despite the fact that this active involvement is extremely important in the transmission of environmental knowledge, values, and behaviors (Jia & Yu, 2021).

It's crucial to operationally define the construct "environmentally significant behavior" in order to analyze particular behaviors of parents. Despite the fact that environmental significant behaviors were once thought of as a single, undifferentiated concept; a large and growing body of literature has concluded that it actually has a variety of types and it encompasses a variety of different dimensions (Larson et al., 2015; Stern, 2000). In his paper, Stern (2000) divided environmentally significant behaviors into four categories. The first type of environmental significant behaviors was environmental activism. This category is extremely pertinent to people's activist viewpoints and behaviors; in other words, it generally refers to taking an active part in environmental protests. Actually, the second category, which is nonactivist behaviors in the public sphere, represented a more involved level of environmental citizenship. Signing environmental petitions, contacting the appropriate authorities about environmental issues, joining environmental organizations, and supporting policies that are in favor of the environment are a few examples of nonactivist behaviors in the public sphere. In contrast to public behaviors, private sphere environmentalism, Stern's (2000) third category, was defined as the acquisition, use, and removal of personal and domestic products that have an impact on the biosphere, which can be also specified as environmentally responsible consumption, resource conservation, and waste management. Environmentally responsible consumption involves the eco-friendly purchase and usage of products from the point of purchase to disposal (Gupta & Agrawal, 2017). These actions, undertaken within individual contexts, such as the purchase of green

products, serve as examples of environmentally significant private actions (Stern, 2000). On the other hand, resource conservation involves protecting the resources that are necessary for life to continue (Robertson & Harwood, 2013). Although these behaviors can also be practiced on larger scales, such as in factories or companies, people also practice these behaviors on smaller scales in their daily lives. For this reason, private sphere environmentalism also includes personal resource conservation measures (Stern, 2000). Waste management is another private sphere environmentally significant behavior, according to Stern (2000), and it encompasses necessary steps to manage waste in an environmentally friendly manner from its creation through final disposal (Pongracz, 2002). Since individuals are responsible for generating on average 1.3 billion metric tons of household waste each year (Clark & Matharu, 2013), this is another issue to address under the title of private sphere environmentalism, according to Stern (2000). In general, all significant behaviors in the private sphere environmentally aim to reduce the detrimental effects of human life styles on the natural world. The final category of Stern (2000) was other environmentally significant behaviors that are closely related to people's actions, which have potential to influence large organizations to make crucial decisions that are favorable to the environment. It is emphasized that public sphere environmentally significant behaviors such as nonactivist behaviors in the public sphere and environmental activism have indirect but greater impact, whereas private sphere environmentally significant behaviors such as environmentally responsible consumption, resource management, and waste management have direct and more minimal impact on the environment. Stern (2000) highlighted that although the impact of those different categories of environmentally significant behaviors into natural world vary, performing all of them is significant thanks to their collective impact. Therefore, it is useful to address all the categories listed in order to comprehensively analyze the environmentally significant behaviors of parents. A high usage rate was attained by Stern's (2000) classification. There is a large volume of published studies which utilized the private-public sphere environmentally significant behaviors classification (Hansmann & Binder, 2020; Heidbreder et al., 2022; Liobikiene & Poskus, 2019; Liu et al., 2018; Lu et al., 2017). Additionally, this classification has been applied in different research focusing on parents of children in preschool years (Iwaniec & Curdt-Christiansen, 2020; Torres-Antonini &

Vatralova, 2012). Therefore, applying Stern's (2000) theory can be a useful strategy for examining the environmentally significant parental behaviors in detail.

Taking into account the aforementioned information, the focus of this study is on parents of young children because they serve as their children's primary role models and major developmental influences. In accordance with the literature's request (Jia & Yu, 2021) and drawing upon Stern's (2000) theory, this study centers its attention on environmentally significant behaviors carried out by parents, both individually and in cooperation with their children. The study offers a thorough analysis of a number of factors, including the definitions provided by parents on these behaviors, specific environmentally significant behaviors taken by parents alone or with their children, difficulties encountered by parents, and any potential differences between mothers and fathers. It is anticipated that this research will significantly add to the body of literature on the intergenerational transmission of environmental values and practices from parents to their children by conducting a thorough analysis of parents' active involvement in environmentally significant behaviors together with their children.

1.1. Significance of the Study

As Anne Larigauderie, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services executive secretary, said in one of her talks in 2020, “We are currently, in a systematic manner, exterminating all non-human living beings.” (Hickel, 2020). Today, major scientific resources from around the world are focusing on issues that make Earth inhabitable for all living beings; such as heat deaths, food shortages, climate plagues, polluted oceans, unbreathable air, and even wars (Wallace-Wells, 2018). It is accurate to say that irresponsible human behavior is the primary cause of all these incidents (Saklani & Khurana, 2019). That is why, investigating human behavior regarding the environment from any aspect is significant.

This research has been organized around distinct objectives, each of which is significant in itself. The first purpose of the current study is to determine how parents

define various categories of private environmentally significant behaviors, such as environmentally responsible consumption, resource conservation, and waste-waste management, as well as different types of public environmentally significant behaviors, such as nonactivist behaviors in the public sphere, and environmental activism. If a person is unaware of environmental issues or potential solutions, it is unlikely that they will consciously care about the environment or take positive environmental actions; in other words, to engage in environmentally significant behaviors, environmental knowledge for both issues, and solutions is essential (Gifford & Nilsson, 2014). Numerous empirical research findings support this conclusion by demonstrating that environmental knowledge is a strong predictor of environmentally significant behaviors (Amoah & Addoah, 2020; Geier et al., 2019; Gifford & Nilsson, 2014; Pothitou et al., 2016; Vicente-Moline et al., 2013). These studies' findings support the following assertions; it is true that people may not conserve resources effectively if they do not understand what a resource is, nor can they be fully environmentally conscious consumers if they do not know the characteristics of such consumers. Similar conclusions can be drawn regarding waste management; since waste is a subjective term (Lynch, 1990), if people cannot define waste with its proper characteristics or what waste management is, it is more difficult for them to manage their waste effectively. Finally, lack of knowledge about non-activist behaviors in the public sphere may make people less likely to engage in them. In a similar vein, lack of knowledge about environmental activism makes people less likely to become activists. That is why, investigating the definitions given by parents for different types of environmentally significant behaviors is significant for several reasons. Firstly, this kind of environmental knowledge is a strong contributor of performing environmentally significant behaviors (Amoah & Addoah, 2021; Geier et al., 2019; Gifford & Nilsson, 2014; Pothitou et al., 2016; Vicente-Moline et al., 2013). After looking into the definitions they provided, the current picture of parents' knowledge can be assessed. Second, since parents are well-known to play a significant role in their children's acquisition of environmental knowledge (Grønhøj & Thøgersen, 2009), learning how parents define various environmentally significant behaviors is crucial because it may offer clues about the knowledge that is passed down to children. It is also important to note that although numerous studies have been conducted on adults' environmental knowledge on different

subdimensions of environmentally significant behaviors both internationally (Amoah & Addoah, 2021; Bang et al., 2000; Carmi et al., 2015; Frick et al., 2004; Indriani et al., 2019; Vicente-Molina et al., 2013) and in Türkiye (Akyol, 2014; Doğan, 2013; Doğan et al., 2022; Oflaç & Göçer, 2015; Timur & Yılmaz, 2011), there are few studies that target parents (Grodzinska-Jurczak et al., 2003; Trueblood et al., 2016). Furthermore, there are very few studies that specifically target parents of young children. The fact that many studies in the literature are of a quantitative nature should also be noted. By shedding light on the definitions offered by parents, the first goal of this study is to assist literature in filling the gap in parental environmental knowledge that currently exists. The study's qualitative design is also crucial as it provides an in-depth analysis of parents' definitions and hence an opportunity to identify any misunderstandings that may exist.

Determining the parents' individual private and public environmentally significant behaviors is the second purpose of this study. It is crucial to have an understanding of the types of private and public behaviors that parents of young children engage in since many serious environmental issues are triggered by human behavior (Saklani & Khurana, 2019). Comprehensive analysis can reveal which types are carried out more frequently or less frequently, and this information may point to parental needs that the stakeholders of early childhood environmental education may be able to address. In addition to their individual role in the environment, determining parental behaviors is indeed essential since parents are young children's primary socialization agents (Bandura, 1977; Bronfenbrenner, 1979). This is also true in the formation of environmental behaviors, attitudes, and values (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012). Since parents serve as children's primary role models (Bandura, 1977), it is anticipated that children carefully observe their parents to learn how to act in an environmentally friendly way. This expectation has been confirmed by numerous empirical studies, which show that children that have parents who engage in environmentally significant behaviors tend to exhibit similar behaviors to their parents (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012; Jia & Yu, 2021). Detection of parents' environmentally significant behaviors is therefore essential because it has a significant impact on the environment and influences how their children behave. Although researchers abroad

(Collado et al., 2019; Grønhøj & Thøgersen, 2009, 2012, 2017; Katz-Gerro et al., 2020; Matthies et al., 2012; Jia & Yu, 2021; Straub & Leahy, 2017; Torres-Antonini & Vatrlova, 2012; Xia et al., 2022) have studied the environmentally significant behaviors of parents in detail, studies are scarce in Türkiye (Ersoy-Quadır & Temiz, 2017). Given that parents of young children play a crucial role in early childhood environmental education and have a significant impact on their children's environmental values, attitudes, and behaviors, it is necessary to undertake a variety of research on parental environmentally significant behaviors of people who have preschool children by developing different frameworks and conducting these frameworks at various times. By carefully analyzing parents' individual private and public sphere environmentally significant behaviors, it is hoped that the current study fills the gap in the body of literature.

The relationship between parental socialization and the intergenerational transmission of environmental attitudes, values, and behaviors has recently been the subject of a wide variety of studies (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012; Jia & Yu, 2021). Even though the majority of studies indicated a connection between parents and their children's environmentally significant behaviors in general as noted above, the "transmission" process has received little attention, which fits well with the fourth purpose of the current study; determining what kinds of private and public environmentally significant behaviors parents engage in with their children. In several studies which highlighted the link between parents' and their children's different types of environmentally significant behaviors, it is possible to find contradictory and unclear findings. For instance, although Matthies et al. (2012) found a favorable relationship between parents' recycling behavior and that of their children, they were unable to find any appreciable relationship between reuse behavior. Similarly, Jia & Yu (2021) revealed strong correlations between parents' and children's participation in collecting and recycling, as well as outdoor normative pro-environmental behaviors; but they were unable to identify any correlations between parents' and children's energy conservation behaviors. These results indicated that various studies on how parenting affects the transmission of environmental dispositions, behaviors, and values have produced contradictory results (Iwaniec & Curdt-Christiansen, 2020). This situation

emphasizes the importance of conducting similar studies from various contexts in the literature to better understand the moderators that may have a significant impact on the relationship between parents' and children's environmentally significant behaviors. One of the first studies to address this need was carried out by Jia & Yun (2021). In their study, which was conducted with 518 parent-child dyads, the moderator effect of parent-child interactions that are observable, communicative, and engaged was discovered; in other words, they concluded that when parents actively engage in environmentally significant behaviors with their children, and talk with them regarding environmental issues, the parental transmission of environmental dynamics is then valid and valuable. This finding signaled that focusing on parents' engagement and active involvement with their children may be more meaningful than focusing solely on parents' individual environmental characteristics. As a result of calls from researchers in the field (Jia & Yun, 2021), and to fill the void in the current national and international literature, the current study also aims to understand the dynamics of parent-child environmentally significant behaviors. Determining environmentally significant behaviors performed by parents, and their children is significant for two distinct reasons; firstly, the active involvement of parents is crucial for children to learn from them and model their behavior. Thus, if the current picture of the types of environmentally significant behaviors that are performed together can be obtained, helpful recommendations can be made to the practical aspect of the early childhood environmental education field. Secondly, the lack of a valid and trustworthy measurement tool that assess active parental involvement in children's environmentally significant behaviors may be the reason why the dynamic and active relationship between parents and their children on environmental issues has not been thoroughly investigated in the literature (Jia et al., 2022). By providing detailed qualitative data on the topic for later studies, it is hoped that the current study aids the development of a valid and reliable measurement tool to assess parent-child environmentally significant behaviors.

Another purpose is to shed light on the possible barriers parents face when engaging in various types of public and private environmentally significant behaviors with their children. The range of complex interactions between human beings and the environment, including barriers and enablers of pro-environmental behaviors, is a

significant research subject, especially in the environmental psychology literature (Kolmuss & Agyeman, 2010). Consequently, different forms of barriers to people's environmentally significant behavior have been found by various researchers. In general, the literature has categorized obstacles into two main types: internal barriers, which include an individual's knowledge, attitude, and sense of control, and external barriers, which encompass social, political, and institutional constraints such as financial limitations or inadequate resources (Blake, 1999; Gifford, 2011; Kolmuss & Agyeman, 2010). In his paper, Stern (2000) also addressed several factors that could influence the environmentally significant behaviors of individuals. These encompass attitudinal factors, such as norms, beliefs, and contextual forces like interpersonal influences, in addition to personal capabilities, which encompass knowledge and skills, as well as habits or routines. There has been some research to identify perceived barriers on individual's behaving in an environmentally significant way (Desrochers & Zelenski, 2022; Kolmuss & Agyeman, 2010; Soliman et al, 2018; Oimby & Angelique, 2011; Yuriev et al., 2018) but none of these studies specifically target parents of young children because they take a psychological perspective rather than an educational one. Addressing these barriers in detail is essential since it can reveal important approaches to encourage environmentally significant behaviors (Quimby & Angelique, 2011). Furthermore, the identification of these barriers can equip environmental educators with the most effective approaches to promote environmentally significant behaviors among learners of all levels (Kolmuss & Agyeman, 2010), including parents of young children and young children themselves. Therefore, the importance of the current study also lies in one of its objectives to recognize obstacles that prevent parents from engaging in environmentally significant behaviors with their children since identifying obstacles can provide early childhood educators and early childhood environmental education program designers with information about what parents need and the best course of action to follow in order to overcome these barriers. By highlighting parental constraints, the importance of early childhood environmental education in intergenerational learning can be stressed, and authorities can address parents' needs by creating more comprehensive environmental education programs. By identifying the specific challenges experienced by parents, and addressing the void in the current

literature, the study's findings are meant to guide decision-makers in the field of early childhood environmental education.

Finally, the current study aims to investigate any potential differences between mothers and fathers for all the aforementioned factors, including their definitions of environmentally significant behaviors, their own behaviors, the behaviors they engage in with their children, and their self-reported barriers. Conflicting results from different studies showed that whereas women tend to act in more environmentally friendly ways (Kennedy & Kmec, 2017; Vicente-Molina et al., 2018), environmental knowledge of men seems to be higher than their women counterparts (Arachchi & Managi, 2021). According to Mostafa (2006), women are less aware of environmental issues than men are yet another study revealed that women have more favorable attitudes about the environment (Tuncer et al., 2007). That is why, studies which have a similar nature should be replicated in different historical periods and cultural contexts in order to identify any additional variables that might have an impact on the association between gender and various environmental aspects. While there are some findings addressing gender in adult samples, no study specifically examines the differences between young children's mothers and fathers. If the differences between mothers and fathers are well known, early childhood educators can organize and carry out more specialized family engagement activities in terms of environmental education in line with the different needs of mothers and fathers. With a new sample and a different cultural context, the current study aims to contribute to the body of literature. It is also hoped that the findings of the current study provide advice for early childhood educators on how to address different knowledge, behavior, and barriers related to various types of environmentally significant behaviors of the mothers and fathers they are working with.

As each linked paragraph above demonstrates, there are studies that concentrate on various aspects of environmental skills in adult samples, such as knowledge, behavior, or barriers. However, this study stands out from others in several ways. Firstly, it specifically looks at mothers and fathers of young children. It examines mothers and fathers with young children rather than adults without children, which

may result in differences in the aforementioned aspects of environmentally significant parental behaviors, including definitions, behaviors themselves, and barriers detected in the previous studies. The legacy hypothesis contends that having children increases individuals' concerns about the environment because parents are concerned about the ecological legacy they will leave to their children (Thomas et al., 2017). However, the findings are conflicting. Numerous studies have shown that having children has little or no impact on an adult's pro-environmental attitudes and behavior (Palmer, 1996; Thomas et al., 2017; Loghi, 2013). On the other hand, some have emphasized the link between parenthood and greater levels of environmental and climate concern (Ekholm & Olofsson, 2016; Milfont et al., 2011). Because parenthood may affect the outcomes of prior studies, the current study is also uncommon in that it examines parents of young children as the sample. Secondly, the study holds a comprehensive perspective by focusing on different types of environmentally significant behaviors from both private and public spheres, whereas many other previous studies only focus on one type of behavior (Collado et al., 2019; Matthies et al., 2012). It is significant to have a comprehensive perspective since not all environmentally significant behaviors are the same and require the same effort (SGuin et al., 1998). This may result in different findings and provide insights for comparisons between different behaviors, signaling varying needs among participants. The third reason why the current study stands out is because it investigates parental active involvement in environmentally significant behaviors with their children, a factor missing in previous intergenerational transmission of behavior studies (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012). In general, studies have investigated parental and children's environmentally significant behaviors separately using a quantitative approach, and then attempted to detect any possible relationships between these two different samples to investigate intergenerational transmission of environmentally significant behaviors. However, since the latest research emphasizes the mediating role of active engagement by parents and children together in these behaviors (Jia et al., 2022), it is significant to explore this active process with a qualitative approach, which is one of the primary objectives of the current study and was generally missing in previous research.

When current situation of the studies in Türkiye are examined, it is possible to find various studies on definitions, behaviors, and barriers reported by different participants concerning environmentally significant behaviors. To illustrate, there are studies on how participants define environmentally responsible consumption (Aksu, 2019; Çalışır, 2020) and waste management (Demirbağ & Güngörmüş, 2012; Hacısalihoğlu, 2021). However, there is a notable gap in research regarding how participants define resource conservation, non-activist behaviors in the public sphere, and environmental activism in Türkiye, which are some of the goals of the present study. Similarly, there are some studies in the national literature focusing on environmentally responsible consumption (Gedik et al., 2014; Yeniçeri, 2009), resource conservation (Güven & Aydoğdu, 2012; Timur & Yılmaz, 2013), waste management (Kılıç & Eryılmaz, 2022), nonactivist behaviors in the public sphere (Timur & Yılmaz, 2013) and environmental activism (Gıcır et al., 2020; Semenderoğlu & Arslan, 2022) behaviors of individuals, however, none of them was targeting parents of young children, which is the sample of the current study. In a similar vein, in Türkiye, although there are a few studies that explore parents' behaviors with preschool children in relation to the environment (Kesicioğlu & Alisinanoğlu, 2009; Quadir Ersoy & Temiz, 2017), they primarily focus on outdoor experiences as environmentally significant behaviors, rather than examining behaviors in both the private and public spheres. Moreover, although there are variety of studies focusing on self-reported barriers of participants on performing environmentally responsible consumption (Köse, 2021; Övüç, 2015), resource conservation (Ergen, 2014; Oluk et al., 2019), waste management (Demirbağ & Güngörmüş, 2012; Kılıç-Aydın & Eryılmaz, 2022) and nonactivist behaviors in the public sphere (Baran, 2019) behaviors of participants, the current study focuses on barriers to perform these behaviors *with their children*, which is quite different from the individual barriers. That is why the current study is also significant from a theoretical perspective, as it helps to fill gaps in the national literature.

In summary, this study is significant from both theoretical and practical perspectives. It is intended to fill various gaps in both national and international literature by attentively focusing on the parents of young children, with a research design of a qualitative nature. Additional studies which target the parents of young children are

necessary to enhance and advance the quality of early childhood environmental education in Türkiye. It is expected that recommendations derived from the results of the current study can aid policymakers, educators, and parents of young children in developing various environmental education programs at both national and international levels.

Based on the above mentioned notions, the current study aims to investigate how parents define various categories of private environmentally significant behaviors, private and public environmentally significant behaviors engaged by the parents individually, and with their children, variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children, parents' challenges while engaging in different categories of private and public sphere environmentally significant behaviors with their children, and finally differences between mothers' and fathers' definitions, self-reported behaviors, and barriers regarding different types of private and public sphere environmentally significant behaviors. In accordance with the purposes of the current study, the research questions below are formulated.

R.Q.1. How do mothers and fathers define various forms of private and public sphere environmentally significant behaviors?

R.Q.2. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform?

R.Q.2.1. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform individually?

R.Q.2.2. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform with their children?

R.Q.2.3. How do the private and public sphere environmentally significant behaviors of mothers and fathers differ when they engage in them individually compared to when they engage in them with their children?

R.Q.3. Which obstacles stand in the way of mothers 'and fathers 'performing different types of private and public sphere environmentally significant behaviors with their children?

1.2. Definition of Key Terms

Environmental Education: Environmental education is a process of learning that broadens people's knowledge and awareness of the environment and the related problems, develops the skills and knowledge needed to deal with these problems; and nurtures attitudes, motivations, and commitments to make wise decisions and take responsible action (UNESCO, Tbilisi Declaration, 1977).

Early Childhood Environmental Education: Early childhood environmental education is a holistic term that includes both academic knowledge of the natural world, the environment and the development of emotions, attitudes, and skills related to environment. Sense and appreciation of wonder and the natural world are key components of the concept. It encompasses wide range of opportunities to enjoy the close contact with nature, and respect for all of the living things (NAAEE, 2010).

Environmentally Significant Behavior: Any behavior that alter the environment's ability to provide materials or energy, or that change the dynamics and organization of ecosystems or the biosphere (Stern, 2000), in other words, behavior that either benefits the environment or causes as little harm as possible (Steg & Vlek, 2009).

Environmentally Responsible Consumption: Any consumption-related behavior, such as purchasing, using, and disposing, carried out in a way that lessens the impact of consumption on the environment (Gupta & Agrawal, 2017). However, because behaviors related to use and disposal were examined under the waste management category, environmentally responsible consumption in this study was restricted to only behaviors related to purchase.

Product Purchasing Process: The series of steps and actions that consumers take when buying a product (Solomon, 2019).

Product Disposal Process: The process of getting rid of a product that is no longer needed or usable. Several methods include keeping, reusing, throwing away, donating, or recycling the product (Wang et al., 2020).

Eco-Friendly Product: A product (whether tangible or intangible) that reduces its environmental impact, both direct and indirect, throughout its entire life cycle (Sdrolia & Zarotiadis, 2018).

Minimalist Consumption: A lifestyle approach wherein individuals consciously decrease their consumption and restrict their possessions to the essential minimum (Martin-Woodhead, 2021).

Resource Conservation: Preserving and even improving the resources that are essential to sustainability (Robertson & Harwood, 2013).

Renewable Resources: Resources capable of self-renewal within the span of a human lifetime (Schellens & Gisladdottir, 2018).

Non-Renewable Resources: Resources which a human lifetime is not enough for their regeneration (Schellens & Gisladdottir, 2018).

Energy Resources: Materials employed for energy generation, which can be classified as renewable or non-renewable based on the source of the energy (Schellens & Gisladdottir, 2018).

Waste: Waste is material that has no purpose, either because it was never given one, did not receive a new purpose after the first one was completed, or was unable to efficiently perform its intended role owing to defects in structure or dysfunction (Pongracz & Pohjola, 2004).

Waste Management: Waste management is typically a practical field that seeks solutions to specific waste issues. The necessary processes and actions to manage waste from its creation to final disposal are included in waste management (Pongracz, 2002).

Reduce: Diminishing excessive consumption of goods and resources (Bautista et al., 2018).

Reuse: Optimizing material utilization by reusing them prior to disposal (Bautista et al., 2018).

Recycle: Gathering and treating materials that might otherwise be discarded as waste, then converting them into fresh products. This procedure usually takes place at locations separate from where the items are used (EPA, 2022).

Nonactivist Behaviors in the Public Sphere: Behaviors that are not driven by activism but still contribute to environmental change through public engagement (Liu et al., 2017).

Collective Volunteering Activities on Environment: Coordinated efforts by a group of individuals who volunteer their time and skills to participate in projects or initiatives that contribute to the betterment of the environment (Seymour & Haklay, 2017).

Environmental Activism: Participating in environmental movements which involve behaviors associated with more involvement and greater determination (SGuin et al., 1998).

Environmental Activists: People or organizations that advocate environment by emphasizing protection and conservation through various movements and urge governments and corporations to take immediate action and find global solutions to environmental issues (Heyes & King, 2018).

External Barriers: Challenges that come from the external environment, society, or circumstances, which may discourage or make it difficult for individuals to adopt environmentally significant behaviors (Kollmuss & Agyeman, 2002).

Internal Barriers: Psychological or personal factors that prevent individuals from adopting environmentally significant behaviors (Kollmuss & Agyeman, 2002).

CHAPTER 2

LITERATURE REVIEW

Beginning with the necessity for environmentally significant behaviors in light of the state of the planet today, this chapter moves on to environmental education and the role of parents in early childhood environmental education as a means of achieving environmentally significant behaviors. Then, a focus is placed on conceptualizing and categorizing the term "environmentally significant behaviors." The study's theoretical framework is then presented, drawing from both child development theories (specifically Ecological Systems Theory and Social Learning Theory) and the theory used to construct environmentally significant behaviors in the current study (Theory of Environmentally Significant Behaviors). Last but not least, different national and international studies are shared, which have the goal of examining individuals' definitions, self-reported barriers, and gender differences relating to various domains of environmentally significant behaviors, including private sphere environmentally significant behaviors such as environmentally responsible consumption, resource conservation, waste management, and public sphere environmentally significant behaviors including environmental activism, and nonactivist behaviors in the public sphere.

2.1. Vital Signs of the Planet

With no indications of slowing down, human activity is producing greenhouse gas emissions at record levels (UN, 2020). Consequently, these behaviors that contribute to greenhouse gas emissions are leading to a significant environmental crisis that poses a threat to all living beings on Earth. Due to the unsustainable human activities that contribute to the production of greenhouse gas emissions (Saklani & Khurana, 2019), the temperature on Earth has risen by one °C on average since pre-industrial

times (Lindsey & Dahlman, 2022). With the help of information from earlier eras, it is possible to roughly predict what would occur when similar temperature changes occurred on Earth. Researchers have started to publish findings that contain evidence that a period of mass extinction has started, as was to be expected. The only thing that stood out was how they were all connected, whether the findings related to an insect population in some studies or increasing number of hurricane occurrences in another (Lister & Garcia, 2018; Weiner et.al, 2020). Sharing some research findings on the effects of unsustainable human activity and the actual seriousness of global warming is important to create a clearer picture.

In comparison to research done in the same manner in 1970, it was discovered that 98 percent of ground insects were extinct in the rainforest of El Yunque, that is in Puerto Rico, United States, although it is a place there is no human intervention (Lister & Garcia, 2018). In the same study, it is also emphasized that there is synchronized decreases in insect-eating lizards, frogs, and birds in the habitat. The results of the study were replicated in much other research; according to a review study by Sanchez-Bayo & Wyckhuys (2019), in which 73 different papers were analyzed from all over the world, it was concluded that over 40% of insect species are in danger of extinction, insect biodiversity is under threat globally, and insect species across the globe may go extinct in the next few decades due to the critical increase in the global temperature. From an anthropocentric perspective, insects may be viewed as small and insignificant creatures despite their high numbers, however, insects and other animals pollinate an estimated 87.5% of the world's plants, and more than three-quarters of the primary types of global food crops benefit to some extent from animal pollination (Rhodes, 2018). In a multi-regional study conducted by Reilly et.al. (2020), researchers investigated the effect of pollination crisis on the main fruit, vegetable, and nut-producing areas in North America. Unfortunately, they discovered indications of pollinator limitation, in other words, decrease in crop production due to a lack of insect pollination, in five of the seven pollinator-dependent crops that were investigated. The results signal that a range of worldwide crops may experience pollination-related limitations, which eventually may result in global food crisis (Reilly et.al, 2020). As with pollinators, the quality of the soil is crucial to growing crops (Doran et. al, 1994). According to a special report published

by Intergovernmental Panel on Climate Change (2018), agricultural soils are being destroyed 100 times faster than they can regenerate due to industrial agriculture techniques that use chemical additives, and the soil's biodiversity is also at danger because of this predicament. Moreover, due to those techniques, nitrogen and phosphorus, two agricultural pollutants, are released into rivers and transported to the ocean each day (Ngatia et.al, 2018).

Unsurprisingly, ocean biodiversity and habitats are also experiencing similar extinctions. One of the major threats to the wellbeing of the oceans and marine life around the world is overfishing. An estimated 11–26 million tons (12–28%) of fishing globally is illegal and unreported (Food and Agriculture Organization of the United Nations, 2014). Giant nets are being used by large fishing corporations to collect "precious" and "bestselling" fish. Numerous species, including corals, jellyfish, and other fish are destroyed while these fish are being caught (Hickel, 2020). Agricultural pollutants cause giant algae explosions, prevents the oceans from retaining the oxygen, and eventually negatively affects ecosystem vitality (Ngatia et.al, 2018). Another big problem that contributes to this worldwide devastation is the acidification of the oceans and the rise in the amount of plastic waste in the oceans (Hickel, 2020). The world's oceans contain more than 90% of the extra heat brought on by global warming, where it builds up and raises ocean temperatures. In addition to harming the aquatic ecology, higher ocean temperatures cause sea levels to rise (Cheng et. al, 2019). Since 1880, sea levels have risen on average by approximately 23 cm, with about three of those centimeters coming in the past 25 years (Nunez, 2022). Unsurprisingly, those who live in coastal areas and on tiny islands should expect the effects of rising sea levels to be more severe in terms of coastal flooding and saltwater intrusion, as well as additional effects on marine ecosystems (Rhodes, 2018). It is important here to note that eight of the top ten cities worldwide are located close to a seashore (Lindsey, 2017).

Closely linked to sea level rise, around ten Category 4 and 5 hurricanes occurred on average per year throughout the 1970s. When the new century is considered, there are now almost twice as many Category 4 and 5 hurricanes worldwide each year, on average 18 (Webster et.al, 2005). Parallel with the findings, the United States was hit

by three separate hurricanes of the fifth category just in 2017; Harvey, Irma, and Maria. The 2017 North Atlantic hurricane season set records for rainfall, wind speed, hurricane frequency, and damage inflicted, underscoring the close connection between extreme weather events and anthropogenic climate change (Weiner et.al, 2020). Obviously, weather-related disasters are not just confined to hurricanes. Heat waves occurred more frequently and lasted longer than they ever did (EPA, 2022). In 2015, heat waves that hit Pakistan and India brought temperatures exceeding 45 degrees Celsius and resulted in the deaths of over 5,000 people (Hickel, 2020). Not just humans are at risk from heat waves, in general, heat waves that are longer, more intense, and have higher air temperatures promote the occurrence and growth of forest fires (Nojarov & Nikolova, 2022). Only in 2019, Australia experienced a 240-day-long mega forest fire exacerbated by drought, human-caused climate change, and current land-use policies (Ward et al., 2020). When the fire was over, in 2020, it was detected that mega-fires destroyed more than 3 billion native vertebrates, including 143 million mammals, 2.46 billion reptiles, 181 million birds, and 51 million frogs (Haque et al., 2021), as well as 69% of all plant species' (17,197 species) suitable habitat (Gallagher et al., 2021). It is estimated that those fires contributed to the extinction of 700 insect species (WWF, 2020). It is important to note that the extinction of insects in a rain forest in Puerto Rico, the United States, was the initial cause of each of the aforementioned consequences, and that they all ended with a similar situation, but this time as a result, in Australia. Aside from the extremely limited examples given above, the entire world, from the United States to Australia, is currently attempting to solve these and related issues. Human beings still have hope, but many other creatures are on the verge of extinction. A turning point has been reached where humans must now act decisively to prevent a total collapse of the systems. Since human behaviors have a cascading impact on numerous, interconnected systems as exemplified above, drastic efforts should be made to change them as a last remedy.

2.2. A Plan of Action to the Environmental Crisis: Environmental Education

Since the state of the planet's vital signals is not comforting, an emergent action plan was required to alter the current pattern. Since human activity was the primary cause

of the tragedy (Saklani & Khurana, 2019), it was anticipated that the strategy would also target humans. Education was seen as an effective way of ensuring that people alter their behavior to be more ecologically friendly, which was the origin idea behind environmental education.

According to Palmer (1998), even though they may not have used the same term explicitly, significant thinkers from the 18th and 19th centuries had a profound impact on the environmental education that exists today, such as Montessori, Froebel, Haeckel, Goethe, Rousseau, Dewey, and Humboldt. However, many of the scholars believe that the founding of environmental education can be attributed to Sir Patrick Geddes, who was a professor on botany. He was the first to draw the crucial connection between the environment, and education, and be a pioneer in the teaching techniques which involves students 'being in close contact with the nature. Geddes' ideas served as a major inspiration for the founding of the School Nature Study Union in 1902. The phrase "environmental studies" arose as a result of the research done in the union. In fact, the National Association for Environmental Education in the UK (NAEE) today may be traced back to this association, which was once known as the National Rural Environmental Studies Association. It was at a meeting held in Staffordshire in 1965 when the phrase "environmental education" was first used on paper. This conference was crucial since it was the first time that educators and environmentalists met at this conference, which inspired the founding of the Council for Environmental Education (CEE). CEE had three significant purposes; development of appropriate theory, and also practice for environmental education, promotion of environmental education to all levels of education, and monitoring and evaluation of practices (Palmer, 1998).

Even while warnings of potential risks began to sound, it wasn't until the late 1960s that the general public began to pay attention to these issues; yet, the 1960s witnessed an increase in interest in the topic on a global scale. The Biosphere Conference, which brought together experts and state authorities to debate the origins, impacts, and potential solutions for environmental problems, was held in Paris in 1968. The Man and Biosphere Program (MAB) was one of the most significant outcomes of the meeting (Bridgewater, 2016). The program's goal was to

create healthy relationships between the use of natural resources and humans (Reed, 2019). Following this progress, the United Nation's leadership decided to hold a different conference in order to develop a united front against serious environmental issues; the 1972 Stockholm Conference. In a two-week period, a comprehensive action plan that included 109 recommendations was prepared in addition to forming a basic Declaration. The main goal of this conference was to ensure that the participating nations adopted a declaration governing the rights and obligations of states and citizens on environmental protection (UNEP, 1972). Following this meeting, which highlighted the importance of developing a global education program that targets raising environmentally literate individuals, The International Environmental Education Programme (IEEP) was established with the collaboration of United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Environment Programme (UNEP). The first intergovernmental environmental education conference in history was conducted in Tbilisi in 1977 as a part of the educational plan that had been created with the help of UNESCO and UNEP (UNEP, 1977). The conference was an important turning point in the development of environmental education. The meeting established the goals, scope, and pedagogical underpinnings of environmental education (UNEP, 1977). Ten years later, Moscow hosted the International Congress on Environmental Education and Training where the framework developed in Tbilisi was used in order to develop new strategies in environmental education that would be used in 1990's (Smyth, 2009). Another milestone in environmental education was the Rio Conference, formally The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. In contrast with earlier conferences, this one included representatives from a wide range of organizations; including non-governmental institutions, teachers, and scientists (UN, 1997). This conference also made a significant contribution to the promotion of environmental education by highlighting the idea of sustainable development. As a result, more social and economic foundations have taken precedence over the environment alone. The main goal of the Rio "Earth Summit" was to develop a comprehensive agenda and a fresh strategy for global action on environmental and development issues (UN, 1997). The Rio+10 Conference, formally the World Summit on Sustainable Development was held ten years later in Johannesburg. This was also a significant gathering for the emerging

field of environmental education and education for sustainable development (Tilbury, 2003). Governments were urged to incorporate sustainable development into education systems at all levels in the conference's outputs in order to promote education as a major change agent (Tilbury, 2003). Soon after, United Nations officials proclaimed 2005–2014 as the Decade of Education for Sustainable Development, recognizing the crucial role that education plays in the urgent change that is required (UNESCO, 2014). The primary objective of the Decade of Education for Sustainable Development was for all people to have access to education and learn the values, behaviors, and lifestyles that are essential for a sustainable future (Teksöz, 2020). These were the years when environmental education research gained momentum, both theoretically and practically. The 2030 Agenda for Sustainable Development, which offers a shared vision for the current and future well-being of people and the planet, was ultimately approved by all UN Member States in 2015. The 17 Sustainable Development Goals (SDGs), which were prepared as an urgent call to action for all nations in a global partnership, are at the center of the agenda; and a significant and vital component of that is education (UN, 2015). The scope, goal, and pedagogy of environmental education were highlighted during the Tbilisi Conference, and these elements are still important today. All educational levels have been made to align with the 17 Sustainable Development Goals (SDGs) through continuing efforts (Teksöz, 2020). All these significant occasions have played a significant role in advancing environmental education to where it is today.

2.2.1. Early Childhood Environmental Education

According to NAAEE (2010), early childhood environmental education is a comprehensive concept which encompasses both academic knowledge of the natural world, and development of positive emotions, attitudes towards nature, and practical skills regarding natural protection. It is crucial for environmental education practices to allow children to feel amazed by nature, appreciate its beauty, connect closely with the natural world, and learn to respect all living beings. Additionally, it involves enhancing children's capacity for problem-solving as well as developing an interest in and appreciation for the environment (NAAEE, 2010).

Early childhood environmental education differs from environmental education in the primary grades in that it places less emphasis on children's direct knowledge acquisition and more on their own exploration of the natural world. Personal experiences, the perceptions formed through these experiences, fostering positive attitudes towards the environment, and developing a strong sense of connection with nature are main objectives during this stage (NAAEE, 2010). The guideline prepared by North American Association for Environmental Education (2010) on early childhood environmental education states that important elements of environmental education at this level include exploring various natural areas, having hands-on experiences like feeling mud, spending time in outdoor locations with different topology, and connecting to nature. In this way, children can observe the beauty of nature, comprehend its components, and gain an understanding of the systems it encompasses. Certainly, early childhood educators are not solely responsible for the success of environmental education. All stakeholders in a child's life, particularly parents, play a crucial role in early childhood environmental education (NAEEE, 2010).

2.2.1.1. Role of Parents in Early Childhood Environmental Education

Parents are known as the first teachers of their children. Many research studies have shown that children form their basic beliefs and principles primarily within their own families. For example, if families demonstrate prosocial behaviors, children are likely to develop values associated with helping others (Hasenfratz & Knafo, 2015). Similarly, a child's attitude towards reading can be shaped by the opinions and experiences shared by their family members (Tessaro, 2021). Since the family serves as the starting point for acquiring crucial skills, it also holds significant responsibility in fostering environmental consciousness. Being a role model and participating in approaches to early childhood environmental education as part of school-family partnerships are the two key responsibilities that parents play in this process to assist their children's environmental awareness (Cappellaro & Yazıcı, 2020).

Children's environmental dispositions and actions are known to be significantly influenced by the adults who they look up to as role models (Futer, 2005; Liang et

al., 2022). Parents serve as powerful role models for their children, setting an example that is certain to have an impact on how they develop (Bandura, 1977). Numerous studies have provided evidence that parental role models play a crucial role in shaping various aspects of their children's different environment related dispositions, and behaviors, such as nature connectedness (Soga et al., 2018), environmental values (Grønhøj & Thøgersen, 2009; Scopelliti et al., 2021), environmental concern (Casalo & Escario, 2016; Meeusen, 2014), environmental attitudes (Grønhøj & Thøgersen, 2009; Leppanen et al., 2012), environmentally significant behaviors (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012), and ecological awareness (Ewert et al., 2005). All these studies signaled that parents with particular features are more likely to have children with those same attributes. It is unavoidable to state that there is intergenerational learning between parents and their children in terms of environmental dispositions and actions. Since parents have an impact on a variety of environmental dispositions and behaviors, they are expected to encourage their children to participate in outdoor activities, develop an affection for nature, and nurture a sense of ownership towards it (Cappellaro & Yazıcı, 2020). Hence, the home environment and the experiences provided by parents, along with their behaviors as role models, play a crucial role in the effectiveness of early childhood environmental education.

The responsibilities of parents extend beyond being role models; they also have the responsibility to fulfill their roles in school-home partnerships satisfactorily. According to Ecological Theory of Bronfenbrenner (1979), when the systems are in an ongoing, reciprocal, and mutually supporting interaction, children can develop healthily and learn most effectively. This perspective has led to a significant emphasis on the involvement of parents in early childhood education. The theory was supported with different research indicated that high quality relationships, and also partnerships between the teacher, and the family are strongly related to positive effects on young children (Sheridan et al., 2017). In a similar vein, the interactions between the home and educational systems have an impact on children's learning and social competence (Barbarin et al., 2010; Elicker et al., 2013). For this reason, parents play a significant role as agents in their children's environmental education. They should let their children sustain the behaviors they learn at school, expand upon

them, and provide them with enriching experiences that foster a qualified connection with nature. Without the involvement of parents, all the efforts given by schools can become pointless, and children may experience a disconnection between their daily lives and what they are experiencing in school, leading to a reduction in the effectiveness of early childhood environmental education. In a metaphorical sense, if early childhood environmental education is likened to a table, parents serve as one of the essential legs that provide its equilibrium and functionality.

2.3. Revitalizing the Planet: Environmentally Significant Behaviors

Since achieving a shared adoption of environmentally significant behaviors within society is the ultimate aim of environmental education and a remedy for the environmental crisis (Hollweg et al., 2011), it is important to investigate and comprehend the dynamics associated with the term. In the literature, environmentally significant behaviors are often referred to by various terms such as pro-environmental behaviors, ecological behaviors, environmentally responsible behaviors, environmentally friendly behaviors, or environmental protection behaviors. These terms are used interchangeably (Wan & Du, 2022). The term "environmentally significant behaviors" has been given several definitions by different researchers. To illustrate, Palupi & Sawitri (2018) defined environmentally significant behaviors as behaviors related to environmental conservation. On the other hand, Xu & Han (2019) considered these behaviors as daily behaviors which are beneficial for the environment and critical in protecting it. Sivek & Hungerford (1990), well-known researchers in the field of environmental education, defined the term as an act in which either individuals or groups fix environmental issues. Intentional behaviors taken to reduce the negative impact of one's actions on the natural environment was another definition recommended by Kolmuss & Agyeman (2010). Krajhanzl (2010) defined the term as any behavior that may have intention to protect the environment. In the current study, environmentally significant behaviors were defined as any behavior that does not alter the environment's ability to provide materials or energy, or change the dynamics and organization of ecosystems or the biosphere (Stern, 2000), in other words, behavior that either benefits the environment or causes as little harm as possible (Steg & Vlek, 2009).

To completely comprehend the concept, it is also essential to understand the components of environmentally significant behaviors. While in the past, environmentally important behaviors were thought of as a unified concept without any dimensions, extensive research has revealed that it encompasses various forms and includes diverse dimensions (Larson et al., 2015; Stern, 2000). Diverse classifications have been used by various studies to group environmentally significant behaviors. In a study conducted by Smith-Sebasto & D'Costa (1995), environmentally significant behaviors were categorized into six different subdimensions; civic action, educational action, financial action, legal action, physical action, and persuasive action. In simple terms, civic actions are when individuals exhibit different behaviors that don't involve money, like voting for environmentally friendly candidates. Individuals are engaging in educational actions when they try to learn more about the environment and environmental issues. Financial actions are when individuals give money to support environmental problems, such as donating or buying eco-friendly products even if they are more expensive. Legal actions involve using laws to protect the environment. Physical actions are when people physically engage in behaviors to conserve the environment, such as picking up litter or recycling. Lastly, persuasive actions refer to behaviors in which people try to convince others to act in environmentally friendly ways (Smith-Sebasto & D'Costa, 1995). Good citizen behavior, healthy consumer behavior, and environmental activism are three different dimensions of pro-environmental behaviors offered by Karp (1996). Recycling, voting for a green candidate, not to litter, etc. were examples given by Karp (1996) of good citizen behaviors. On the other hand, environmental activism was related to giving money to environmental organizations, and doing volunteering work for the environment. In his study, good citizen behaviors were exemplified as recycling, voting for a green candidate, not to litter, etc. Finally, the subdimension of healthy consumers included actions that influenced both health and the environment, such as avoiding chemical-containing items, buying organic foods, etc. Kaiser (1998) was another researcher who focused on the dimensions of environmentally significant behaviors and he listed them as; prosocial behavior, ecologically aware consumer behavior, volunteering in nature protection activities, garbage inhibition, ecological automobile use, water and power conservation, and ecological garbage removal. Kaiser (1998) believed that

environmentally significant behaviors are part of prosocial behaviors in general. So, in their measurement scales, they also considered the concept of prosocial behavior as one dimension of pro-environmental behaviors. Ecological garbage removal was generally related to individuals' environmentally friendly product disposal processes. Water and power conservation behaviors, on the other hand, are the behaviors targeting reducing the usage of water and energy. Ecologically aware consumer behaviors are related to efforts to be environmentally friendly when making purchases. Behaviors targeting reducing solid waste are under the category of garbage inhibition, according to Kaiser (1998). Whereas volunteering nature protection activities refer to behaviors targeting any collective/volunteering organization related to the environment, ecological automobile use was linked to behaviors targeting eco-friendly modes of transportation (Kaiser, 1998). Goldman et al. (2006) were other researchers who were interested in the development of a scale that assess environmentally significant behaviors, and the factors revealed in the scale were listed as; resource-conserving actions with a personal financial benefit, environmentally responsible consumerism, nature-related leisure activities, recycling efforts, citizenship action, and environmental activism. Resource-conserving behaviors are those that try to use fewer renewable and nonrenewable resources for also saving money. Environmentally responsible consumerism is more about the purchasing behaviors of individuals, similar to the ecologically aware consumer behaviors of Kaiser (1998). Having an interest in nature, and behaviors targeting spending time outdoors were specific as nature-related leisure activities, according to Goldman et al. (2006). Whereas behaviors targeting recycling were named as recycling efforts, citizenship actions refer to the behaviors in which individuals take roles in protecting the environment but do not have any financial benefit, similar to the good citizen behavior of Karp (1998). Finally, environmental activism was exemplified as actively participating in environmental protests (Goldman et al., 2006).

When the categorizations of environmentally significant behaviors in more recently published studies are examined, it is possible to detect different dimensions attributed to these behaviors, such as in the study of Whitmarsh & O'Neill (2010). Waste reduction, eco-shopping and eating, conservation, one-off domestic energy

conservation actions, eco-driving, political actions, and reducing car use and flying were listed dimensions of environmentally significant behaviors proposed by Whitmarsh & O'Neill (2010). As a difference, Whitmarsh & O'Neill (2010) focused on eco-eating and political actions, specifically highlighting green voting, in their categorizations. In the recent studies from Türkiye, different subdimensions of environmentally friendly behaviors were reported, such as transforming knowledge into behavior, giving information to others regarding environment, and recycling (Cömert, 2011), and political action, eco-management, consumer and economic action, and individual and public persuasion (Erdoğan et al., 2012). The first category in Cömert's (2011) study is about turning knowledge into action. It includes different behaviors like using eco-friendly modes of transportation, buying green products, and participating in volunteer activities to help the environment. The second category involves informing others about the environment, such as warning people who are not being environmentally friendly and trying to persuade others to protect the environment. The last category is called recycling, which focuses on actions that involve properly disposing of products in an eco-friendly way, similar to what other studies have also identified. The categories for environmentally significant behaviors that Erdoğan et al. (2012) discovered were quite comparable to those indicated in earlier studies like Goldman et al. (2006), Kaiser (1998), and Whitmarsh & O'Neill (2010). Recent studies show a tendency to use fewer categories when compared to earlier studies. In a scale developed by Markle (2013), four factors were revealed; conservation, environmental citizenship, food, and transportation. Whereas conservation and environmental citizenship is quite similar to the previous studies and includes behaviors such as turning lights off for the former and being a member of environmental education in the latter, food was a dimension not emphasized in much of the studies. It was related to behaviors targeting eco-friendly food consumption, such as reducing beef consumption (Markle, 2013). Zafeiroudi & Hatzigeorgiadis (2014) was another researcher who focused on the assessment of environmentally significant behaviors. According to their analyses, environmentally significant behaviors have only two subdimensions; individual environmental action and group environmental action. Group actions include participating in activities organized to protect the environment or participating in volunteering events such as garbage collection with others; on the

other hand, individual actions encompass making green decisions in purchasing phase or engaging in recycling; in summary, group actions are the ones which are conducted with other people, whereas individual actions are more personal behaviors (Zafeiroudi & Hatzigeorgiadis, 2014). Another study also classified environmentally significant behaviors into two; participatory actions and leadership actions (Alisat & Riemer, 2015). According to Alisat and Riemer (2015), engaging in activities that demand significant dedication and activism, such as participating in environmental protests, was classified as leadership actions. On the other hand, behaviors that involve less effort, such as discussing environmental concerns with others, were referred to as participatory actions. Conservation lifestyle behaviors, social environmentalism, environmental citizenship, and land stewardship were different subdimensions attributed to the environmentally significant behaviors by Larson et al. (2015). They identified conservation lifestyle behavior as a subdimension that closely resembled the dimensions mentioned in various studies related to conservation. Social environmentalism, on the other hand, involved engaging in behaviors such as joining environmental organizations or actively participating in environmental activities. Environmental citizenship was associated with green politics in Larson et al.'s (2015) study. The primary distinction observed in this study concerning subdimensions of environmentally significant behaviors was the concept of land stewardship. Land stewardship involves behaviors aimed at supporting wildlife and protecting biodiversity. Lavelle et al. (2015) also offered a categorization for environmentally significant behaviors, which is unique; habitual and occasional pro-environmental behavior. As the name suggests, habitual behaviors refer to environmentally significant behaviors that individuals regularly engage in as part of their everyday lives. These are behaviors that become a habit or routine. On the other hand, occasional environmentally significant behaviors are done infrequently or only once, such as installing insulation or participating in a single environmental protest (Lavelle et al., 2015). MacDonald & She (2015), on the other hand, specified subdimensions of environmentally significant behaviors as curtailing behavior, political behavior, and efficiency behavior. Curtailing refers to actions that reduce environmental impact by changing individual behaviors. On the other hand, efficiency behaviors involve reducing environmental impact through the choices made during purchasing products. Political actions have an impact on

environmental politics. For example, if someone turns off the lights to save energy, it is curtailing behavior because it involves changing individual behavior. If someone buys an energy-efficient light bulb to save energy, it is an efficient behavior. Finally, if someone changes their electricity provider or by voting for a green party, it is a political behavior (MacDonald & She, 2015). In addition to detecting various subdimensions, studies have examined how environmentally significant behaviors can be classified and what criteria can be used as well. Kurisu (2016) was one of the notable researchers who made an effort to address these questions. He strongly argued that environmentally significant behaviors could be categorized based on different characteristics, including location, actor, influential domains, and sub-impacts. In fact, Kurisu (2016) provides a comprehensive explanation that encompasses all the mentioned subdimensions of environmentally significant behaviors.

The most suitable classification for the research objectives is crucial to ensure high-quality results. In this study, as the sample consisted of parents of young children, and the focus was on behaviors of these parents conducted both individually and with their children, it was essential to choose a categorization suitable for the age group and aligned with the research objectives. Therefore, a theoretical framework encompassing all the mentioned categorizations was employed as the foundation for this research by considering the age-appropriateness of the subdimensions; Theory of Environmentally Significant Behavior by Stern (2000).

2.4. Theoretical Framework of the Study

The theoretical framework that was utilized to examine environmentally significant behaviors; the Theory of Environmentally Significant Behaviors proposed by Stern (2000) and child developmental theories associated with the current study are presented in detail in this section.

2.4.1. Theory of Environmentally Significant Behavior (Stern, 2000)

Since there is a need to utilize a theoretical framework that should be age-appropriate for young children and detailed enough to address all different categorizations of

environmentally significant behaviors, Stern's (2000) Theory of Environmentally Significant Behavior was utilized in the current study as a theoretical framework for environmentally significant behaviors. Hopefully, recent advances in theory and research are promising in terms of developing a framework for changing human behaviors that boost environmental problems. One of the researchers who attempted to put environmentally significant behaviors in a framework was Paul C. Stern (2000). In his well-known paper "Toward a Coherent Theory of Environmentally Significant Behavior", he discussed the meaning of environmentally significant behaviors, and categorization of these behaviors and their causes as well as systematizing the evidence on the determinant variables of environmentally significant behaviors (Stern, 2000).

According to Stern (2000), environmentally significant behaviors can be defined by considering their impacts, in other words, the size of an environmental significant behavior's impact on the biosphere should be taken into account. For instance, while some environmentally significant behaviors, like clearing trash from a forest, have a direct but local, small impact on the environment; others, like protesting an environmental policy, can have a more indirect but more significant impact. Stern (2000) also discussed the definition of these pro-environmental behaviors as being intent-oriented; in other words, many people may have good intentions for the preservation of the environment, and these intentions can be assessed as intent-oriented environmental significant behaviors. However, it is also noted that sometimes environmentally significant behaviors that are motivated by intent don't actually produce much of a positive change in the environment. Stern (2000) believed that both definitions have their uses in various contexts. Impact-oriented definition should be considered if the goal is to pinpoint the target behaviors that could directly affect the environment, in other words, behaviors that could provide a concrete change in the environment. On the other hand, it is preferable to stick with intent-oriented definition if there is a need to identify beliefs, motives, and other dispositional characteristics of people that may eventually cause a change in their behavior (Stern, 2000). This division of Stern (2000) has influenced a wide range of research focusing on environmentally significant behaviors (Gkargkavouzi et al., 2021; Larson et al., 2015; Moser & Kleinhüchelkotten, 2017; Poortinga et al., 2004;

Ture & Ganesh, 2014). Environmentally significant behaviors were defined by researchers who used the impact-oriented approach as behaviors that have a minimal negative impact on the environment, that have benefits for the environment, or that are taken consciously to lessen one's own negative effects on the environment and the biosphere (Kolmuss & Agyeman, 2002; Steg & Vlek, 2009). Researchers who prefer to utilize intent-oriented approach defined environmental significant behaviors as a specific behavior that is performed by the actor with the intention of protecting or benefiting the environment (Poortinga et al., 2004). Stern (2000) believed that this emphasis is significant in order to make research more effective.

Apart from providing a definition, a classification for environmentally significant behaviors was also offered by Stern (2000). As mentioned in the previous chapter, Stern (2000) divided environmentally significant behaviors into four categories in his paper. Environmental activism was the first category of environmentally significant behaviors, according to Stern (2000). This category is often related to actively participating in environmental protests or other activist actions that seek to affect any present environmental issue by advocating for the environment. The second category—nonactivist behaviors in the public sphere—represented a deeper level of environmental citizenship. A few instances of nonactivist behaviors in the public sphere include signing environmental petitions, contacting the relevant authorities about environmental issues, joining environmental organizations, and supporting policies that are in favor of the environment, as exemplified by Stern (2000). Private sphere environmentally significant behaviors, Stern's (2000) third category, was described as the acquisition, use, and removal of domestic and personal products that have an impact on the environment. These behaviors may be connected to the acquisition of the products, their use and maintenance, and their eventual disposal. Stern (2000) used waste management, green consumerism, and energy conservation as examples of these behaviors. The theory also points out that when compared to public sphere behaviors, which have an indirect but greater impact, private sphere environmentally significant behaviors have a direct but smaller impact on the environment. The final category of Stern (2000) was other environmentally significant behaviors. These behaviors are connected to individuals' decision-making within their work environments, potentially influencing major corporations to make

significant environmentally-friendly choices. As Stern (2000) suggests, an engineer's decision to design a green product with greater environmental sensitivity is an example of such behavior. Considering that companies are responsible for considerable environmental damage, these behaviors are anticipated to have a notable influence on the environment (Stern, 2000). Figure 1 provides a summary of the categorization of environmentally significant behaviors proposed by Stern (2000).

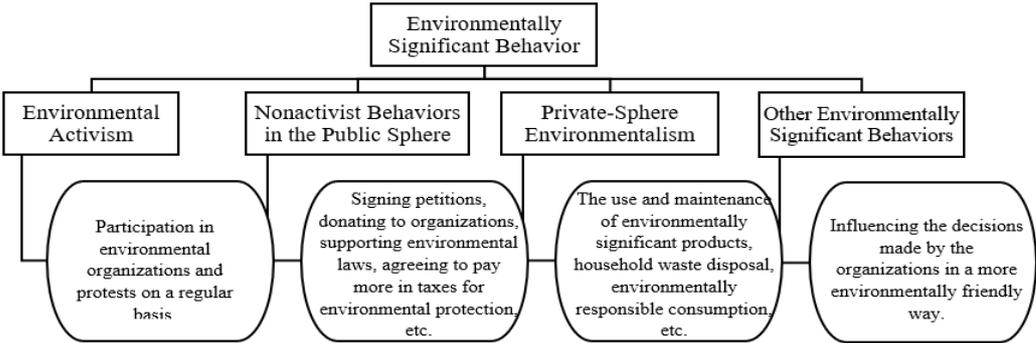


Figure 1 Summary the categorization of environmentally significant behaviors proposed by Stern (2000)

The final investigation of Stern (2000) in his paper was related to the variables that influenced environmentally significant behavior and made an effort to hypothesize these factors within a framework. In order to create the framework, Stern and colleagues (1999) developed Value-Belief-Norm Theory to clarify how human values affect environmentally significant behaviors of people. The causal chain theory explains how values, beliefs, norms, and behaviors relate to one another.

Stern et al. (1999) defined “value” as a foundational basis for all actions. They used a variety of values, including egoistic, biospheric, altruistic; and openness to change values, in their theory to predict environmentally significant behaviors. Altruistic values are more related to other people and living things. It is stated by Stern et al. (1999) that having a value towards other people and living things contributes to environmentally significant behavior. Egoistic values, on the other hand, are intimately tied to one's personal benefits. They involve having favorable values toward success, power, and influence. Ecosystems, nature, balance, and the

biosphere are all valued according to the third category of values, known as biospheric values. These three diverse forms of values collectively predict people's adoption of the new ecological paradigm (NEP) worldview, in other words, the belief that the delicate biosphere is seriously harmed by human activity (Stern et al., 1999). The new ecological paradigm concept was first put forward by Dunlap & Van Liere (1978). People's ability to comprehend the harmony of nature, the place of humans in the complex ecological systems, and the effects of humans on the environment are highly correlated with the NEP worldview. Stern et al. (1999) claim that people with NEP worldviews become aware of the negative repercussions and consequences of these human-based detrimental behaviors towards the environment, in other words, their awareness regarding the consequences of harmful behavior increases. When one become aware of the consequences, the "ascription of responsibility" variable stands out, which was firstly used by Schwartz (1973). It is the belief or denial that one's own behaviors also contributes to the consequences, in other words, the ascription of responsibility belief is strongly related to taking responsibility for causing consequences. The final predictor in the model is pro-environmental personal norms, which can be defined as feelings of moral commitment to protect the environment. When pro-environmental personal norms develop, it is believed by the individuals that PEB is ethically required. When these standards are well established, they significantly influence various types of pro-environmental behaviors (Stern et al., 1999). It is highlighted by Stern et al. (1999) that the only factor in the model that reliably and directly predicts all dimensions of environmentally significant behaviors was pro-environmental personal norms. Stern et al. (1999) combined data from various theories and models (Dunlap & Van Liere, 1978; Schwartz, 1973) in their value-belief-norm model and came to the conclusion that when people have positive environmental values, they begin to comprehend their place in complex systems and become aware of the potential harm that humans can cause. Following the realization, people begin becoming aware of the consequences of these harms. They start to take responsibility for their behaviors when they are more aware of the consequences, and then it becomes morally imperative for them to protect the environment which finally results in different types of environmentally significant behavior. The factors identified by Stern et al. (1999) serve as a foundational basis for various models that aim to predict pro-environmental behavior, such as Theory of

Reasoned Action (Ajzen & Fishbein, 1980) and the Theory of Planned Behavior (Ajzen, 1985).

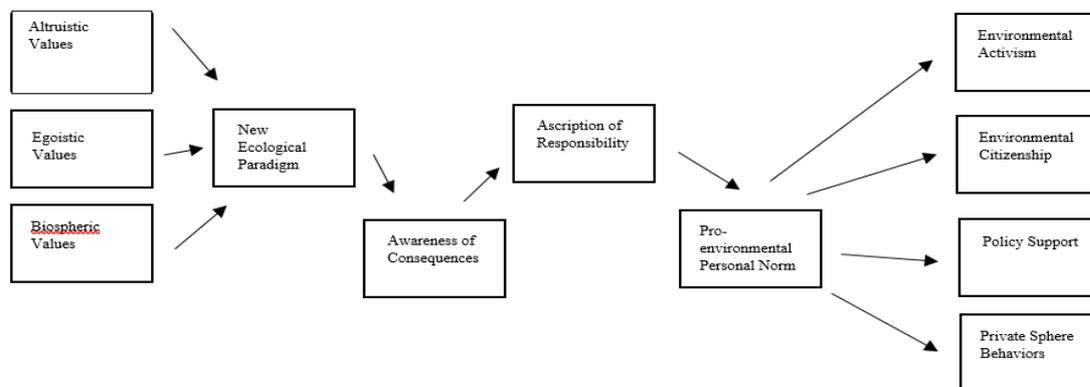


Figure 2 Value-Belief-Norm Model (Stern et al., 1999)

The contribution of the Theory of Environmentally Significant Behavior to the field has made it a fundamental source regarding the definition, classification, and determining factors of environmental behavior. Due to its comprehensiveness, suitability for use with young children, and relevance to the research purposes, Stern's classification was deliberately chosen as an essential theoretical framework that served as the foundation for this study. Similarly, Stern's categorization has also been used in a large number of other research to investigate environmentally significant behaviors in other samples. The following section provides a summary of these studies.

2.4.1.1. Studies Employing Stern's (2000) Categorization of Environmentally Significant Behaviors

Stern's (2000) classification of environmentally significant behaviors has been extensively employed, with many published research utilizing this framework to analyze behaviors under the private and public spheres categories. Many of the studies aim to apply the Value-Belief-Norm theory to various classifications of behaviors that have a significant impact on the environment.

Hansmann and Binder (2020) conducted a study in Sweden with 1206 participants to identify the factors influencing different types of environmentally significant

behaviors. The study categorized such behaviors into private and public sphere environmentally significant behaviors, in line with the framework offered by Stern (2000). The findings revealed that social practices and norms positively impact the public sphere environmentally significant behaviors. At the same time, promoting green self-identity plays a crucial role in enhancing the private sphere environmentally significant behaviors. These results indicate that different determinants influence different categories of pro-environmental behaviors (Hansmann & Binder, 2020).

A similar study was conducted by Heidbreder et al. (2022), focusing on reducing household plastic consumption. The primary purpose of the study was to analyze the antecedents of three different plastic reduction behaviors; less purchasing of plastics, making activism regarding the issue and supporting policies that highlight the reduction of plastics. The categorization of Stern (2000) was also utilized in this study, in which purchasing behaviors were investigated under the title of private sphere behaviors, and activism and policy support was examined under the category of public sphere behaviors. According to the results, personal norms are a predictor for both private and public sphere plastic reduction behaviors. However, sufficiency orientation, which is associated with positive attitudes towards reduction, and collective efficacy, which represents the belief in the individual's actions making a difference and influencing others, only predicted public sphere plastic reduction behaviors. On the other hand, locus of control was found to specifically predict private sphere plastic reduction behaviors (Heidbreder et al., 2022). Similar conclusions were made with the study of Hansmann & Binder (2020); different determinants influence different categories of pro-environmental behaviors.

In their study, Liobikiene & Poskus (2019) attempted to evaluate the role of environmental knowledge in carrying out various kinds of environmentally significant behaviors. Similar to the previous studies, they found differences in the predictive role of environmental knowledge on different behaviors. Although environmental knowledge directly affected the private sphere environmentally significant behaviors of Lithuanian citizens, any effect on the public sphere environmentally significant behaviors can't be found. Similarly, in their study,

Hamann and Reese (2020) discovered differences in the factors that impact the two classifications of environmentally significant behaviors. The results indicated that self-efficacy played a crucial role in influencing behaviors related to the private sphere, while participatory efficacy was a significant determinant of public sphere environmentally significant behaviors (Hamann & Reese, 2020). Liao and Yang (2022) conducted a study with similar findings, indicating that intentions and norms, which are determinants of pro-environmental behaviors, are only predictive for private sphere environmentally significant behaviors and not for behaviors in the public sphere. Perceived power, another factor identified as a predictor of environmentally significant behaviors, was observed to differ based on whether the behaviors were in the private sphere or the public sphere, with a stronger association found for private sphere environmentally significant behaviors (Ertz et al., 2016).

Another interesting finding was offered by Hadler & Haller (2011) in a study conducted with 24,000 participants from 23 different countries. This research showed that whereas private sphere environmentally significant behaviors are more prone to cultural differences, public sphere environmentally significant behaviors show similarities across numerous countries.

Gender differences regarding various categories of environmentally significant behaviors have been a widely discussed subject in the literature, as well. Briscoe et al. (2019) found that women are more likely to perform both public and private sphere environmentally significant behaviors than men. On the other hand, Xiao & Young (2010) confirmed that women are more prone to perform private sphere environmentally significant behaviors than men. However, they concluded that there were no gender patterns observed when it comes to public sphere environmentally significant behaviors. Hunter et al. (2004) also aimed to detect gender differences in public and private sphere environmentally significant behaviors. Similar results were found in their study. They found that women, across many countries, engage more in environmentally significant behaviors, particularly in private sphere behaviors. Moreover, women and men prioritize private environmental behaviors over public ones (Hunter et al., 2004). Similar findings were also presented by Dalton (2015), who emphasized that although private sphere environmentally significant behaviors tend to increase, those in the public realm considerably decreased.

In accordance with their research objectives, several researchers focused primarily on only public or private domain behaviors. Liu et al. (2018)'s use of this strategy is one example. In their research, they examined Mongolian college students' public sphere environmentally significant behaviors. They discovered that, of all the factors included in the model, only altruistic values and personal norms have a significant effect on children's environmentally significant behaviors in the public domain. In their study, which focused on behaviors in the public sphere as well, Xing et al. (2022) tested Attitude-Behavior-Context theory on public sphere environmentally significant behaviors of residents in China. The results of the study suggest that three variables—social trust (trust in other members of society), environmental self-identity (how people view themselves as environmentally friendly or not), and politicized identity (how people view themselves as activists or not)—predict people's pro-environmental behaviors in the public sphere. Another study related to predictors of public sphere environmentally significant behaviors conducted by Schmitt et al. (2019) focused especially on environmental activism. They reported that politicized identity was the direct predictor of self-reported environmental activism of participants. Despite the fact that there have been prior studies exploring public sphere environmentally significant behaviors, as exemplified above, researchers generally agree that further in-depth research on these behaviors is needed. The existing research has not fully explored the entirety of pro-environmental behaviors in the public sphere (Xing et al., 2022). On the other hand, there are other studies which focus on only private sphere environmentally significant behaviors. To illustrate, Gkargkavouzi et al. (2019) integrated the theories of value-belief-norm model and planned behavior to private sphere environmentally significant behaviors. In line with the tested theories, they found that intention is the most powerful predictor of environmental behavior, followed by habits. Additionally, intention is greatly influenced by subjective norm, which is defined as the felt social pressure. A similar study was also conducted in the east side of the world; China. Liao & Yang (2022) tested the factors specified in Theory of Planned Behaviour, the Norm Activation Model and the Attitude-Behaviour-Context theory to predict private sphere environmentally significant behaviors. Similar to previous studies, they also found that intentions and personal norms are strong predictors of private sphere environmentally significant behaviors, by confirming the theories

tested. Nature connectedness is also found to be a significant predictor of private sphere environmentally significant behaviors in a more recent study (Iwiska et al., 2023). A further predictor of private sphere environmentally significant behaviors was perceived status, which refers to one's opinion of one's own social class (Niu et al., 2023). Moreover, numerous studies have been conducted on the factors that influence individuals' environmentally responsible consumption (Ivanova et al., 2018; Peña-Vinces et al., 2020; Tripathi & Singh, 2017; Zavali & Theodoropoulou, 2018), resource conservation (Clark & Finley, 2007; Dolisca et al., 2009; Fielding et al., 2012; Ngo et al., 2009; Singha et al., 2022), and waste management (Ayob et al., 2017; Chengqin et al., 2022; Minelgaitè & Liobikienè, 2019) behaviors, which confirmed that the variety of research focused on private sphere environmentally significant behaviors are higher than their public sphere counterparts.

Finally, several studies that especially focus on the preschool years have used Stern's (2000) categorization as well. A study conducted by Torres-Antonini and Vatrállova (2012) showed that parents who engage in more environmentally significant behaviors in both the public and private spheres tend to enroll their children in childcare facilities that are more environmentally friendly. In a different study which set out to determine whether a designed program is successful to make preschool teachers environmental citizen role models, Spektor-Levy & Abramovich (2016) found that after the program, preschool teachers tended to engage in environmentally significant behaviors more often. In their recent study, Iwaniec & Curdt-Christiansen (2020) utilized from the classification of Stern (2000) too, and they highlighted that parents play an agentic socialization role in their interactions with children by influencing their environmental attitudes, knowledge, skills, and environmentally significant behaviors. These studies collectively demonstrate the comprehensiveness and breadth of Stern's (2000) classification of environmentally significant behaviors. Additionally, because it is age-appropriate, it is particularly suitable and useful for working with young children.

There are several links between the current study and the Theory of Environmentally Significant Behavior proposed by Stern (2000). First of all, the current study utilized the definition and categorization proposed by Stern (2000) to operationally define

environmentally significant behaviors. Any behavior that has a direct or indirect impact on the environment is evaluated as an environmentally significant behavior, as proposed by Stern (2000). Moreover, when preparing the data collection tool for the current study, the categorization from Stern's (2000) theory was utilized. In other words, mothers and fathers of young children were asked about their private sphere behaviors (such as environmentally responsible consumption, resource conservation, waste management) and public sphere behaviors (including non-activist behaviors in the public sphere and environmental activism), as outlined in the theory. When coding the responses of the participants, the names of these behaviors were used as themes and categories. Thus, the fundamental framework of the current study was created based on Stern's theory. There were several reasons for utilizing this particular theory. Firstly, as mentioned above, since the theory has been frequently used in previous studies in the literature, it is considered reliable and effective for exploring environmentally significant behaviors. Secondly, Stern's (2000) public-private classification encompasses a wide range of environmentally significant behaviors, making it comprehensive. Finally, there were other studies that used the theory in research targeting parents of young children (Iwaniec & Curdt-Christiansen, 2020; Torres-Antonini & Vatalova, 2012), which indicated that the theory is also appropriate for use with parents as well as young children. In other words, it is suitable for exploring parental environmentally significant behaviors with their children.

2.4.2. Ecological Systems Theory (Bronfenbrenner, 1979)

According to Bronfenbrenner (1979), it is not possible to comprehend a child's development without taking into account their surroundings, environment, culture, social setting, and the significant people in their everyday lives. Children do not live in an isolated environment; rather, they do so within a social framework. The ecological systems theory of Bronfenbrenner provides a number of systems that have an impact on children's development both collectively and individually. The terms microsystem, mesosystem, exosystem, macrosystem, and chronosystem are used to describe these systems (Thomas, 2000).

The first and most intimate system of Bronfenbrenner's model, the microsystem, includes all of the interactions and activities that take place in a child's local environment, including their home, school, and neighborhood. According to Bronfenbrenner, children's individualistic development results from the interaction between the genetic background, including their temperament, habits, and specific characteristics, and the impacts of the individuals inside the microsystem (Thomas, 2000).

Bronfenbrenner (1979) introduced the mesosystem as the second system in his framework of child development. Children are significantly influenced by the mesosystem as well, which can be viewed as the interconnection of individuals within the microsystem, such as peers, parents, teachers, and the settings of home and school. In other words, the primary concept underlying the mesosystem is understanding how the interactions between influential individuals in the microsystem impact the child's development. For instance, Bronfenbrenner believed that even if a teacher makes an attempt to give children a quality education, it becomes difficult for a child to succeed in a specific topic without the support of parents (Thomas, 2000). Therefore, negative interactions within the mesosystem may jeopardize children's skill acquisition and development.

The exosystem, another key aspect of Bronfenbrenner's framework, involves the indirect environment surrounding the child, which has the potential to have a significant influence on their development. The financial situation of the parents, parental dynamics at work, and the presence of a religious or cultural traditions in the environment are a few examples of exosystem components (Bronfenbrenner, 1979). Even if they are not present in the child's immediate environment, these elements can nevertheless have a significant impact on how they develop (Thomas, 2000).

The macrosystem, the most comprehensive system within Bronfenbrenner's framework (Thomas, 2000), actually reflects the larger societal context in which children grow and develop. It includes societal standards, political aspects of the country that the child live in, cultural and religious beliefs and practices that take place in the environment that the child grows up. By influencing the options

available to the child within his specific society or culture, the macrosystem creates the broader framework in which the other systems function (Bronfenbrenner, 1979).

It is crucial to remember that as a child gets older, the dynamics of the four systems stated previously cannot stay the same. Throughout their growing up, several historical occurrences, including wars, pandemics, and natural disasters, might occur. Even the child's immediate surroundings can change, such as when they switch schools, meet new friends, or move to a new neighborhood. As he emphasized that the child's growth should be understood within the framework of these evolving systems, Bronfenbrenner referred to these changes as the chronosystem (Thomas, 2000). Fundamentally, in his theory, Bronfenbrenner (1979) placed an emphasis on the interdependence and variety of elements that affect children's development. He compared each system's component to a domino, where the absence or inadequacy of any one figure can have a significant impact on a child's growth and learning. A summary of Bronfenbrenner's (1979) Ecological Systems Theory can be found in the figure below.

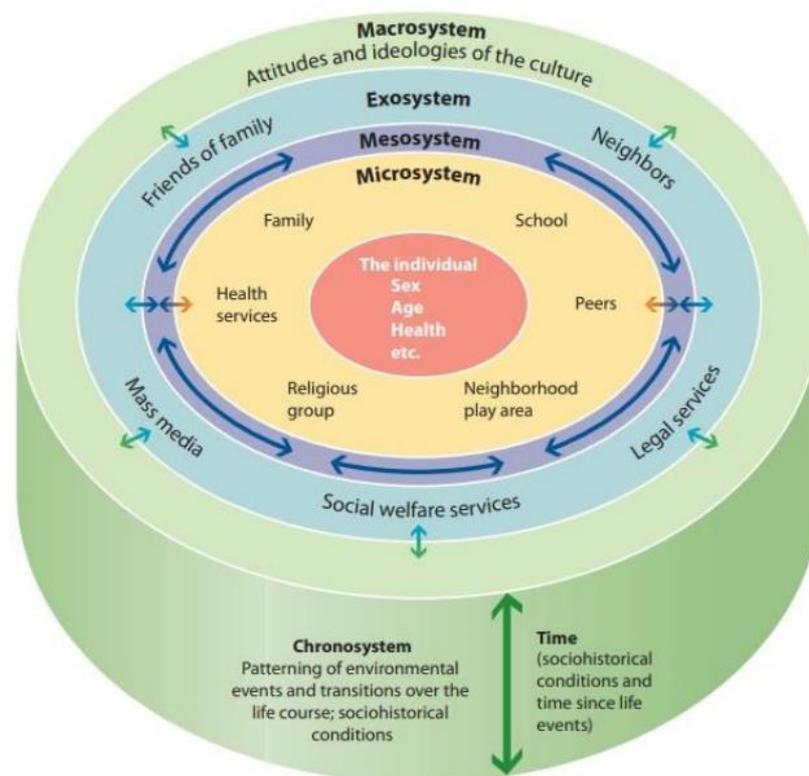


Figure 3 *Ecological Systems Theory of Bronfenbrenner (1979)*

(Santrock, 2011)

There are several links between the current study and the Ecological Systems Theory proposed by Bronfenbrenner (1979). Firstly, participants of this current study are parents of young children, who are special agents and the most critical figures in Bronfenbrenner's microsystem. According to Bronfenbrenner (1979), parents play a crucial role in the development of children, influencing their attitudes, beliefs, and behaviors, and contributing to the formation of habits and specific characteristics. This process involves a combination of innate factors and nurturing influences. Hence, examining parental factors becomes essential. The present study aims to explore how parents define, engage in individual behaviors, and perceive obstacles related to various environmentally significant behaviors. Drawing on Ecological Systems Theory, it emphasizes the significance of the opportunities provided by parents to their children and the environmental context created during their growing up process. These factors greatly influence children's future behaviors, habits, and specifically, environmentally significant behaviors. Relying on Bronfenbrenner's theory, parents were selected as the sample in the current study, considering their pivotal role within the microsystem as a critical factor and as influential agents in nurturing individuals who engage in environmentally significant behaviors, which aligns with the ultimate goal of environmental education. Secondly, within the mesosystem framework proposed by Bronfenbrenner (1979), the interactions between important figures, in the case of this study, parents and teachers, were emphasized. It is hoped that the findings of the current study will provide valuable insights to early childhood educators regarding the specific needs of parents when it comes to engaging in environmentally significant behaviors with their children. This, in turn, may lead to more effective interactions between two significant figures in Bronfenbrenner's theory (1979): parents and teachers. Therefore, the current study is also linked to Bronfenbrenner's theory in terms of the significant implications it offers for early childhood environmental education practices in the field.

2.4.3. Social Learning Theory (Bandura, 1977)

Albert Bandura developed Social Learning Theory, which is categorized as a behaviorist. This theory, whose focus is on the important impact of social factors on behavior and personality development, seeks to comprehend how children learn (Thomas, 2000). According to Bandura (1977), social learning occurs as individuals

observe, model, and imitate one another. Children carefully follow the role models in their environment, including their parents, teachers, and peers, as they learn new behaviors. The child then encodes the observed behavior to comprehend how to react in a certain context and can afterwards use it when faced with similar circumstances. This kind of learning is referred to as "observational learning" by Bandura (Engler, 2003). The theory emphasizes that four crucial processes are involved in observational learning: motivational processes, motor production processes, attentional processes, and retention processes. As a result, it exceeds simple behavior of copying (Engler, 2003). Different factors that affect attentional processes influence how focused the child is on a given model or activity. According to Bandura, some models might be more attractive than others, and some behaviors might be more engaging for children to observe (Thomas, 2000). The child makes an effort to recall and maintain the seen behavior during the retention process, assuring its availability for application in many contexts in the future. The child converts the symbolic representation of the behavior into actual actions during the motor production processes. Although it might seem simple, the child needs to be able to recall not only the behavior itself but also the specific circumstances and context in which it should be used. The motivational processes emphasize how significant the child's motivation or desire to exhibit the observed behavior is. The young child might not be able to imitate the specific behavior without enough motivation (Engler, 2003).

Children learn many behaviors through learning, but not all of them are put into practice, according to Bandura (1977). Children can be motivated to engage in the desired actions by using reinforcement approaches. The theory emphasizes how the effects of a model's behavior greatly affect the observer's behavior. A child is more likely to learn and imitate an action if they see favorable results from it (Bandura, 1977). It is also important to highlight that children often choose role models who have meaning for them, are powerful figures, and have traits in common with them (Bandura, 1977), such as parents in the context of this study.

The importance of parents as significant role models must be emphasized, especially in the early stages of a child's growth. According to the social learning theory,

children select their role models, such their parents, and learn by observing and imitating them (Bandura, 1977). This study aims to explore a range of objectives, including investigating the individual knowledge, behaviors, and self-reported perspectives of parents, as well as examining the behaviors they engage in with their children. Even if parents do not directly involve their children in their behaviors, children can still observe and learn environmentally significant behaviors by observing and imitating them. However, when parents actively involve their children and engage in environmentally significant behaviors together, children are more likely to successfully observe and imitate these behaviors, leading to increased motivation, which is a crucial aspect of learning modeled behavior. Therefore, parental environmentally significant behaviors, whether conducted individually or with their children, play a significant role in the success of environmental education in early childhood. Drawing upon Bandura's Social Learning Theory (1977), it can be inferred that children are more likely to notice and adopt environmentally friendly behaviors when parents actively participate in such behaviors with them and serve as role models. This, in turn, can foster their awareness of their ecological impact and environmental responsibilities. Thus, Bandura's Social Learning Theory serves as one of the fundamental theories employed in the present study.

2.5. Conceptualization of Different Types of Private and Public Sphere Environmentally Significant Behaviors

In this section, definitions provided in the literature for different types of environmentally significant behaviors in the private and public spheres are presented. Additionally, studies on how individuals have defined specific types of environmentally significant behaviors in both the private and public spheres are also shared.

2.5.1. Conceptualization of Different Types of Private Sphere Environmentally Significant Behaviors

As Stern (2000) exemplified, private sphere environmentally significant behaviors include behaviors targeting environmentally responsible consumption, resource

conservation, and waste management. This part presents conceptualizations of environmentally responsible consumption, resource conservation, and waste management according to relevant literature.

2.5.1.1. Conceptualization of Environmentally Responsible Consumption

Different definitions were given the term by different researchers. In general terms, environmentally responsible consumption is defined as any consumption-related behavior, such as purchasing, using, and disposing, carried out in a way that lessens the impact of consumption on the environment (Gupta & Agrawal, 2017). More specific definitions exist as well. For instance, environmentally responsible consumption can be defined as the act of purchasing products that are manufactured without depleting natural resources while also respecting the right of future generations to access and utilize those resources, free from toxic substances, and do not generate waste or pollutants throughout their entire lifespan (OECD, 2008). Minimizing the adverse effects of consumption in the purchase process by buying eco-friendly products was another definition given by Yue et al. (2020). Paavola (2001) named environmentally responsible consumption as the utilization of products that have a decreased negative effect on the environment, in shortly.

The literature also includes definitions for the term "environmentally responsible consumer" in relation to environmentally responsible consumption. These two terms are often used interchangeably due to their close similarity. Webster (1975) defined environmentally responsible consumers as individuals who take responsibility for the consequences of their purchasing practices. In other words, these individuals evaluate the environmental consequences of the products they prefer to purchase. To successfully describe environmentally responsible consumers, it is essential to understand the factors responsible for the formation of these individuals (Pinto et al., 2011). In other words, environmentally responsible consumers are also defined with their specific features in the literature. Some of the features of environmentally responsible consumer are to have positive attitudes towards environment (Al Mamun et al., 2018; Kaiser & Scheuthlei 2003; Moser (2016), sense of responsibility for the environment (Değirmenci, 2022; Yue et al., 2020), high awareness regarding the

environment (Shen & Wang, 2022). Moreover, individuals who are eco-literate (Tiwari, 2022), who have knowledge of environmental issues (Lin & Niu, 2018), and as well as knowledge of green products (Hojnik et al., 2019; Liobikienė et al., 2016) were defined as environmentally responsible consumers.

Since green or environmentally friendly products have a role in conceptualizing environmentally responsible consumption, it is essential to understand what an eco-friendly product is. Ottman (1998) was one of the researchers who studied green products for a long period of time. According to his first definition, an eco-friendly product, also named a green, environmental, environmentally friendly, ecological product, usually describes products that are durable, non-toxic, packaged in a minimal way, and made of recycled or recyclable materials. In 2006, Ottman et al. widened the definition and stated that products that prevent any harm to the natural environment, require the least possible energy in their production, do not include any toxic agents, and do not cause waste can be considered as eco-friendly products (Ottman et al., 2006). Sheng (2019), on the other hand, defined eco-friendly products as less polluting, reusable, and recyclable. Pickett-Baker & Ozaki (2008) claimed that there is no such thing as a truly eco-friendly product. They believed that all the products individuals purchase will have a negative impact on the environment, especially during their use and discard processes. However, this impact can be minimized, making it possible for a product to be considered eco-friendly. Several examples of eco-friendly products listed in the literature were organic food, energy-efficient products, and green electricity (Welsch & Kuhling, 2011).

To compare and contrast the literature with the actual perceptions of individuals regarding the definition of environmentally responsible consumers and eco-friendly products, different studies have been carried out. In a study conducted by Durif et al. (2010), 104 adults were surveyed in Canada in terms of what an eco-friendly product is. According to their responses, the most attributed features of eco-friendly products were being biodegradable, non-toxic, safe for the planet, protective of natural resources, having recyclable content, being free of phosphate and ammonia, energy-saving, not tested on animals, locally sourced, and hypoallergenic (Durif et al., 2010). In another study carried out in Canada, individuals' perceptions regarding eco-

fashioned and green beauty products were investigated (Carvellon & Carey, 2011). Several terms were frequently used by the participants to define eco-fashioning products; ethical, organic, fair trade, recyclable, recycled, and reusable. On the other hand, participants generally defined green beauty products as products with fewer chemicals, natural ingredients, and cruelty-free (Carvellon & Carey, 2011). Moreover, in a study conducted by Campbell et al. (2015), it was found that individuals are more likely to associate the terms 'environmentally friendly' and 'green' with organic, local, and eco-labeled products. There have also been studies conducted in Türkiye on how individuals define environmentally responsible consumers and green products. According to a study conducted by Aksu (2019), participants generally associated the term "green products" with products that are energy-efficient, packaged in recyclable materials, and free from chemicals. Moreover, it is highlighted that while there is an increasing variety of green products, the participants in the study displayed limited knowledge by only citing three different products. On the other hand, Çalışır (2020) found that participants generally described eco-friendly products as organic, energy-efficient, and chemical-free. In a similar study conducted by Onurlubaş et al. (2017), it is revealed that participants believe that green products do not damage human health, are energy-efficient, recyclable, biodegradable, and use minimal resources during production. All in all, both nationally and internationally, it is apparent that eco-friendly products are commonly associated with similar features.

2.5.1.2. Conceptualization of Resource Conservation

In simplest terms, resource conservation can be defined as preserving and even improving the resources that are essential to sustainability (Robertson & Harwood, 2013). Another well-known definition of natural resources was offered by Hart et al. (1995), emphasizing that natural resources are naturally occurring entities and have value to human beings. According to Schellens & Gisladdottir (2018), natural resources are indeed present throughout life; however, they are only recognized as "resources" when humans derive benefits from them. In order to provide holistic details of resource conservation, Schellens & Gisladdottir (2018) carried out a systemic literature review. According to their findings, natural resources were

classified in different ways by various researchers. The mostly utilized one is categorization of natural resources according to their regeneration rate (Jowsey, 2007; Schellens & Gisladdottir, 2018). Renewable resources are defined as resources that can naturally renew themselves within a time span of a human lifetime (ex. Water, fish, and forests). On the other hand, non-renewable resources do not have the capability to renew themselves within the span of a human lifetime, such as minerals, oil, sand, natural gases, coal. However, according to Schellens & Gisladdottir (2018), if this classification is left in an undetailed manner, such as the one described, it can be misleading since it may mislead people into thinking that renewable resources would always be accessible, ignoring the significance of effective resource management. That is why, renewable resources are also further divided to two; unconditionally renewable resources, such as solar power, wind energy, geothermal energy, and conditionally renewable resources, such as water, forests, biodiversity, air, soil, which means that improper management of resources, particularly in the case of conditionally renewable resources, can result in their depletion and transform them into non-renewable resources (Jowsey, 2007; Schellens & Gisladdottir, 2018). In a similar manner, Dewulf et al. (2015) categorized resources into three groups: exhaustible non-renewable resources (similar to non-renewable resources), exhaustible renewable resources (conditionally renewable), and inexhaustible renewable resources (unconditionally renewable resources). Jowsey & Kellett (1998), on the other hand, mention categorized natural resources as depletable (nonrenewable), critical zone (conditionally renewable) and continuous (renewable) resources. Although the literature offers various definitions and categorizations for resource conservation, studies specifically aimed at providing insights into individuals' definitions of resources and resource conservation are relatively limited.

2.5.1.3. Conceptualization of Waste and Waste Management

In simpler terms, waste is described as a material that has no purpose, either because it was never given one, did not receive a new purpose after the first one was completed, or was unable to efficiently perform its intended role owing to defects in structure or dysfunction (Pongracz & Pohjola, 2004). Upon closer examination, it becomes evident that the term "waste" is a general term used with varying meanings

across different studies in the current literature (Thürer et al., 2015). According to White et al. (1995), waste is a product that is useless to its owner (Basu, 2009), even if it still contains some substances available in the useful product. Since the usefulness depends on the owner of the product, it is highlighted that the meaning of “waste” can vary from person to person (Amasuomo & Baird, 2016). Cheremisinoff (2003) emphasized that the continuous generation of waste results in loss of vital resources, since a material which can be regarded as waste to one person, may be a resource to another. Bilitewski et al. (1994) presented another study in which the definition of waste was given as materials that can be managed, and which were discarded by the owner after use. Lynch (1990) provided a similar definition by emphasizing that waste is material discarded by the owner, which is created as a result of the owner's consumption and does not meet the owner's needs. When considering all the definitions provided for waste, it is possible to conclude that waste is a material that does not meet the needs of the users, is unwanted, or has defects in its function.

In terms of the categorization of waste, it is possible to see some differences between the studies. However, in general, three types of waste categorization were used: categorization according to physical state of waste (solid, liquid, gaseous), source of waste (household/domestic, industrial, agricultural, commercial, demolition and construction, mining) and environmental impact of waste (hazardous, nonhazardous) (Amasuomo & Baird, 2016). When examining the existing literature, it is evident that the focus is mainly on solid waste. Solid wastes are materials resulted from human or animal consumption and which are physically solid under normal conditions (Tchobanoglous et al., 1977). When these solid wastes are collected by municipalities and local governments, it is called municipal solid waste. Garbage is a term often used interchangeably to refer to municipal solid waste (Rathje, 1992). However, whereas garbage refers to wet, animal or food residues, waste is a much more comprehensive term (Rathje, 1992). It is also important to emphasize that waste can contain some substances available in the useful product (White et al., 1995).

Waste management, on the other hand, refers to a practical field that seeks solutions to specific waste issues. The necessary processes and actions to manage waste from

its creation to final disposal are included in waste management (Pongracz, 2002). These processes can be specified as the collection, transportation, processing, recycling, or disposal, as well as the monitoring of waste. There are also several goals of waste management, highlighted as the reduction of the total amount of waste produced, recycling or reusing waste, and the reintegration of biological waste into its life cycle (Demirbaş, 2011). Moreover, the United States Environmental Protection Agency (2022) has introduced the Waste Management Hierarchy, to clarify the proper steps of waste management. The waste management hierarchy consists of six distinct steps: avoiding and reducing waste, reusing waste, recycling waste, recovering energy, treating waste, and disposing of waste. In the first step, the objective is to reduce waste even before it is generated, such as by avoiding the use of packaged products. The second step promotes the reuse of waste, thereby further reducing the total amount of waste generated. The third step involves the segregation and recycling of waste, ensuring that valuable components are not lost. In the fourth step, additional authorities come into play to recover energy from the waste. Finally, if none of the previous steps can be implemented, waste is disposed of in the sixth and final step (EPA, 2022). Figure 4 presents a summary of the waste management hierarchy.

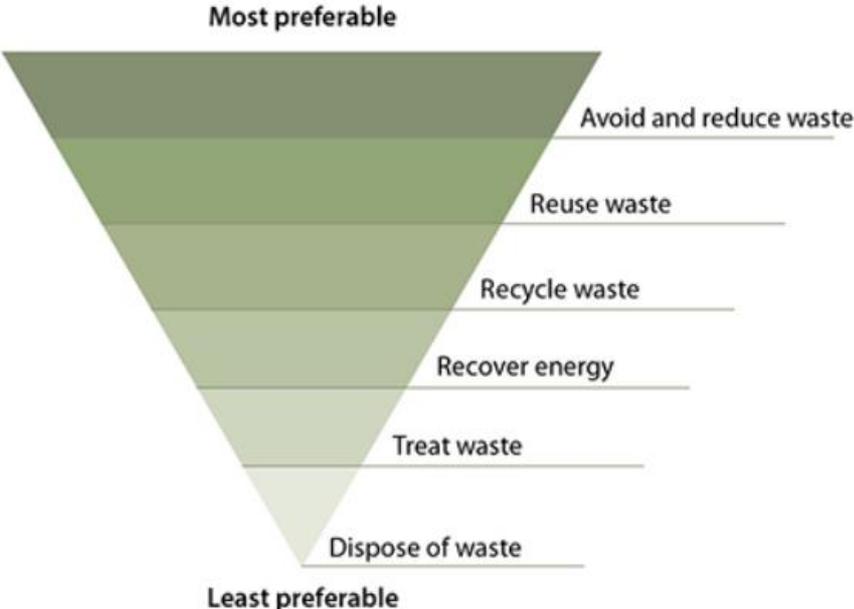


Figure 4 Summary of the waste management hierarchy

(EPA, 2022)

There are different studies in the literature regarding the level of knowledge individuals have on waste management. In a study conducted by Adeolu et al. (2014) in Nigeria, it was found that 19.4% of the secondary school students who attended the study had low levels of knowledge, while 63.4% of them had high levels of knowledge in terms of waste management. Similarly, Adogu et al. (2015) also highlighted that large numbers of residents in Nigeria are knowledgeable about waste management, whereas females were found to be more knowledgeable than males. In a study conducted in Northern Thailand, 73% of the participating adults demonstrated high levels of knowledge regarding waste management, whereas 23% exhibited moderate levels and 2.9% exhibited low levels of knowledge (Laor et al., 2018). On the other hand, Maldaye et al. (2022) discovered that only 37.9% of residents in Ethiopia demonstrated good knowledge of solid waste management. Another study conducted in India reported that 60% of participants do not know the difference between biodegradable (can be used for composting) and non-biodegradable (can be used for recycling) wastes (Mukherji et al., 2016). They also noted that women in the study outperformed men in terms of knowledge of waste management. Muiruri et al. (2020) reported that residents in Kenya had very limited or no knowledge on how to segregate their waste. Similar results were reported in the studies conducted by Martínez-Borreguero et al. (2019), Galarpe & Heyesa (2017), and Ifegbesan (2011). All of these studies emphasized that teachers in developing countries lack practical knowledge of waste separation. When studies carried out in Türkiye are examined, it is found that the knowledge of participants regarding waste management is generally assessed through their self-reported information. For instance, Hacısalihoglu (2021) asked secondary school students about their level of knowledge on waste management. It was revealed that 45% of the students claimed to have adequate knowledge, 52% of them reported having partial knowledge, and only 3% of them claimed to have no knowledge. Similarly, in a study conducted by Demirbağ & Güngörmüş (2012), 60% of the participants reported that they possessed knowledge regarding waste management. From all of these studies, it can be inferred that while individuals in certain regions have adequate knowledge of waste and waste management, there are others who do not possess the same level of knowledge.

2.5.2. Conceptualization of Different Types of Public Sphere Environmentally Significant Behaviors

As Stern (2000) exemplified, public sphere environmentally significant behaviors include nonactivist behaviors in the public sphere, and environmental activism behaviors. This part presents conceptualizations of nonactivist behaviors in the public sphere, and environmental activism according to relevant literature.

2.5.2.1. Conceptualization of Nonactivist Behaviors in the Public Sphere

Nonactivist behaviors in the public sphere is a term introduced by Stern (2000), and in general, it encompasses behaviors that are not driven by activism but still contribute to environmental change through public engagement (Liu et al., 2017). Stern (2000) defined nonactivist behaviors in the public sphere as more active and collective kinds of environmental citizenship, and it should be distinguished from environmental activism. According to another definition provided by Inoue & Alfaro-Barrantes (2015), nonactivist behaviors in the public sphere involve individuals' environmental support in a public context which is less intense than environmental activism, however, still needed for success of an environmental movement. When these nonactivist behaviors are supported by environmental citizenship and policy support, environmental movements that are effective can arise. Stern (2000) gave a few examples of these behaviors, such as signing petitions regarding environmental problems, being a member of or supporting environmental organizations, supporting policies that promote environmentally friendly choices, such as being willing to pay higher taxes for the protection of the environment. An active environmental citizen is defined as an individual aware of the value of nature and life in nature, promoting resource conservation and protection of nature and biodiversity on private and public scales (Ellis & Waterton, 2004). Moreover, environmental citizens are also expected to participate in environmental policymaking, obey environmental law, and organize events that highlight sustainability (Bell, 2007). In a broad sense, Stern (2000) categorized all these behaviors, which include supporting policies, participating in sustainability-related events, and engaging in collective activities for environmental protection, as nonactivist behaviors within the public sphere. Different examples were given to

these behaviors in different studies. To illustrate, in a study conducted by Piyapong (2019) with university students in Thailand, making financial donations to environmental organizations, signing petitions regarding environmental issues, supporting green policies, voting for green parties were examples of nonactivist behaviors in the public sphere. Similarly, support and acceptance of policies targeting environmental protection and citizenship were emphasized examples of nonactivist behaviors in the public sphere in the study of Chen (2015). Furthermore, Xing et al. (2022) described nonactivist behaviors in the public sphere as actions where individuals express their environmental needs, concerns, and interests through established institutional channels, and exemplified as getting involved in groups and events for the purpose of protecting the environment, sharing posts about the environment on social media, or getting in contact with authorities regarding environmental issues. Although the samples and factors investigated may vary, there are numerous other studies that also examine nonactivist behaviors in the public sphere and attribute similar meanings as mentioned earlier (Balzekiene & Telesiene, 2011; Chen, 2015; Lee, 2014; Lu et al., 2017, Park & Ha, 2012; Tsai et al., 2021).

2.5.2.2. Conceptualization of Environmental Activism

In simpler terms, environmental activism is defined as participating in environmental movements which involve behaviors associated with more involvement and greater determination (SGuin et al., 1998). According to SGuin et al. (1998), individuals have different levels of environmental involvement, and there are differences in the time and energy they spend on environmentally significant behaviors. Furthermore, they suggested that the differences also apply to environmentally significant behaviors, as each of them varies in terms of the level of difficulty required for their performance. They also exemplified that some behaviors, such as recycling, are perceived by individuals as easier to perform when compared with other behaviors, such as involvement in environmental protests. It is emphasized that as behaviors become more difficult, greater motivation is needed by the performer. Behaviors associated with environmental activism are considered to be among those that demand higher levels of motivation, more time and energy, and greater dedication to the environment (SGuin et al., 1998). Whereas Stern (2000) defines the term

environmental activism as committed involvement in environmental protests, SGuin et al. (1998) highlighted that environmental activism includes being a part of an environmental movement, taking active action on a specific environmental issue, trying to alter the attitudes and behaviors of policymakers, citizens in favor of the environment, and participate in politics related to the environment. On the other hand, Marquart-Pyatt (2011) defined the term as organized involvement in environmental issues with others. Unlike everyday behaviors such as recycling and conservation, environmental activism is typically expressed through specific activities that demonstrate a strong commitment to the environment. These activities are often channeled through formal settings and carried out within institutional structures (Marquart-Pyatt, 2011). In line with the definitions provided by different researchers, there are other examples of what constitutes environmental activism behaviors in various studies. Participating in a group action to protect the environment, such as a march or rally (Xing et al., 2022; Schmitt et al., 2019), trying to prevent individuals or policies that are harmful to the environment (Piyapong, 2019), educating the public, lobbying government or boycotting companies that have an substantial ecological footprint on the environment (Paço & Rodrigues, 2016) are some of the examples shared in the literature regarding behaviors targeting environmental activism.

Environmental activists, on the other hand, are individuals or institutions who perform behaviors specified earlier. They are defined as people or organizations that advocate for the environment by emphasizing protection and conservation through various movements and urge governments and corporations to take immediate action and find global solutions to environmental issues (Heyes & King, 2018). In line with their definitions of environmental activism, SGuin et al. (1998) also defined environmental activists as individuals who intentionally engage in the most difficult environmentally significant behaviors, such as environmental protests, and have a high level of commitment and expend considerable energy on environmental issues. These people generally have active membership in an environmental organization and try to affect other people's opinions, attitudes, and behaviors on environmental manners. According to Droz (2021), environmental activists are individuals or institutions who do the right thing for the sustainability of the Earth, although they

are surrounded by harmful organizational structures, governmental policies, and uncooperative people. It is also essential to note that environmental activists tend to have high levels of education, higher scores on environmental knowledge, attitudes, identity, locus of control, nature connectedness, and personal efficacy (Scopelliti et al., 2018). While the description provided above defines what environmental activists are, people's opinions about them can differ. Various studies indicate that institutions or individuals who are conflicted with environmental activists, such as landowners or corporate decision-makers, tend to hold negative views towards them (Hutchings, 2005; Klas et al., 2018). Moreover, it is reported that individuals who are least concerned about climate change are more likely to view environmental activists negatively (Swim & Geiger, 2018). These findings are not unexpected. However, Klas et al. (2018) found that even members of the public can hold negative perceptions towards environmental activists. In their study, Klas et al. (2018) uncovered that members of the public hold both positive and negative perceptions of environmental activists. On one hand, they are seen as individuals who value nature and play a crucial role in bringing about positive environmental change. On the other hand, a significant number of people perceive environmental activists as aggressive in their behavior and stubborn in their beliefs; and those members were generally female. It is important to highlight that there is a scarcity of international literature addressing individuals' perceptions on environmental activists (Klas et al., 2018). Furthermore, to the researchers' knowledge, there are no studies specifically focusing on this topic in Türkiye, which indicates a notable gap in the existing literature particularly with the national context.

2.6. Studies Related to Different Types of Private and Public Sphere Environmentally Significant Behaviors

This section presents international and national studies focusing on different types of private and public environmentally significant behaviors.

2.6.1. Studies Related to Private Sphere Environmentally Significant Behaviors

Studies related to environmentally responsible consumption, resource conservation, and waste management are shared in this section.

2.6.1.1. Studies Related to Environmentally Responsible Consumption

Behaviors

There are different studies in the literature that demonstrate the wide range of behaviors included in environmentally responsible consumption. To begin with, in a study conducted by Roberts & Bacon (1997) in the United States, it was revealed that participants engage in different environmentally responsible consumption behaviors. These behaviors include buying products made from recycled materials or with recyclable packaging, preferring to purchase energy-efficient and chemical-free products, purchasing products in reusable containers, avoiding products with excessive packaging, purchasing from ecological brands, and avoiding aerosols (Roberts & Bacon, 1997). Reading the label on the ingredients of the product before purchasing, purchasing organically grown and produced products (Jiaswal & Kant, 2018), purchasing biodegradable products (Kim & Choi, 2005), avoiding the purchase of disposable materials (Sun et al., 2022), checking eco-labels on the product (Lee, 2010), avoiding purchase of meat (Markle, 2013), choosing products that are not tested on animals (Ribeiro Cardoso & van Schoor, 2017), purchasing durable (Pereira Luzio & Lemke, 2013) and second-hand products, participating in boycotts of certain products or brands (Young et al., 2010), choosing products with refilled packaging, preferring regional products, consuming meat from ethically appropriate husbandry (Moser, 2016), and avoiding the purchase of excessively packaged products (Karaman, 2020) are some of the environmentally responsible consumption behaviors cited in the relevant literature and practiced by various groups of individuals.

Although there are various behaviors that could be performed in order to be an environmentally responsible consumer, several studies indicate that individuals' actual green purchase behavior is quite low. In a study conducted by Tatic & Cinjarevic on 150 adult consumers in Bosnia and Herzegovina (2010), it was found that participants had low tendency to purchase green products, although they have environmental concern. Similar conclusions have been drawn by different studies, highlighting the existence of an attitude-behavior gap when it comes to environmentally responsible consumption behaviors. In other words, although

individuals generally hold positive attitudes or express high intentions towards ecologically responsible consumption, the actual behavior of purchasing green products often does not align with these attitudes, in most contexts (Nguyen et al, 2015; Wu & Chen, 2014). Indeed, there have been several studies focusing on specific green products and examining the intention-behavior gap. Hughner et al. (2007), to illustrate, worked on purchasing organic food. They revealed that even though 67% of UK citizens have positive attitudes towards organic foods, only 10% purchase them. Similarly, in Canada, there was a significant 40% difference in the intention-behavior gap among participants. This gap refers to the difference between individuals who reported having positive attitudes towards purchasing green products and those who actually engage in the behavior of purchasing green products (Peattie, 2010). Chan (2001) was another researcher who emphasized that in his study in China, environmentally responsible consumption behaviors reported by participants were far below the average. Witek & Kuzniar (2021) highlighted in their study that green products were bought by the majority of respondents relatively rarely and accidentally. Other studies have reported different results, indicating that participants in their studies exhibited slightly higher than average levels of environmentally responsible consumption behaviors (Moser, 2015). Moreover, there are different studies which highlight that since the 1990's demand for green products has increased significantly (Kanchanapibul et al., 2014; Liobikiene et al., 2016; Sui et al., 2019, Zhou, 2018). In Türkiye, various studies have been conducted to assess the levels of environmentally responsible consumption behaviors among individuals, as well. Aydın & Tufan (2018) investigated the green purchase behaviors of Generation Y. Based on the data obtained, it can be concluded that individuals belonging to Generation Y exhibit sensitivity towards the environment, despite their consumption-oriented lifestyles. This sensitivity is also reflected in their purchasing behavior. Yeniçeri (2009) conducted a similar study, however obtained different results. According to the results of the study, it was found that only 38.6% of the university students who participated in the study exhibited high levels of environmentally responsible consumption behaviors. Furthermore, Gedik et al. (2014) corroborated the earlier findings by demonstrating that university students prioritize quality, price, functionality, brand, and environmental impact when making purchasing decisions, respectively. Therefore, environmental concerns were found to

be considered at the final step of their decision-making process. Based on all the studies described earlier, it can be concluded that conflicting findings exist regarding the level of involvement in environmentally responsible consumption behaviors among individuals.

There were also some studies which investigated gender differences in the involvement of environmentally responsible consumption behaviors. In general, many of the studies have discovered that women tend to engage in more environmentally responsible consumption behaviors compared to men. In a study conducted with 161 young citizens of India, it was found that women exhibited more positive attitudes towards green purchasing and engaged in environmentally responsible consumption behaviors more regularly compared to men (Uddin & Khan, 2015). Similar findings have been reported in various studies conducted in different locations around the world, such as Poland (Witek & Kuzniar, 2021), Spain (Urena et al., 2008), China (Lee, 2009), Croatia (Radman, 2005) and finally in Türkiye (Çabuk et al., 2008; Yeniçeri, 2009). Some studies suggest alternative perspectives. For instance, there are studies that claim men may outperform women in terms of actively seeking information on green products, as found in the research conducted by Ling-yee (1997). Additionally, there are studies that have failed to find significant differences between genders in terms of environmentally responsible consumption behaviors, as highlighted by Fontes et al. (2021).

When the literature was reviewed to find any studies conducted with parents, especially parents of young children, it was seen that investigations regarding environmentally responsible consumption behaviors of parents are scarce. Migheli (2019) conducted a study gathering data from 61 countries to investigate the potential impact of parenthood and the number of children on parents' environmentally responsible consumption behaviors. The study concluded that parenthood itself did not have a significant effect on green purchase behaviors. However, the findings indicated that as the number of children increased, the probability of parents engaging in environmentally responsible consumption behaviors decreased, due to the financial issues. Moreover, they highlighted that mothers perform more environmentally responsible consumption behaviors than

fathers. In Türkiye, Güven (1999) conducted a study to identify the factors that influence the purchasing decisions of mothers. The study revealed that environmental concern was the least prioritized factor when making purchases, with only 9.6% of mothers indicating such a concern.

Parents were generally investigated along with their children as dyads in terms of environmentally responsible consumption behaviors. Eşsiz & Mandrik (2021) carried out a study in which they investigate the similarity between mothers' and adolescents' environmentally responsible consumption behaviors. In addition to confirm the similarity, they also noted that both mothers and daughters' level of engagement in environmentally responsible consumption behaviors were above the average. Hota & Bartsch (2019), on the other hand, conducted a study in India involving 292 children between the ages of six and 16. In the study, it was revealed that parents are more likely to engage in conversations and behaviors related to environmentally responsible consumption together with their children when they are adolescents, but less so in early childhood. During early childhood, the interaction primarily revolves around restrictions on what their children can buy. In a different study conducted by Kim et al. (2009), it is highlighted that mother-child interactions are more frequent and play a more critical role in children's consumer socialization, in other words, the process in which young children acquire knowledge, skills, attitude regarding their purchasing practices. The findings indicate that fathers' communication patterns have an impact on children's acquisition of consumer roles related to grocery and food products during shopping (Al-Zu'bi, 2008). The study also confirmed that fathers' consumer socialization generally takes place with co-shopping practices with their young children. Moreover, it was observed that fathers were more likely to engage in a concept-oriented communication structure with their children. This structure involves explaining the rationale behind certain behaviors, facilitating discussions of ideas between parent and child, and actively involving the child in the behavior (Al-Zu'bi, 2008). On the other hand, there is also a socio-oriented communication pattern, which expects obedience from the child and is generally based on controlling children's behavior (Vassallo, 2003). Vassallo (2003) conducted a study aiming to compare concept-oriented and socio-oriented communication patterns among parents of young children, and to examine the effects

of these patterns on children's influence on purchasing decisions. According to the results of the study, children who have parents with concept-oriented communication patterns exhibit influence on purchasing practices. In contrast, children who have parents with socio-oriented communication patterns do not demonstrate the same level of influence (Vassallo, 2003). The aforementioned studies highlight the importance of parent-child interactions during the buying process in developing environmentally conscious consumers. This underscores the necessity for additional research that specifically investigates parent-child interactions during the green purchasing behaviors.

2.6.1.2. Studies Related to Resource Conservation Behaviors

When reviewing the literature, it becomes apparent that there is a lack of specific assessments of individuals' resource conservation behaviors. Many studies have focused on broader aspects such as general pro-environmental behavior, while others have examined specific types of conservation behaviors like water or electricity conservation. Therefore, to better understand the behaviors associated with resource conservation, it is necessary to investigate different studies on pro-environmental behaviors and various types of resource conservation found in the existing literature. To begin with, in a study conducted by Bronfman et al. (2015) on Latin American citizens, participants reported engaging in various resource conservation behaviors. These included reducing heating in their homes which is related to conservation of both electricity and fossil fuels, using natural light instead of electricity, unplugging electronic devices, conserving water for personal and household hygiene, and reduce their reliance on private cars by choosing to walk, bike, or share rides with others. In a different study conducted by Garcesa & Limjuco (2014) with science teachers, participants were asked about similar resource conservation behaviors, such as conserving water in personal hygiene, not littering, and turning off the lights to save electrical energy. Zainuri et al. (2022) conducted a study that examined individuals' behaviors related to conserving resources, particularly focusing on energy conservation. Their scale statements were similar to those used in previous studies. These statements included purchasing energy-efficient products, conserving water in personal hygiene practices, and reducing reliance on fossil fuels by making changes

in car usage. Lange & Dewitte's (2019) study revealed similar behaviors associated with resource conservation. These included the conservation of water in personal and household hygiene practices, the conservation of electrical energy by reducing electricity usage from appliances, and the importance of not littering. Reducing the use of planes to conserve fossil fuels and saving water and energy in households were other reported resource conservation behaviors in Halkos et al.'s (2018) study. In a similar vein, Mateer et al. (2022) referred to eco-friendly modes of transportation and conserving electrical energy in the household. There were also different studies conducted in Türkiye in terms of resource conservation behaviors individuals performed. To illustrate, in a study carried out by Timur & Yılmaz (2013) with science teachers, it was revealed that science teachers engage in different conservation behaviors, especially regarding electrical energy, by turning off the lights and water by conserving it during their hygiene processes. In a different study by Güven & Aydoğdu (2012) on pre-service science teachers, it was found that they preferred to conserve fossil fuels by changing their transportation habits. Additionally, they showed an interest in conserving biodiversity, which is not a common behavior associated with resource conservation. Conserving energy by unplugging household appliances and conserving water in personal and domestic hygiene were additional behaviors reported in the study by Demirci-Güler & Afacan (2012). Upon examining all the studies, it can be concluded that there are consistent behaviors associated with resource conservation. These behaviors primarily include conserving water in personal and household hygiene practices, practicing energy conservation in the household by turning off lights and appliances when not in use, refraining from littering to preserve soil quality, showing respect for living organisms to promote biodiversity conservation, and conserving fossil fuels by making changes in transportation habits.

Apart from the behaviors themselves, various studies in the existing literature assess the levels of resource conservation behaviors of different groups of individuals. When studies related to general environmentally significant behaviors are investigated, it is revealed that resource conservation behaviors are generally the most performed behaviors compared to other types of environmentally significant behaviors. Bronfman et al. (2015) revealed that the most commonly performed

behavior among Latin American citizens was resource conservation. They claimed that this preference is due to the low cost, absence of behavioral restrictions, reduction in household spending, and the fact that it does not require major changes. A similar result was obtained by Janmaimool & Denpaiboon (2016). Their study discovered that Thailand villagers generally engage in resource conservation behaviors rather than waste management; in other words, resource conservation behaviors were performed more than waste management behaviors. When specific resource conservation behaviors were investigated, it was possible to see individuals' high levels of involvement. Garcia-Cuerva (2016) uncovered that most U.S. citizens somehow conserve water. Similar results were also obtained from Australia, Dolnicar et al. (2012) observed that most Australian citizens also conserve water. On the other hand, Miller & Buys (2008) revealed that while there are positive attitudes towards water conservation in Australia, the corresponding behavior is not as widely practiced. Regarding household energy-saving, Hori et al. (2013) found that in Japan, over half of the participants in the study were involved in electrical energy-saving behaviors within their homes. The findings from Vietnam also supported this trend (Lee et al., 2022). In their study involving 600 12th graders, Lee et al. (2022) observed that the level of engagement in energy-saving behaviors among the participants was remarkably high. Yue et al. (2013) revealed that there were three different behaviors related to electrical energy conservation among individuals in China; usage-reduction behavior which is associated with reducing the amount of electrical energy consumed by turning off the lights or equipment in the home; energy-efficient promotion behavior which is associated to purchasing products that are energy-efficient, and interpersonal interaction behavior which involves activities related to energy conservation performed with others. The findings of their study indicated that a majority of the participants engaged in all three types of behaviors. However, the behavior that was most commonly observed and practiced among the participants was usage reduction behavior (Yue et al., 2013). In the context of soil conservation through the act of not littering, Al-mosa et al. (2017) reported that approximately half of the citizens in Saudi Arabia were observed to leave their litter on the ground. The findings presented in the international literature differed significantly from those observed at the national level. Uyar et al. (2023) conducted a study involving adults and found that despite a high percentage of individuals

acknowledging that water resources can deplete (90%), perceiving Türkiye as a country under the threat of drought (66%), and recognizing their responsibility to conserve water (70%), the actual water conservation behavior among the individuals was found to be relatively low. In another study conducted with pre-service teachers, it was observed that water conservation behaviors were inadequate and there was a lack of effort among the pre-service teachers in addressing this issue (Alaş et al., 2009). Similar results were also obtained for electrical energy conservation. In his study, Boylu (2012) uncovered that less than 50% of men conserve electrical energy in their homes. On the contrary, in a more recent study conducted by Koçak & Tektaş (2022), it was found that individuals exhibited electrical energy-saving behaviors that were above average. Lastly, in their study involving 388 secondary students, Vural & Yılmaz (2016) emphasized that the behavior of not littering was performed above average. Both national and international studies on resource conservation highlight the need for further research in diverse locations and time periods, using different samples, due to the presence of contradictory results. However, in summarizing the findings, Türkiye can be perceived as relatively less effective in resource conservation compared to other European and Eastern countries.

Gender differences related to resource conservation behaviors have been a significant area of research in the current literature. Janmaimool & Denpaiboon (2016) discovered that women engaged in more resource conservation behaviors than men in their study of villagers in Thailand. However, when the literature is examined, it is possible to detect different trends among different types of resource conservation. When studies on water conservation are examined, it is possible to see some contradictions. Whereas Tong (2017) revealed similar results by emphasizing that women tend to conserve water more than men in China, Clark & Finley (2007) claimed that there were not any significant differences between the water conservation behaviors of women and men in Bulgaria. With regards to energy conservation, Yue et al. (2013) revealed that there were not any significant gender differences in terms of energy conservation behaviors of people in China, except for interpersonal interaction behaviors. In other words, women were more prone to attend any activities regarding energy-saving behaviors than men. Still, both groups

showed similar levels of usage-reduction behavior and energy-efficient promotion behavior. Similar results were also shared by Fatoki (2022) from South Africa, emphasizing that there were no significant differences between the two genders. On the other hand, a study conducted in Malaysia found that women tend to conserve energy more than men. Moreover, a survey conducted in America revealed that women outperform men in respecting biodiversity and biodiversity conservation (Czech et al., 2001). When examining studies conducted in Türkiye, it becomes evident that contradictory findings regarding resource conservation behaviors persist. In a study conducted by Oluk et al. (2019) with pre-service teachers, it is reported that there are no significant differences between the two genders in terms of electrical energy conservation; on the other hand, in a study carried out by Ekinçi et al. (2022) with secondary school students, it is revealed that girls are more likely to conserve water than boys, in the specific study. Despite the presence of contradictory findings among different countries and samples, it can be generally concluded that there is either no significant difference or a difference in favor of women in terms of resource conservation behaviors.

When specifically targeting studies that assess resource conservation behaviors among parents, it is evident that there is a limited number of research studies available. One of these studies, conducted by Campbell et al. (2004), found that parents tend to conserve water more when compared to individuals without children. Similar findings were also shared by Moore et al. (1994), who conducted a study with secondary school students, teachers, and parents on their water conservation behaviors in Australia. Compared to secondary school students and teachers, parents were the group most conserving water. Mills & Schleich (2012) studied individuals' energy-saving behaviors in different European countries; Belgium, Bulgaria, Czech Republic, Denmark, France, Greece, Hungary, Norway, Portugal, and Romania. According to their results, individuals with children under 12 years old are more prone to conserve energy in their homes. However, a study conducted in Türkiye found contradictory results. According to a study performed by Ayvaz-Kızılgöl & İpek (2019), if individuals do not have child, they conserve more water.

There were also limited studies regarding resource conservation, which investigated both children's and parents' behaviors together. In one of these studies, Lindemann-

Matthies and Matthies (2004) highlighted a strong correlation between children's knowledge regarding biodiversity and their parents' knowledge regarding biodiversity conservation. In Germany, Wallis and Klöckner (2020) conducted a study investigating the relationship between parents' and adolescents' energy-saving behaviors, and they found strong and significant positive correlations. Whereas Grønhøj & Thøgersen (2012) reported similar results in Denmark, Jia et al. (2022) presented that there was not any significant relationship between parents' and children's energy saving behaviors in China.

2.6.1.3. Studies Related to Waste Management Behaviors

When the relevant literature is examined, it is possible to conclude that most studies focused on the reducing, reusing, and recycling behaviors of individuals from different cities and with different samples. In a study conducted by Minelgaite & Liobikiene (2019), individuals from European countries revealed that they engage in need-based purchasing to decrease their waste, prefer eco-friendly packaging, make compost in their homes, avoid usage of disposable products, drink tap water to reduce plastic bottle waste, repair, purchase second-hand products, and sort their waste. Similar behaviors were also presented to participants in a quantitative study carried out by Barr et al. (2005), and asked whether they engage in such behaviors; as composting, reusing paper/glass, utilizing recycled products, use own bags while shopping, preferring fewer packaged products, make donations, and sort waste. Two years later, in 2007, Barr added some new behaviors related to waste management: avoiding the use of disposables, repairing items, and prolonging the use of purchased products. Ebreo & Vining (2001) conducted a similar study examining individuals' self-reported recycling and waste reduction behaviors. Purchasing recyclable items, utilizing a reusable shopping bag, preferring refillable containers, avoiding restaurant packaging foams, purchasing products in bulk sizes, making donations, and sorting waste were some behaviors reported by individuals in the U.S. Reusing old materials, returning redeemables, and donating were additional reported behaviors of individuals in the United States, as found in a different study conducted by Margai in 1997. On the other hand, individuals from Japan were found to engage in various reduce-reuse-recycle practices. They utilize their bags while shopping, avoid

products with excessive packaging, reuse paper, make repairs, reuse containers, make donations, utilize deposit-refund systems, bring thermos flasks with them, compost organic waste, and sort their waste (Kurusu & Bortoleto, 2011). Similar behaviors have been attributed to waste management in Türkiye as well. These behaviors include purchasing products with minimal packaging, making donations, reusing paper, avoiding disposables, sorting waste, using reusable products, engaging in need-based purchasing, repurposing food waste, paying bills online to reduce paper usage, and utilizing long-term shopping bags (Demirci-Güler, 2012; Günal et al., 2018; Tanık, 2012).

Apart from the behaviors themselves, various studies in the existing literature have assessed the levels of waste management behaviors among different groups of individuals. In a study conducted by Barr et al. (2004) with UK citizens, it was revealed that, in general, participants prefer to engage in recycling and reusing activities, and they engage in waste reduction the least. On the other hand, Swami et al. (2011) reported that there were no significant differences in the recycling, reducing, and reusing behaviors among UK citizens, and all behaviors are preferred to be performed. Ebreo & Vining (2001) also investigated people's self-reported waste management behaviors in the U.S., and they discovered that people engage in reuse more than recycling. According to their study, whereas 43.8% of the participants engage in reusing, only 12.5% of the participants engage in recycling. Moreover, they reported that only 9.4% of the participants make compost. On the contrary, in 2007, Barr conducted a follow-up study to his previous one, investigating the household waste management levels of UK citizens. In this study, Barr found that participants were least likely to engage in recycling, while they showed a greater preference for reusing and reducing waste. Another notable finding of Barr's (2007) study was that recycling behavior was observed to be definitive. In other words, participants either engaged in recycling or did not, without any intermediate scores indicating occasional or partial participation in recycling. Moreover, in most of the cases, the majority of samples indicated that they reuse their waste items. Apart from comparing and contrasting different waste management behaviors, some studies investigate the participation levels in these behaviors. In a quantitative study carried out by Vicente-Molina (2018), it was found

that 75% of the participants engage in recycling regularly in Spain. Similar findings were obtained by Whitmarsh et al. (2018), who reported that 68% of the participants engage actively in recycling in the United Kingdom. They also emphasized that while only 3% of the UK population reported never engaging in recycling, the percentage increases to 15% for those who never purchase products with minimal packaging, and 30% for those who never refrain from buying new items. On the other hand, a study conducted in Malaysia showed that only 38% of participants engage in recycling, which is relatively lower than reported in the United Kingdom and Spain (Mutang & Haron, 2012). A study undertaken in Japan by Kurisu & Bortoleto (2011), found that 80% of the participants engage in reducing practices. While most of them reported that they never performed composting, they nevertheless engaged in behaviors such as carrying their own bags while shopping to minimize waste, reusing paper, and making need-based purchases. In a comparison study of the waste reduction practices of individuals in the UK and Brazil, it is found that in both countries, waste reduction is only moderately popular, and 29.6% of UK and 16.9% of Brazil participants reported that they have never avoided buying new things, and 15.4% UK, 9.4% Brazil participants indicated that they never bought products with less packaging (Whitmarsh et al., 2017). Finally, in a study conducted by Minelgaite & Liobikiene (2019) with citizens of European Union countries, it is discovered that individuals are more prone to engage in reducing and reusing waste behavior, rather than recycling, since recycling seems to be more difficult to perform. Furthermore, the study reported that the highest levels of involvement in waste reduction behaviors were observed in the United Kingdom, Austria, and Portugal, while the lowest levels were found in Romania and Malta. In terms of waste reuse, Spain, the United Kingdom, and Portugal ranked the highest, while Germany, Austria, and Belgium ranked the highest in recycling. On the other hand, Romania, Cyprus, and Bulgaria showed the lowest levels of recycling behavior (Minelgaite & Liobikiene, 2019). Additionally, there have been various studies conducted in Türkiye and reported in national literature, which have investigated waste management behaviors among different samples of individuals. Demirbağ & Güngörmüş (2012) found that 50% of 14,600 participants do not segregate waste and engage in recycling. Furthermore, in their study, Kılıç and Eryılmaz (2022) concluded that despite individuals in Türkiye having positive attitudes and beliefs

towards waste management, including reducing, reusing, and recycling, their actual involvement in these behaviors is lacking. This suggests the existence of an attitude-behavior gap among the Turkish samples.

As it was present in many environmentally significant behaviors, some studies revealed gender differences in the waste management behaviors of individuals from different countries, as well. According to Kurisu and Bortoleto's study (2011) conducted in Japan, it was reported that women engage in more reduce, reuse, and recycle behaviors compared to men. A more recent study conducted in China also had the same results; with women outperforming men in all three behaviors (Li et al., 2022). Similar results were also reported by Barr et al. (2011); their study revealed that women in the United Kingdom tend to reduce their waste more than men. In a similar vein, Escario et al. (2020) detected gender differences in reduce and reuse behaviors among participants, favoring women in Spain. However, no significant differences were found in terms of recycling behaviors between genders. The finding regarding recycling, which showed no significant differences between men and women, was also supported by different studies conducted in Malaysia and Spain. These studies emphasized that there were no notable gender differences in terms of recycling behaviors (Mutang & Haron, 2012; Vicente-Molina et al., 2018). In Türkiye, the findings did not support the results found in Malaysia and Spain. Instead, it is reported that women are more inclined to engage in behaviors related to reducing, reusing, and recycling (Aydın-Eryılmaz & Kılıç, 2021).

When specifically examining the involvement levels of parents in waste management behaviors, it is observed that, similar to previous types of environmentally significant behaviors, there is a limited focus on parents in both national and international literature. To investigate waste segregation behaviors of parents of preschool children, Padilla et al. (2022) conducted a study in Philippines. They reported that 96% of the parents who participated in the study perform waste segregation behaviors. Another notable finding was shared by Kurisu & Bortoleto (2011) that in Japan, parents were more likely to engage in reuse behaviors when compared to individuals without any child. In Türkiye, there was one study which involves mothers and investigates their waste management behaviors (Kestane, 2020). The

results of the study conducted by Kestane (2020) indicated that out of the 13 mothers surveyed, only two reported segregating their waste. However, all 13 mothers reported donating products they no longer needed. Additionally, with the exception of one mother, 12 out of the 13 mothers stated that they do not dispose of oil down the sink, as revealed by the study. Although studies with parents were limited, there were some studies investigating the waste management levels of preschool teachers, and preschool waste. In a study conducted by Şenyurt (2018), preschool teachers reported that they segregate paper (64.5%), glass bottles (73.9%), plastic bottles and plastics (80.4%), batteries (70.5%), and aluminum boxes (39.3%) recently. However, there were also found to be a significant number of teachers who stated that they did not segregate paper (21.4%), glass bottles (17.5%), plastic bottles or plastics (12.9%), batteries (19.8%), and aluminum boxes (49.7%) recently. Finally, Güngör & Cevher-Kalburan (2022) found that regardless of their role within the institute, all staff members exhibited waste management behaviors that were above the average level.

Although studies targeting parents of young children and their environmentally responsible consumption and resource conservation behaviors performed together with their children are lacking, it is possible to find some studies that focus on parents of preschool children and examine how behaviors related to waste management are conducted together with their children. Matthies et al. (2012) conducted a study involving 10 children aged 8-10 and their parents to investigate their waste management behaviors. A notable finding of the study was that parents influenced their children's recycling behavior through the use of various sanctions and by modeling their own behavior. However, this influence was not observed in the case of reuse behavior. The confirmed model of the study suggested that parents guided their children's reusing behavior by providing them with explanations and knowledge about environmental issues. This study holds significance as it contributes to pro-environmental socialization in children during early stages of development. Another study, conducted by Ergazaki et al. (2009), looked at preschool children and their participation in waste segregation with their parents. This found that only 25% of the children had the chance to separate their waste together with their parents at home. Grodzinska-Jurczak et al. (2006) made a

significant contribution to the literature by finding that while over half of the parents participate in recycling activities, only 30% of children accompany them. Similarly, in a study carried out by Padilla et al. (2022) with preschool children and their parents in Philippines, it is revealed that whereas majority of the parents' scores (96.43%) are in the high level for waste segregation, less than half of the children (42.86%) scored in the high level for waste segregation. Faridy & Rohendi (2020) were other researchers who focused on the waste management behaviors of preschool children and their parents performed jointly. They performed a qualitative study in India with 22 parents and highlighted that parents with higher educational degrees are more worried about the solid waste issue, thus they have implemented the behaviors related to reduce, reuse, and recycle at home. Moreover, they discovered that only half of the parents actively involve their children in practicing behaviors related to reduce, reuse, and recycle by providing their children with examples from their daily lives. Similar studies were lacking in the national literature.

2.6.2. Studies Related to Public Sphere Environmentally Significant Behaviors

Studies related to nonactivist behaviors in the public sphere, and environmental activism are shared in this section.

2.6.2.1. Studies Related to Nonactivist Behaviors in the Public Sphere

When examining the relevant literature, it becomes possible to conclude that public sphere behaviors are not as prevalent as private sphere behaviors. As a result, there are limited studies regarding the nonactivist behaviors of people in the public sphere. To begin with, in a study conducted by Song et al. (2019), some of the self-reported nonactivist behaviors in the public sphere of Chinese citizens were participating in environmental events taking place in their city, volunteering in projects to protect the environment and making suggestions to friends on these environmental organizations and events. In another study carried out by Alisat & Riemer (2015), participating in a workshop related to the environment, organizing an educational event regarding the environment, talking with others about environmental issues, using online tools to

raise awareness regarding environmental issues, contacting authorities when facing with an environmental problem, financially supporting or taking up active involvement in environmental organizations, organizing or attending a petition and participating in nature conservation efforts with others (planting, garbage collection, etc.) were some of the behaviors that are included in their quantitative scale to assess public sphere environmentally significant behaviors. Similar behaviors were attributed to nonactivist behaviors in the public sphere by Tsai et al. (2021), who found that membership of an environmental organization, signing a petition and donating money to environmental groups are some of the examples of nonactivist behaviors in the public sphere. According to Piyapong (2020), Thai university students support green policies in their schools, green political parties, and donate money for environmental protection activities, which are viewed as nonactivist behaviors in the public sphere. In a similar manner, Menardo et al. (2019) also mentioned that supporting a political leader who advocates for environmental issues and contacting authorities when faced with an environmental problem are both considered nonactivist behaviors in the public sphere, according to their scale. Money and time donations to environmental organizations, as well as signing a petition, were attributed to nonactivist behaviors in the public sphere in Trelohan's study (2022), which are consistent with the previous research mentioned. Liu et al. (2018) also investigated the public sphere pro-environmental behaviors of Mongolian college students. The most emphasized nonactivist behaviors in the public sphere were participating in environmental campaigns sponsored by the government or university, and engaging with environmental organizations through active involvement or donation. These behaviors were similar to the ones mentioned in previous studies. Additionally, they also explored the open expression of support for environmental protection policies, which was not mentioned in the previous studies. Membership in an environmental organization and active involvement in its events, voting for green parties, sharing posts about environmental protection on social media, and writing letters to call on governments to take action were reported as nonactivist behaviors in the public sphere in the study conducted by Xing et al. (2022). There were also some studies in Türkiye that investigated different nonactivist behaviors in the public sphere; however, the findings were generally consistent with those reported in the national literature. In a study by Tanık (2012),

talking with others regarding environmental issues, donating to environmental organizations, and voting for green political leaders were specified as nonactivist behaviors in the public sphere. In a similar vein, Timur & Yılmaz (2013) emphasized that contacting authorities and the media regarding environmental issues, attending environmental protection campaigns, and being a member of environmental organizations are some of the behaviors cited as nonactivist behaviors in the public sphere. Lastly, Güven & Aydoğdu (2012) also reported that nonactivist behaviors in the public sphere strongly relate to attending educative events regarding the environment, such as congresses, workshops, etc., and warning people if they are littering. From all the national and international studies listed, it can be concluded that similar behaviors were attributed as nonactivist behaviors in the public sphere across different studies.

There were also different studies that investigated the levels of individuals' nonactivist behaviors in the public sphere; however, they were limited. Balzekiene & Telesiene (2011) revealed in their study with Lithuanian citizens found that only 6.6% of participants signed a petition regarding the environment in the last five years. Additionally, only 1.8% of participants were members of an environmental organization, and merely 1.2% of participants donated money to environmental organizations during the same period. Similar results were also revealed in a study conducted in China by Lu et al. (2017), they emphasized that employees tend to engage in private sphere environmentally significant behaviors more compared to public ones. However, the reported percentages are relatively higher when compared to Balzekiene & Telesiene's (2011) study. To illustrate, Lu et al. (2017) reported that 66% of the participants had membership in an environmental organization, and 36% attended petitioning regarding ecological issues. On the other hand, in another study conducted in China by Liu et al. (2018) with college students, it was revealed that the mean scores of different nonactivist behaviors in the public sphere were relatively lower than the mean scores of private sphere environmentally significant behaviors. The least performed behavior among the nonactivist behaviors was being a member of environmental organizations, while the most performed behavior was donating money to environmental organizations. Mi et al. (2020) also revealed similar results in their studies and emphasized that nonactivist behaviors in the public sphere

performed less than private sphere environmentally significant behaviors. Their findings were also supported with a very recent study conducted in Germany (Heidbreder et al., 2023). Furthermore, Alisat & Riemer (2015) revealed that the least performed nonactivist behavior in the public sphere in their sample, which included citizens from Bangladesh, Germany, India, Uganda, and the United States of America, was contacting authorities to call for action against environmental problems. On the other hand, the most performed nonactivist behavior in the public sphere was participating in an educational event regarding the environment. However, overall participation was still low. Different from all the studies mentioned, Piyapong (2020) discovered that Thai university students show a high level of engagement in nonactivist behaviors in the public sphere. For instance, nearly all the students have consistently supported green political leaders. When the national studies are examined, it is revealed that studies targeting nonactivist behaviors in the public sphere are scarce in the Türkiye context. Özek (2016) highlighted that only 2% of Turkish citizens have membership in environmental organizations. Moreover, he reports that within the last five years, only 5% of the citizens attended a petitioning, and only 3% donated money to environmental organizations. Similarly, Uluçınar-Sağır et al. (2008) found that only 20% of the participating seventh and eighth-grade students attended a volunteering activity related to the environment. Güven & Aydoğdu (2012) conducted a study with pre-service teachers and discovered that 57% of participants attended an educational event related to the environment, which is relatively higher than other reported results in similar studies. Overall, studies in Türkiye generally highlight that there is a low to moderate level of participation in nonactivist behaviors in the public sphere.

Gender differences in the involvement of nonactivist behaviors in the public sphere were the subject of several research studies in the international literature. Trelohan (2021) revealed that women participate in more nonactivist behaviors in the public sphere, however, this behavior is due to the social expectations of French society. Another study conducted by Heidbreder et al. (2022) in Germany also confirmed that women outperform men in terms of participating in nonactivist behaviors in the public sphere. On the other hand, Hunter et al. (2004) conducted a study with participants from 22 different nations and discovered that in only three countries,

namely Netherlands, Australia, and New Zealand, women tend to engage in nonactivist behaviors in the public sphere more than men. However, in the remaining 19 countries, there were no significant differences in terms of gender participation in nonactivist behaviors. There is also one study in the literature which emphasized that, although women tend to perform more private sphere environmentally significant behaviors, nonactivist behaviors in the public sphere are generally performed more by men compared to women (Gaither et al., 2004).

When studies regarding the nonactivist behaviors of parents are searched for in the literature, there are very limited studies in which parents were specifically examined in terms of their nonactivist behaviors in the public sphere. In a study conducted by Torres-Antonini & Vatrlova (2012) in the United States of America, the relationship between preschool parents' environmental knowledge, belief, and behaviors and their childcare preferences was investigated. One of the significant results of the study was that 80% of parents self-reported engaging in different types of nonactivist behaviors in the public sphere. On the other hand, contradictory findings on this issue were reported in a study conducted by Thomas et al. (2018) in the United Kingdom. They emphasized that according to their results, parents perform nonactivist behaviors in the public sphere less than private sphere environmentally significant behaviors. These findings signal a further need for investigation in terms of parents' nonactivist behaviors in the public sphere, especially in national literature, since there is no such study specifically focused on parents of young children. The only study related to nonactivist behaviors in the public sphere of parents with young children and its effects was conducted by Halmatov & Ata (2017). However, this study did not directly focus on nonactivist behaviors in the public sphere; instead, it examined all environmentally significant behaviors. According to the results, 37% of participating parents reported making trips related to the environment with their children. Only 2% of them attended garbage collection events that took place in their children's school, and 5% participated in planting events at their children's school, which reveals a low participation rate. However, since the research does not focus more specifically on non-activist behaviors in the public sphere, there is a further need for research that specifically focuses on these behaviors, as their nature is quite different from those in the private sphere.

2.6.2.2. Studies Related to Environmental Activism

Environmental activism was also one of the subjects that could not find enough space in the national and international literature. The studies generally focus on either general activist behavior or behaviors targeting environmental protests or boycotts. In some studies examining the environmental activism behaviors of individuals, similar results were reported. To begin with, in a study conducted by Tranter (2010) in Australia with citizens, it was found that only 2.8% of the participants were engaging in environmental protests and became activists. Very similar results were also reported by Balzeikiene & Telesiene (2011) from Lithuania. It is found that only 2.7% of Lithuanian citizens participated in environmental protests in the last five years. Piyapong (2019) discovered that from different private and public spheres, environmentally significant behaviors and behaviors related to environmental activism were less common among Thai university students. The same findings were also obtained in China by Lu et al. (2017); among the different public sphere environmentally significant behaviors, participating in protests has a relatively high level of involvement among individuals. On the other hand, in a more recent qualitative study conducted in the United States with 52 participants, Geiger (2022) discovered that 17% of the participants were participating in environmental protests, the higher percentage among the different studies investigated. A notable finding was also present in the study carried out in China by Yang & Weber (2019), who stressed that according to their findings, people with low socioeconomic status tend more to participate in environmental protests. There were also various studies conducted in Türkiye on the environmental activism behaviors of individuals. However, these studies typically focused on all types of environmentally significant behaviors, including environmental activism. Özek (2016) carried out a study in which he utilized the data presented in the International Social Science Program's (ISSP) cross-country survey on the environment and revealed that in Türkiye, 2% of individuals attended an environmental protest within the last five years. Semenderoğlu & Arslan (2022) conducted a study focusing on environmentally significant behaviors of students studying at different levels in the Department of Geography in Urfa, an eastern city in Türkiye. In their study, they revealed that students were less likely to engage in environmental activism behaviors. Gıncır et al.

(2020) carried out a study on environmentally significant behaviors among different samples from Generation X, Y, and Z, and found notable results concerning environmental activism. They revealed that individuals from Generation X were more likely to involve environmental protests compared to individuals from Generation Y. Moreover, they also highlighted that individuals who are members of an environmental organization are more prone to attend environmental protests, as well. Although participation in environmental activism seems to be low in Türkiye, when studying environmental protests related to specific events, it is interesting to see that people engage in such protests against issues that are local and directly affect the everyday life of individuals. To illustrate, Koyuncu & Çiftçi (2022) conducted a study on 240 participants living in Amasra, a touristic place in Türkiye, regarding their involvement in environmental protests aimed at preventing the construction of a coal-fired power plant. Interestingly, they discovered that 68% of the participants, who were local citizens of Amasra, actively participated in the environmental protests to address the specific environmental issue. When considering all studies together, both national and international research consistently highlights that participation in environmental protests is generally low. However, it is interesting to observe that when the issue becomes more local and closely related to individuals, their tendency to participate increases.

Apart from the studies targeting the general level of involvement in environmental protests, there were also some national and international studies regarding gender differences in performing environmental activism behaviors. Heidbreder et al. (2022) revealed that women are more likely to attend environmental protests than men, based on their German participants. In a report prepared by Moor et al. (2019) on the Fridays for Future (FFF) climate protests, they examined the profile of the FFF participants among different countries, revealing that, in general, female participants were dominant. On the other hand, Tindall et al. (2003) claimed that there were no significant gender differences in attending environmental protests based on the participants from the United Kingdom. Moreover, Piyapong (2020) reported that male students in Thailand were more likely to engage in environmental protests when compared to their female counterparts. In Türkiye, two different studies emphasized that there were no significant differences between males and females

regarding participation in environmental protests (Arslan & Kızıldağ, 2018; Demir et al., 2022). Additionally, there was only one study that revealed women were more likely to engage in environmental protests (Gıncır et al., 2020). All these national and international studies signaled that there are contradictory results among the gender differences reported for participation in environmental protests, and further research is needed.

When examining studies specifically focused on parents' involvement in environmental protests, it is evident that such research is scarce. In one of the limited studies, Tindall et al. (2011) investigated whether parenthood increases the likelihood of being more activist or not, and they revealed that being a parent does not heighten the level of involvement in environmental protests. On the other hand, in a study conducted by Logsdon-Conradson & Allred (2010), it was discovered that motherhood serves as a strong motivation to participate in behaviors related to environmental activism. Unfortunately, there were not many studies that specifically targeted the environmental activism behaviors of parents in Türkiye, nor were there studies focusing on how parents engage with their children in environmental activism within the national or international literature.

2.7. Studies Related to Barriers Towards Different Types of Private and Public Sphere Environmentally Significant Behaviors

This section presents international and national studies focusing on barriers towards different types of private and public environmentally significant behaviors.

2.7.1. Studies Related to Barriers Towards Private Sphere Environmentally Significant Behaviors

Studies taken place in the relevant literature in terms of barriers towards environmentally responsible consumption, resource conservation, and waste management are shared in this section. The section starts with the subdimension of environmentally responsible consumption and ends with the subdimension of waste management.

2.7.1.1. Studies Related to Barriers Towards Environmentally Responsible Consumption Behaviors

Since behaviors targeting environmentally responsible consumption behaviors performed at low levels in general (Nguyen et al., 2015; Wu & Chen, 2014; Tatic & Cinjarevic, 2010), there have been many studies in the national and international literature exploring why people prefer to engage in environmentally responsible consumption behaviors less. To illustrate, Gleim et al. (2013) reported that the prices of the green products, poor experience with the green products, uncertainty about quality, knowledge, trust in the products, availability, and lack of options were the most cited barriers among their participants, who are United States citizens. Similarly, knowledge regarding the green product, lack of economic resources, limited availability, price, lack of trust in eco-labels, and time were reported barriers found in a meta-analysis conducted with 53 studies on green purchasing (Joshi & Rahman, 2015). Barbarossa & Pastore (2012) were other researchers who focused on obstacles to performing environmentally responsible consumption behaviors. They interviewed 51 consumers in Italy and found that higher price and scarce availability were two main barriers towards performing environmentally responsible consumption behaviors, accompanied by a lack of time to shop, a lack of desire to shop, and a lack of mass-media communication. In a more recent study conducted by Nguyen et al. (2017) in Vietnam, they identified the barriers as cost, credibility of the products, knowledge and availability, in simple terms. Sheoran & Kumar (2022) emphasized that when individuals try to purchase in an environmentally responsible way, they come across a high price, which demotivates them to buy. Moreover, some individuals do not believe that green products really have environmental impacts, and these products are not preferred by their friends and family, while also lacking knowledge about the products. In a study conducted in the state of Kerala, among people 18-65 years old who are social media users, Kripa & Vinod (2021) reported similar results with the previous studies; by listing price and lack of availability as significant barriers. In addition to emphasizing price, trust in green products, and lack of availability of the products, were reported similar to the previous studies, Hasan et al. (2018) also highlighted other barriers, such as social influence (influence of parents/friends) and confusion regarding ecolabels. In Australia, Tan et al. (2016)

discovered similar results concerning price, time, and knowledge as barriers to environmentally responsible consumption behaviors. However, they also noted some unique barriers, including the belief that being an environmentally responsible consumer is challenging and the influence of the place of residence, particularly in big cities. In Türkiye, there have also been studies aimed at investigating the barriers to environmentally responsible consumption. In a very recent study, Veral (2023) reported that price, availability, and lack of trust in green products were the main barriers. Additionally, he found that the excessive presence of non-qualified products in the market and their tendency to malfunction, even when they are new, was also a significant barrier. There were also studies investigating barriers to purchasing specific types of green products, namely organic (Köse, 2021) and eco-friendly packaged products (Övüç, 2015). In detail, Köse (2021) reported that individuals avoid purchasing organic products for the following reasons: lack of time, lack of trust in the products, price, and lack of availability. Övüç (2015) highlighted that the most significant barrier towards purchasing eco-friendly packaged products was the lack of knowledge on sustainable packaging, specifically, what a sustainable package is. It is important here to note that none of the studies were specifically designed to investigate mothers 'and fathers' self-reported barriers regarding environmentally responsible consumption, which is a notable gap in both the national and international literature.

2.7.1.2. Studies Related to Barriers Towards Resource Conservation Behaviors

Although resource conservation behaviors were relatively more commonly performed than other types of environmentally significant behaviors, there are still some obstacles preventing individuals from engaging in these behaviors more regularly. Regarding these obstacles, in a study conducted by Manolas (2015) in Greece, it is reported that lack of knowledge and reluctance to change life styles were two of the significant barriers people face in practicing resource conservation behaviors. In a different study, lack of information, misunderstanding of conservation behavior, feelings of disconnectedness, other life priorities, time, and social pressure were listed as barriers for conservation practices among zoo visitors in the United States, according to Nageotte & Buck (2023). Moreover, Yuriev et al.

(2018) also investigated the barriers to general resource conservation behaviors. Similar to previous studies, lack of knowledge, lack of awareness, social norms, and time constraints were reported. However, they also pointed out that non-exemplary role models, lack of support, and lack of self-efficacy were other barriers to resource conservation behaviors among individuals. There were also more specific studies targeting barriers on different conservation behaviors of individuals, such as water conservation. Dolnicar & Hurlimann (2010) conducted a study in Australia and noted that the biggest barriers to water conservation were the impracticality and cost of purchasing water-efficient devices. On the other hand, Zhao et al. (2019) reported that not knowing the actual water consumption, and its environmental impact are great barriers to conserve water in households in Hong Kong. In a study carried out in South Africa by Onyenankeya et al. (2021), it is reported that, similar to other studies, time constraints, the cost of water-efficient devices, and the availability of incentives/disincentives are also significant barriers to water conservation. Apart from water conservation, barriers towards energy conservation were also explored in the relevant literature. Stokes et al. (2012) conducted a study in Toronto related to the energy conservation behaviors of residents. The study concluded that the perception of losing time, laziness, forgetfulness, diffusion of responsibility (not knowing to whom responsibility belongs), and lack of knowledge were significant barriers to conserving electrical energy in Canada. Similar to Stokes et al.'s (2012) study, Cole et al. (2018) also reported that lack of time is a significant barrier for individuals in the United States. In Türkiye, there were some limited studies which investigated the barriers to the resource conservation behaviors of individuals, especially targeting a specific resource, such as energy. For example, Oluk et al. (2019) reported that the main barriers to energy conservation were a lack of knowledge on the importance of conservation and a lack of interest. On the other hand, Ergen (2014) revealed that, in general, the main obstacles to performing environmentally significant behaviors can be listed as disability to leave old behavior patterns, habits, lack of environmental awareness, lack of motivation, and lack of knowledge. In general, it is possible to conclude that both in national and international literature, there are similar barriers reported on resource conservation behaviors, with time, habits, and specifically, lack of knowledge being prominent factors. However, it is critical to point out that no studies specifically targeting

parents of young children have been found, indicating a significant gap in the literature.

2.7.1.3. Studies Related to Barriers Towards Waste Management Behaviors

When examining the literature regarding barriers towards different types of waste management behaviors in households, it is possible to find studies that have summarized these barriers. To illustrate, in a study carried out by Ezeah & Roberts (2012), policies lack waste management strategies, insufficient waste management equipment provided by municipalities, poorly paid waste workers, low level of knowledge among the public, weak legal framework, and unplanned city aspects regarding waste management were some of the listed barriers that individuals engage in when they try to manage their waste in Nigeria. Different from what has been proposed by Ezeah & Roberts (2012), Whitmarsh et al. (2018) mentioned that unclear rules on how to separate waste, lack of bin labeling, collection infrequency, limited storage space, and cost of waste management were also significant barriers in the United Kingdom. In a study conducted by Yukalang et al. (2017), participants stated that they have a hard time finding boxes to separate their wastes, and these bins are difficult to access. They also believe that waste facilities do not work efficiently, and they face challenges with the high volume of waste and storage problems. These are all reported barriers towards waste management in Thailand. Biu et al. (2020) conducted a similar study to shed light on the barriers and listed that failing to observe signs posted on the bins, poor cooperation in the residency, absence of a controlling mechanism, lack of time, lack of staff, lack of knowledge were all barriers to managing the waste. Furthermore, Kattoua et al. (2019) investigated barriers towards specifically recycling in Palestine. Like the other studies, the participants reported that lack of awareness, lack of information on separation, lack of encouragement, limited available waste segregation facilities nearby, lack of personal time, and the effort needed to recycle were the main barriers to their recycling behaviors. In another study in South Africa, conducted by Viljoen et al. (2021), the main barrier reported by participants was related to waste management facilities provided by municipalities, as mentioned in the other studies above. The participants highlighted that municipalities do not pick up the waste

appropriately, even if it's segregated. Community behavior was another cited barrier by the participants, with an emphasis on the fact that most people do not manage their waste properly, and many lack knowledge on how to do it. There were also some studies conducted in Türkiye to investigate the barriers reported by individuals regarding waste management in their daily lives. In their recent study, Kılıç-Aydın & Eryılmaz (2022) revealed that storage problems (lack of space to put waste segregation bins at home), lack of time, lack of knowledge on waste segregation and lack of waste segregation bins provided by municipalities were the main challenges confronted while managing their waste according to participants. Demirbağ & Güngörmüş (2012) also contributed to the relevant literature by highlighting that lack of time, lack of awareness, and lack of proper waste management facilities provided by municipalities are significant barriers. Additionally, individual forgetfulness and the effort needed to segregate waste were identified as other obstacles to effective waste management. Finally, Tümer-Kabadayı et al. (2023) recently conducted a comprehensive systematic review of 72 studies, summarizing findings from both international and national research on waste management barriers in a concise and organized manner. They reported that, among the different studies reviewed, the most common barriers were related to the perception that waste management is difficult and impractical. Some of the most reported barriers were the lack of effective and accessible waste management facilities, insufficient waste collection, distant waste segregation bins, lack of incentives, low social awareness, and lack of trust in recycling. All in all, it is possible to conclude that in different countries, similar barriers are faced by individuals when it comes to waste management behaviors.

Despite the well-established nature of waste management behaviors in the literature, only one study focuses on the reported barriers of parents' waste management behaviors conducted with their children. Kaveri (2021) reported that parents cited time poverty, heavy school assignments, and lack of knowledge about the challenges they face when they try to perform behaviors related to reducing, reusing, and recycling with their children.

2.7.2. Studies Related to Barriers Towards Public Sphere Environmentally Significant Behaviors

Studies related to barriers towards nonactivist behaviors in the public sphere and environmental activism are shared in this section.

2.7.2.1. Studies Related to Barriers Towards Nonactivist Behaviors in the Public Sphere

The literature regarding nonactivist behaviors in the public sphere was also scarce in terms of barriers; therefore, only limited studies could be reviewed. While some studies investigated barriers towards general environmentally significant behaviors, including nonactivist behaviors in the public sphere, none of them specifically dedicated to it. To illustrate, some of the studies with a general context, like Kollmuss & Agyeman (2002), revealed that institutional factors caused barriers for many environmentally significant behaviors, including nonactivist behaviors in the public sphere. For example, lack of organizations or insufficient presence of environmental organizations in general were identified as contributing factors to these barriers. Moreover, economic factors, similar to those listed above in the section on environmentally significant behaviors in the private sphere, also discourage people from participating in such organizations. Other barriers for engaging in environmentally significant behaviors, including nonactivist behaviors in the public sphere, include motivation, environmental knowledge, awareness, locus of control, and daily life responsibilities and priorities (Kollmuss & Agyeman, 2002). Similarly, in a different study focusing on challenges related to various environmentally significant behaviors, some of the listed barriers included lack of social awareness and role models, limited opportunities to behave in environmentally friendly ways, and financial issues (Tyers, 2021). Although the number is low, some studies also investigated the barriers to different types of nonactivist behaviors in the public sphere, such as membership of environmental organizations. Higgins & Shackleton (2015) conducted a study on volunteers from 26 different environmental organizations in South Africa and reported that inadequate knowledge about the role within the environmental organization, failure of communication between members and the organization, problematic group dynamics, lack of resources for either the

organization or volunteers, lack of time, and cost were some of the barriers mentioned by their participants. Another study was conducted by O'Brien et al. (2010) on attending nature conservation volunteering activities in the United Kingdom, specifically on the motivators and barriers to participate in such volunteering events for the environment. They discovered that participants experience different barriers to getting involved and staying involved in environmental organizations. Lack of information about the expectations and opportunities offered within the environmental organization, having the confidence to enter, and the necessary cost were cited as barriers to getting involved in the organization. On the other hand, lack of organization, planning, and problematic group dynamics were barriers to staying involved in the environmental organization (O'Brien et al., 2010). Similar results were also obtained by Wahl (2010), who discovered that lack of time, not having interest, the required effort, and lacking skills were some of the individual barriers towards environmental volunteering activities. Bushway et al. (2011) emphasized that time, difficulty in finding a good fit for skills and experiences within the environmental organizations were also barriers. In contrast to the other studies, Ahmad et al. (2012) also emphasized that the perception of environmental volunteering activities as being not useful is a significant barrier among individuals. Finally, in Türkiye, there was also one study in which the barriers to participating in volunteering activities regarding the environment were mentioned as lack of time, financial constraints, and lack of necessary knowledge (Baran, 2019). Since the studies conducted on nonactivist behaviors in the public sphere were limited, there remains an insufficiency in studies explicitly targeting parents of young children or investigating barriers to their joint participation in such events.

2.7.2.2. Studies Related to Barriers Towards Environmental Activism

Similar to the other public sphere behaviors listed above, such as nonactivist behaviors in the public sphere, studies on environmental activism were also limited in the relevant literature, especially from the environmental education point of view. In a study carried out by Latkin et al. (2022), it was reported that individuals have some hesitations to attend environmental protests because of the perception that

other people are better at it, they themselves hadn't been trained for activism, hadn't been asked or encouraged to attend, did not know how to attend protests, were too busy due to lack of time, and thought that organizations would ask them for money and they have financial constraints. Different from Latkin et al.'s (2022) study, Roser-Renouf et al. (2014) emphasized that mistrust in the effectiveness of protests, people's decision not to identify themselves as activists, and lack of motivation were also significant obstacles for individuals to participate in environmental protests. An interesting finding was also presented by Tindall et al. (2014), who revealed that women face a different barrier to environmental activism compared to men: domestic work. Since women spend a considerable amount of time on domestic responsibilities, often akin to a second job, they cited domestic work as a barrier in Tindall et al.'s (2014) study. Finally, in a study conducted by Quimby (2011), in which barriers to all types of environmentally significant behaviors were investigated, including environmental activism behaviors, it was found that the most significant constraints were time, cost, lack of social support, and mistrust in efficacy. Since studies were scarce in the literature, no studies that specifically focused on parents of young children and their participation together could not be addressed. **Table 1** presents a summary of reported barriers faced by individuals while engaging in different types of environmentally significant behaviors.

Table 1 *Summary of reported barriers faced by individuals while engaging in different types of environmentally significant behaviors*

Environmentally Significant Behaviors	Barriers Towards to Participation of Behaviors	Researchers
	Price of green products	Gleim et al. (2013) Joshi & Rahman (2015) Barbarossa & Pastore (2012) Nguyen et al. (2017) Sheoran & Kumar (2022) Kripa & Vinod (2021) Hasan et al. (2018) Tan et al. (2016) Veral (2023) Köse (2021)

Table 1. continued

	Poor experience with green products	Gleim et al. (2013)
	Lack of knowledge	Gleim et al. (2013) Joshi & Rahman (2015) Nguyen et al. (2017) Sheoran & Kumar (2022) Tan et al. (2016) Övüç (2015)
	Lack of trust in green products	Gleim et al. (2013) Joshi & Rahman (2015) Nguyen et al. (2017) Hasan et al. (2018) Veral (2023) Köse (2021)
Environmentally Responsible Consumption	Availability /Lack of options	Gleim et al. (2013) Joshi & Rahman (2015) Barbarossa & Pastore (2012) Nguyen et al. (2017) Kripa & Vinod (2021) Hasan et al. (2018) Veral (2023) Köse (2021)
	Lack of time	Joshi & Rahman (2015) Barbarossa & Pastore (2012) Tan et al. (2016) Köse (2021)
	Lack of desire	Barbarossa & Pastore (2012)
	Lack of encouragement	Barbarossa & Pastore (2012) Sheoran & Kumar (2022) Hasan et al. (2018)
	Confusion about eco-labels	Hasan et al. (2018)
	Mistrust in the efficacy of green products in terms of prevention of environmental damage	Sheoran & Kumar (2022)

Table 1. continued

	Belief that being an environmentally responsible consumer is challenging	Tan et al. (2016)
	The influence of the place of residence (big cities)	Tan et al. (2016)
	Lack of knowledge	Manolas (2015) Nageotte & Buck (2023) Yuriev et al. (2018) Zhao et al. (2019) Stokes et al. (2012) Oluk et al. (2019) Ergen (2014)
	Reluctance to change life styles	Manolas (2015) Ergen (2014)
Resource Conservation	Misunderstanding of conservation behavior	Nageotte & Buck (2023)
	Lack of time	Nageotte & Buck (2023) Yuriev et al. (2018) Onyenankeya et al. (2021) Stokes et al. (2012) Cole et al. (2018)
	Lack of awareness	Yuriev et al. (2018) Ergen (2014)
	Impracticality	Dolnicar & Hurlimann (2010)
	Financial constraints	Dolnicar & Hurlimann (2010) Onyenankeya et al. (2021)
	Availability of incentives/disincentives	Onyenankeya et al. (2021)
	Laziness	Stokes et al. (2012)
	Forgetfulness	Stokes et al. (2012)
	Diffusion of responsibility	Stokes et al. (2012)
	Policies lack of waste management strategies	Ezeah & Roberts (2012)

Table 1. continued

	Biu et al. (2020)	
Waste Management	Insufficient waste management equipment provided by municipalities	Ezeah & Roberts (2012) Whitmarsh et al. (2018) Yukalang et al. (2017) Kattoua et al. (2019) Viljoen et al. (2021) Kılıç-Aydın & Eryılmaz (2022) Demirbağ & Güngörmüş (2012) Tümer-Kabadayı et al. (2023)
	Lack of knowledge	Ezeah & Roberts (2012) Biu et al. (2020) Kattoua et al. (2019) Viljoen et al. (2021) Kılıç-Aydın & Eryılmaz (2022) Kaveri (2021)
	Unclear rules on how to separate waste	Whitmarsh et al. (2018)
	Limited storage space in the household	Whitmarsh et al. (2018) Kılıç-Aydın & Eryılmaz (2022)
	Financial constraints	Whitmarsh et al. (2018)
	Poor cooperation in residency	Biu et al. (2020) Viljoen et al. (2021) Tümer-Kabadayı et al. (2023)
	Lack of time	Biu et al. (2020) Kattoua et al. (2019) Kılıç-Aydın & Eryılmaz (2022) Demirbağ & Güngörmüş (2012) Kaveri (2021)

Table 1. continued

	Lack of awareness	Kattoua et al. (2019) Demirbağ & Güngörmüş (2012)
	Lack of encouragement	Kattoua et al. (2019) Tümer-Kabadayı et al. (2023)
	Effort needed to manage waste	Kattoua et al. (2019) Tümer-Kabadayı et al. (2023)
	Mistrust in efficacy of waste management	Tümer-Kabadayı et al. (2023)
Nonactivist Behaviors in the Public Sphere	Insufficient presence of environmental organizations	Kollmuss & Agyeman (2002) O'Brien et al. (2010)
	Financial constraints	Kollmuss & Agyeman (2002) Tyers (2021) Higgins & Shackleton (2015) O'Brien et al. (2010) Baran (2019)
	Lack of knowledge	Kollmuss & Agyeman (2002) Higgins & Shackleton (2015) O'Brien et al. (2010) Wahl (2010) Baran (2019)
	Not having interest or motivation	Kollmuss & Agyeman (2002) Wahl (2010)
	Lack of awareness	Kollmuss & Agyeman (2002) Tyers (2021)
	Locus of control	Kollmuss & Agyeman (2002)
	Lack of time	Kollmuss & Agyeman (2002) Higgins & Shackleton (2015) Wahl (2010) Bushway et al. (2011) Baran (2019)

Table 1. continued

	Lack of role models	Tyers (2021)
	Problematic group dynamics	Higgins & Shackleton (2015) O'Brien et al. (2010)
	Required effort	Wahl (2010)
	Mistrust in the efficacy of volunteering activities	Ahmad et al. (2012)
Environmental Activism	Perception that other people are better at it	Latkin et al. (2022)
	Lack of knowledge	Latkin et al. (2022)
	Lack of encouragement	Latkin et al. (2022) Quimby (2011)
	Perception that organizations would ask them money	Latkin et al. (2022) Quimby (2011)
	Lack of time	Latkin et al. (2022) Quimby (2011)
	Mistrust in the effectiveness of protests	Roser-Renouf et al. (2014) Quimby (2011)
	Lack of motivation	Roser-Renouf et al. (2014)
	Domestic work	Tindall et al. (2014)

2.8. Parenting Trends in Türkiye

As with many other aspects, culture plays a significant role in influencing parental practices (Şen et al., 2014). While many studies categorize cultural aspects into two main types, individualism and collectivism, Türkiye represents a blend of both cultural orientations, as it does not fully align with Western individualism or Eastern collectivism. In essence, Türkiye currently occupies an intermediate position on the individualism-collectivism spectrum, ranking 37th out of 93 countries in terms of individualism (Hofstede et al., 2010). This unique cultural blend in Türkiye gives rise to a distinctive cultural pattern that can also have a unique impact on parenting practices. In Turkish families, two prominent social norms, namely patriotism and respect for authority, hold a significant position (Kağıtçıbaşı, 1970). Cultural values reflect a strong preference for sons and exhibit clear distinctions in attitudes and behaviors toward girls and boys. Additionally, Turkish families are characterized by

a sense of dependency on and obedience to parents (Kağıtçıbaşı, 1987). In Turkish culture, much like in many other Third World countries, children remain dependent on their parents until the parents grow old, at which point parents often rely on their children (Kağıtçıbaşı, 1987). Furthermore, in traditional Turkish families, relatives and family relationships play a significant role in family life (Güneş-Ayata, 1996). One significant driver of this trend is the fact that in Türkiye, there are 3.2 million working mothers with children under the age of 15 (TÜİK, 2022). Various studies have also indicated that Turkish mothers exhibit high levels of warmth; however, other aspects of positive parenting, such as maternal sensitivity, providing explanations to children, and cognitive stimulation, tend to increase with maternal education (Şen et al., 2014). Concerning parental control, within the traditional Turkish family, parents predominantly rely on punishment-oriented control as the most common method of control, with verbal reasoning being used infrequently. In this context, parents tend to adopt an authoritarian approach (Şen et al., 2014).

Different studies have also revealed that the concept of maternal gatekeeping is prevalent in Türkiye; in other words, mothers tend to prevent fathers from getting involved in child-rearing practices, believing that fathers are not capable enough (Akgöz-Aktaş, 2017). Moreover, there is research indicating that one-third of mothers and one-seventh of fathers were found to be overprotective of their children (Yılmaz, 2020), which suggests that helicopter parenting is quite common in the parenting trends of Türkiye. Furthermore, gender norms are still practiced in the perceptions of motherhood and fatherhood. It is still observed that the majority of domestic roles are assigned to women, while the majority of responsibilities outside the home are assigned to men. More specifically, it has been found that mothers are the primary caregivers of children, spending more time with them and being responsible for domestic work, while fathers are responsible for providing financially, managing the household finances, and handling repairs (Ünver & Demirli, 2022). This trend has also affected fathers' involvement in their children's education, leading to less paternal involvement in areas such as early childhood education in Turkish context (Orçan-Kaçan et al., 2020).

2.9. Summary of Literature Review

Due to unsustainable human behaviors that contribute to the production of greenhouse gas emissions (Saklani & Khurana, 2019), life on Earth is under serious threat. Since the main source of the threat is human behavior, it is inevitably essential to take precautions on transforming individuals' behaviors into environmentally friendly ones. One of the most vital and necessary methods to affect this transformation is through environmental education. When environmental education starts at an early age, it becomes more effective in providing life-long habits and positive attitudes towards the environment (NAAEE, 2010). Families, as emphasized by Bronfenbrenner (1979) and Bandura (1977), are one of the most significant agents in the process of early childhood environmental education, as they are influential parts of the microsystem and serve as major role models for children. That is why, parents' definitions, behaviors, and self-reported barriers towards performing environmentally significant behaviors with their children is of merit to investigate. Although there are many different categorizations of environmentally significant behaviors (Alisat & Riemer, 2015; Cömert, 2011; Erdoğan et al., 2012; Goldman et al., 2006; Kaiser, 1998; Karp, 1996; Kurisu, 2016; Larson et al., 2015; Lavelle et al., 2015; MacDonald & She, 2015; Markle, 2013; Smith-Sebasto & D'Costa, 1995; Whitmarsh & O'Neill, 2010; Zafeiroudi & Hatzigeorgiadis, 2014), Stern's (2000) categorization, which includes environmental activism, nonactivist behaviors in the public sphere, and private sphere environmentalism, is one of the most comprehensive frameworks for investigating parents' definitions, individual behaviors, and behaviors with their children, as well as their self-reported barriers. Additionally, another advantage of using this categorization is the extensive adoption of Stern's framework in numerous other studies, leading to a cumulatively growing literature that relies on it (Briscoe et al., 2019; Dalton, 2015; Ertz et al., 2016; Gkargkavouzi et al., 2019; Hadler & Haller, 2011; Hansmann & Binder, 2020; Hamann & Reese, 2020; Heidbreder et al., 2022; Hunter et al., 2004; Liao & Yang, 2022; Liobikiene & Poskus, 2019; Liu et al., 2018; Schmitt et al., 2019; Xiao & Young, 2010; Xing et al., 2022). Below, there is a summary of various studies from the national and international literature that investigate Stern's (2000) categories of environmentally significant behaviors. These studies encompass the definition of

such behaviors, general patterns of engagement, and the barriers individuals face when attempting to adopt these behaviors.

In various studies, individuals conceptualize different types of environmentally significant behaviors in diverse ways. To begin with, environmentally responsible consumers generally defined as individuals who have positive attitudes towards environment (Al Mamun et al., 2018; Kaiser & Scheuthlei 2003; Moser (2016), sense of responsibility on the environment (Değirmenci, 2022; Yue et al., 2020), high awareness regarding the environment (Shen & Wang, 2022). Acts of purchasing green products were also attributed to environmentally responsible consumption. Green products were generally defined as manufactured without depleting natural resources (Aksu, 2019; Çalışır, 2020; Durif et al., 2010; OECD, 2008; Ottman, 1998; Onurlubaş et al., 2017; Paavola, 2001; Welsch & Kuhling, 2011), free from toxic substances (chemical-free/organic) (Aksu, 2019; Çalışır, 2020; Durif et al., 2010; OECD, 2008; Ottman, 1998; Welsch & Kuhling, 2011), and do not generate waste or pollutants throughout their entire lifespan (Aksu, 2019; OECD, 2008; Ottman, 1998; Onurlubaş et al., 2017), durable (Çalışır, 2020; Ottman, 1998), made of recycled or recyclable materials (Çalışır, 2020; Ottman, 1998), require as little as possible energy during production (Ottman, 1998; Onurlubaş et al., 2017), reusable (Carvellon & Carey, 2011), biodegradable (Durif et al., 2010), not tested on animals (Carvellon & Carey, 2011; Durif et al., 2010), locally sourced (Campbell et al., 2015; Durif et al., 2010), hypoallergenic (Durif et al., 2010) and eco-labeled (Durif et al., 2010). There were also some studies that aimed to explore conceptualization of resource conservation. In simplest terms, resource conservation can be defined as preserving and even improving the resources that are essential to sustainability (Robertson & Harwood, 2013). Natural resources are generally categorized according to their regeneration rate (Jowsey, 2007; Schellens & Gisladottir, 2018); renewable resources (unconditionally renewable resources such as solar power, wind energy, geothermal energy /conditionally renewable resources such as water, forests, biodiversity, air, soil) and nonrenewable resources such as minerals, oil, sand, natural gases, coal. When the term "resource conservation" is used, it encompasses all the natural resources that are critical to sustainability. Waste management was another category of environmentally significant behaviors of Stern (2000), and studies on

conceptualization of waste and waste management is also present in the relevant literature. Waste is generally defined as a material that has no purpose (Pongracz & Pohjola, 2004), is unable to efficiently perform (Pongracz & Pohjola, 2004), useless (Basu, 2009), and discarded after use (Bilitewski et al., 1994; Lynch, 1990). Waste management, on the other hand, refers to a practical field that seeks solutions to specific waste issues. The necessary processes and actions to manage waste from its creation to final disposal are included in waste management (Pongracz, 2002). These processes can be specified as the collection, transportation, processing, recycling, or disposal, as well as the monitoring of waste, according to Pongracz (2002). Nonactivist behaviors in the public sphere, another category introduced by Stern (2000), generally encompasses behaviors that are not driven by activism but still contribute to environmental change through public engagement (Liu et al., 2017); such as signing petitions regarding environmental problems, being a member of or supporting environmental organizations, supporting policies that promote environmentally friendly choices, being willing to pay higher taxes for the protection of the environment (Stern, 2000), participate in environmental policymaking, obey environmental law, and organize events that highlight sustainability (Bell, 2007). Finally, environmental activism was conceptualized as participating in environmental movements which involve behaviors associated with more involvement and greater determination (SGuin et al., 1998) and behavior of attending environmental protests were investigated (Marquart-Pyatt 2011; Schmitt et al., 2019; SGuin et al., 1998; Xing et al., 2022).

In the literature, various studies have targeted the investigation of different types of environmentally significant behaviors, the level of involvement in such behaviors, gender differences and specific studies that focus on parents of children. To begin with, some of the environmentally responsible consumption behaviors were listed as buying products made from recycled materials or with recyclable packaging (Roberts & Bacon, 1997), preferring to purchase energy-efficient (Roberts & Bacon, 1997) and chemical-free products (Jiaswal & Kant, 2018; Roberts & Bacon, 1997), purchasing products in reusable containers (Markle, 2013; Moser, 2016; Roberts & Bacon, 1997), avoiding products with excessive packaging (Moser, 2016; Karaman, 2020; Roberts & Bacon, 1997), purchasing from ecological brands (Roberts &

Bacon, 1997), and avoiding aerosols (Roberts & Bacon, 1997), reading the label on the ingredients (Jiaswal & Kant, 2018), purchasing biodegradable products (Kim & Choi, 2005), choosing products that are not tested on animals (Ribeiro Cardoso & van Schoor, 2017), purchasing durable (Pereira Luzio & Lemke, 2013) and second-hand products, participating in boycotts of certain products or brands (Young et al., 2010). There are some contradictory results in terms of environmentally responsible consumption behaviors of individuals. Whereas there are studies indicating that participants from different countries engage in such exemplified behaviors at a low level (Chan, 2001; Hughner et al., 2007; Nguyen et al., 2015; Tatic & Cinjarevic, 2010; Wu & Chen, 2014), there were also a few studies, although fewer in number, that emphasized environmentally significant behaviors are performed at a higher level than the average (Kanchanapibul et al., 2014; Liobikiene et al., 2016; Moser, 2015; Sui et al., 2019). In general, women were found to engage in more environmentally responsible consumption behaviors (Çabuk et al., 2008; Lee, 2009; Uddin & Khan, 2015; Urena et al., 2008; Radman, 2005; Witek & Kuzniar, 2021; Yeniçeri, 2009).

The second category of environmentally significant behaviors examined was resource conservation. When reviewing the literature, it becomes evident that behaviors targeting the conservation of electrical energy and fossil fuels, water conservation, soil conservation, and biodiversity conservation were dominant themes in the studies (Bronfman et al., 2015; Demirci-Güler & Afacan, 2012; Garcesa & Limjuco, 2014; Güven & Aydoğdu, 2012; Halkos et al., 2018; Lange & Dewitte, 2019; Mateer et al., 2022; Timur & Yılmaz, 2013; Zainuri et al., 2022). It was also revealed that resource conservation behaviors are generally the most performed behaviors compared to other types of environmentally significant behaviors (Bronfman et al., 2015; Garcia-Cuerva, 2016; Janmaimool & Denpaiboon, 2016). Moreover, when specific resource conservation behaviors were investigated, it was possible to see individuals' high levels of involvement (Dolnicar et al., 2012; Garcia-Cuerva, 2016; Hori et al., 2013; Lee et al., 2022; Vural & Yılmaz, 2016). On the other hand, when the literature is examined with regards to gender differences, it can be generally concluded that there is either no significant difference or a difference in favor of women in terms of resource conservation behaviors (Clark & Finley, 2007;

Ekinci et al., 2022; Fatoki, 2022; Janmaimool & Denpaiboon, 2016; Tong, 2017; Yue et al., 2013).

The studies related to the third category, waste management, mostly focused on reducing, reusing, and recycling behaviors of individuals from different cities and with different samples. Need-based purchasing to decrease waste, preferring eco-friendly packaging, making compost, avoiding the usage of disposable products, drinking tap water to reduce plastic bottle waste, repairing items, purchasing second-hand products, waste segregation, reusing paper/glass, using own bags while shopping, making donations, prolonging the use of purchased products, and returning redeemables were some of the examples taken from different studies to exemplify reduce/reuse/recycling behaviors of individuals. There were also contradictory findings regarding the level of involvement of individuals in different types of waste management strategies. Whereas some of the studies emphasized that participants prefer to engage in recycling and reusing activities, and they engage in waste reduction the least (Barr et al., 2004), some of the studies reported that there were no significant differences in the recycling, reducing, and reusing behaviors, Swami et al. (2011). Engaging in reuse more than recycling (Ebreo & Vining, 2001), or engaging in recycling least and showing a greater preference for reusing and reducing were also another findings (Barr, 2007). It was also notable to detect that there was a high level of involvement in all reduce/reuse/recycling behaviors especially in European countries (Minelgaite & Liobikiene, 2019; Vicente-Molina, 2018; Whitmarsh et al., 2018). Although there are some contradictory findings on gender differences, it can be generally concluded that there is either no significant difference or a difference in favor of women in terms of waste management behaviors (Aydın-Eryılmaz & Kılıç, 2021; Barr et al., 2011; Li et al., 2022; Mutang & Haron, 2012; Vicente-Molina et al., 2018).

When public sphere environmentally significant behaviors were investigated, in terms of nonactivist behaviors in the public sphere, participating in environmental events, volunteering projects to protect the environment and making suggestions to friends on these environmental organizations and events (Song et al., 2019), participating in a workshop related to the environment, organizing an educational

event regarding the environment, using online tools to raise awareness regarding environmental issues, contacting authorities when facing with an environmental problem, financially supporting or active involvement in environmental organizations, organizing or attending a petition (Alisat & Riemer, 2015) were some of the exemplified behaviors for nonactivist behaviors in the public sphere in different studies. On the other hand, it was notable in the relevant literature that studies that investigated the levels of individuals' nonactivist behaviors in the public sphere were limited. In general, a lower participation in such behaviors were identified in different studies when compared to private sphere environmentally significant behaviors (Balzeikiene & Telesiene, 2011; Liu et al., 2018; Mi et al., 2020; Özek, 2016). Gender differences in nonactivist behaviors in the public sphere were contradictory in the relevant literature. While some studies emphasized that women outperformed men in these behaviors (Heidbreder et al., 2022; Trelohan, 2021), some studies discovered men to be more engaged in such activities (Gaither et al., 2004) or there were not any significant differences between two genders in general (Hunter et al., 2004).

Finally, environmental activism was related to attending environmental protests or boycotts, in general, and both national and international research consistently highlights that participation in environmental protests is generally low (Balzeikiene & Telesiene, 2011; Geiger, 2022; Gıcır et al., 2020; Piyapong, 2019; Tranter, 2010; Yang & Weber, 2019). Similar trends were observed in environmental activism behaviors of individuals regarding gender differences as seen in nonactivist behaviors in the public sphere. Some studies showed that women performed better in these behaviors (Gıcır et al., 2020; Heidbreder et al., 2022; Moor et al., 2019), while other studies found men to be more involved in such activities (Piyapong, 2020), or there were no notable gender differences (Arslan & Kızıldağ, 2018; Demir et al., 2022; Tindall et al., 2003).

Barriers to participating in various types of environmentally significant behaviors were investigated and reported in this current section, as well. Whereas price of green products, lack of knowledge regarding green products, lack of availability, and lack of time were found to be the main barriers people face in terms of

environmentally responsible consumption (Barbarossa & Pastore, 2012; Gleim et al., 2013; Joshi & Rahman, 2015; Kripa & Vinod, 2021; Nguyen et al., 2017; Övüç, 2015), lack of knowledge on how to conserve resources, lack of time, lack of awareness and impracticality were some of the reported barriers to adopting resource conservation behaviors (Dolnicar & Hurlimann, 2010; Manolas, 2015; Nageotte & Buck, 2023; Onyenankeya et al., 2021; Yuriev et al., 2018; Zhao et al., 2019). On the other hand, individuals generally reported that insufficient waste management equipment provided by municipalities, lack of knowledge on waste management, lack of time and lack of encouragement were challenges they faced with when they try to engage in waste management behaviors (Biu et al., 2020; Demirbağ & Güngörmüş, 2012; Ezeah & Roberts, 2012; Kattoua et al., 2019; Viljoen et al., 2021). Moreover, individuals reported several barriers to nonactivist behaviors in the public sphere, including financial constraints, lack of knowledge, lack of interest or motivation, lack of time, and mistrust in the efficacy of volunteering activities (Baran, 2019; Higgins & Shackleton, 2015; Kollmuss & Agyeman, 2002; O'Brien et al., 2010; Tyers, 2021). When it came to participating in environmental protests, some obstacles noted by individuals included lack of knowledge, lack of encouragement, lack of time, and mistrust in the efficacy of such protests (Latkin et al., 2022; Roser-Renouf et al., 2014; Quimby, 2011).

CHAPTER 3

METHODOLOGY

In this chapter, some information is presented regarding how the current study utilized specific procedures as well as strategies to identify different kinds of environmentally significant behaviors conducted by parents individually, and with their preschoolers. The chapter begins with the explanation of the research design decided upon in line with the research questions. Then, details regarding the selected sample of the study are shared. Following that, the instrument used to collect the data is outlined in greater detail. After discussing the crucial points of the pilot study, the data collection and analysis procedure employed in the main study is described. The chapter ends with discussions concerning potential ethical issues and limitations of the current study.

3.1. The Design of the Study

In the current study, details regarding parental environmentally significant behaviors are aimed to be taken under examination. According to Stern (2000), environmentally significant behavior can be defined to the degree of its impact, by considering whether it has a direct, or indirect impact on the ecosystems or biosphere. It has become apparent that there are various diverse forms of environmentally significant behavior, and that the various types are determined by various combinations of the determinants of the behavior (Stern, 2000). Environmental activism, nonactivist behaviors in the public sphere, private-sphere environmentalism, and other environmentally significant behaviors were different categories proposed by Stern (2000) to investigate environmentally significant behaviors comprehensively, as mentioned earlier. Additionally, it is claimed that private sphere environmentally significant behaviors have a direct but smaller

impact, whereas public sphere environmentally significant behaviors have an indirect but bigger impact on ecosystems and the biosphere (Stern, 2000). Although the degree and type of impact varies, each type of the environmentally significant behaviors should be considered while designing the research to acquire accurate and detailed information on parental behaviors.

In line with the Stern's (2000) theory, distinct purposes constituted the framework for the current study. The first purpose was to determine how parents define various categories of private environmentally significant behaviors. Determining private and public environmentally significant behaviors engaged in by the parents individually, and with their children, as well as understanding variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children is the second purpose of the study. Another purpose of the study is to shed light on parents' challenges while engaging in different categories of private and public sphere environmentally significant behaviors with their children. The final aim of the study is to understand the difference between mothers' and fathers' definitions, self-reported behaviors, and barriers regarding different types of private and public sphere environmentally significant behaviors. In accordance with the purposes of the current study, the following research questions are addressed.

R.Q.1. How do mothers and fathers define various forms of private and public sphere environmentally significant behaviors?

R.Q.2. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform?

R.Q.2.1. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform individually?

R.Q.2.2. What are the private and public sphere environmentally significant behaviors that mothers and fathers perform with their children?

R.Q.2.3. How do the private and public sphere environmentally significant behaviors of mothers and fathers differ when they engage in them individually compared to when they engage in them with their children?

R.Q.3. Which obstacles stand in the way of mothers 'and fathers 'performing different types of private and public sphere environmentally significant behaviors with their children?

According to various researchers' recommendations (Creswell, 2009; O'leary, 2004), the research questions put forth and the study's methodological design must match each other well. In light of this, the methodological design for the study was formed in accordance with the aforementioned research questions. The current research was designed as a phenomenological study from among qualitative research designs. The goal of phenomenology studies is to understand how people come to a certain way of comprehending the world. The goal is to explain a phenomenon as it happens, with a focus on identifying crucial questions and ideas in relation to a specific event (Houser, 2009). In this current study, there is an attempt to deeply identify parents' environmentally significant behaviors performed individually and with their children. So, how people experience a phenomenon, in the case of this study, how parents experience environmentally significant behaviors individually and with their children, is investigated deeply in this study. That is why, to deeply explore the experiences of mothers and fathers, phenomenological design was utilized in the current study.

3.2. Data Collection Instruments

According to Patton (2014), there are different types of data sources for qualitative research, and the ones employed in the current study as the data source are in-depth interviews. Data for the current research was collected through face-to-face interviews with participants regarding their and their children's private and public sphere environmentally significant behaviors.

The majority of qualitative research studies rely on participant interviews (Saldana, 2011), and they are the primary method of data collection (Savin-Baden & Major,

2013). One of the significant reasons why interviews are widely used is that they allow the researcher to get intricate, detailed information from participants (Savin-Baden & Major, 2013). In addition to providing factual information about people's lives, conducting interviews is an effective approach to elicit and record people's opinions and beliefs regarding their social environment and details of their personal experiences (Saldana, 2011); which is in line with the purposes of the current study. From various interview formats, semi-structured interviews, in which the researcher asks both pre-determined questions and extra questions in response to participants' answers were used in the current study (Savin-Baden & Major, 2013). In semi-structured interviews, the researcher has the chance to probe the discussion, use the limited interview time as fruitfully as possible, and to understand the participant perspectives in a more detailed way by asking probing questions (Savin-Baden & Major, 2013). When the purpose and the research questions of the study are considered, collecting data through semi-structured interview is considered a viable option due to the advantages mentioned. Among the different strategies that interviewers can use during the data collection process, the current study made audio recordings of the interviews to avoid any distraction during the interview process, and distortion of the accuracy of the data (Gay et al., 2011).

3.2.1. Demographic Information Form

According to Lee & Schuele (2010), certain characteristics of a population are referred to as demographics. Background information about research participants is provided through demographic data, so, it is significant to collect demographics of selected participants either by orally or with a form. In quantitative studies, demographic information is also used for the generalization purposes by elucidating how well the sample is representative, on the other hand in qualitative studies, demographic information of the participants is important to consider in order to discuss the research results much better (Lee & Schuele, 2010). Considering these reasons, a demographic information form was developed for the current study.

The demographic information form prepared in line with the purposes of this study includes some questions regarding the parents' status of being a father or a mother,

their age, their children's age, their children's gender, the duration of their children's pre-school attendance, their educational status, and their socio-economic level. Those questions were asked in order to have a detailed background information of the participants.

3.2.2. Semi-Structured Interview Protocol

In order to investigate the details regarding environmentally significant behaviors conducted by mothers and fathers, a semi-structured interview protocol was used to collect data from the participants in the current study. According to Merriam (2009), semi-structured interviews mix more- and less-structured questions, and the phrasing of the questions is flexible.

The semi-structured interview protocol used in the current study was prepared by taking the base of relevant literature. A number of theories were examined to detect the types of environmentally significant behaviors that people engaged in and the theoretical frameworks that were developed for the categorization of these behaviors. Researchers have typically seen environmentally significant behaviors as having multiple dimensions, and they have assigned different classifications to the behaviors. Sia et al. (1986) proposed five different categories to take environmentally significant behaviors in a framework; "persuasion, consumer action, ecological management, political action and legal action". In another study, three dimensions of environmentally significant behaviors have been proposed by Karp (1996); "good citizen behavior, healthy consumer behavior, and environmental activism". In more recent studies, environmentally significant behaviors were divided into eight different domains; "waste reduction, eco-shopping and eating, conservation, one-off domestic energy conservation actions, eco-driving, political actions, reducing car use and flying" (Whitmarsh & O'Neill, 2010). While Lavelle et al. (2015) divided environmentally significant behaviors into two; "habitual and occasional behavior", MacDonald & She (2015) proposed three different dimensions for it; "curtailing behavior, political behavior and efficiency behavior". Apart from more specific categorizations, in his book, Kurisu (2016) discussed the options for categorizing environmentally significant behaviors. According to Kurisu (2016),

environmentally significant behaviors may be categorized according to place (home, office/school, outside), actor (individual or collective), influential fields (based on their targets), and sub-impacts (cost-benefits). After all above-mentioned theories were examined in detail, quantitative scale development studies were also investigated to uncover the factors revealed and categories associated with environmentally significant behaviors.

When quantitative research studies were searched to determine the number of factors revealed in scales developed to assess environmentally significant behaviors, and how the researchers named revealed factors, a diverse range of categories were obtained as a result. Smith-Sebasto & D'Costa (1995) proposed six different dimensions for environmentally significant behaviors in their scale; "civic action, educational action, financial action, legal action, physical action and persuasive action". In a commonly used scale developed by Kaiser (1998), factor analyses revealed that environmentally significant behaviors that are attempted to be assessed may divide into seven categories: "prosocial behavior, ecological garbage removal, water and power conservation, ecologically aware consumer behavior, garbage inhibition, volunteering in nature protection activities, ecological automobile use". In another scale developed by Goldman et al. (2006), six categories of environmentally significant behaviors were created as a result of factor analysis of the students' responses; "Resource-conserving actions with personal financial benefit, environmentally responsible consumption, nature-related leisure activities, recycling efforts, citizenship action, and environmental activism". Markle (2013) stated that environmentally significant behaviors may be investigated under four different titles; "conservation, environmental citizenship, food, transportation", whereas in a scale developed by Zafeiroudi & Hatzigeorgiadis (2014), environmentally significant behaviors were investigated under two different dimensions; "individual and group environmental action". Larson et al. (2015) reflected the multi-dimensional structure of environmentally significant behaviors as "conservation lifestyle behaviors, social environmentalism, environmental citizenship, and land stewardship". In another scale, Alisat & Riemer (2015) named the category of the behaviors as "participatory actions and leadership actions" after explanatory and confirmatory factor analysis. When some scale development studies conducted in Türkiye are examined, it is

possible to see similar categorization for environmentally significant behaviors. In a study which was conducted by Cömert (2011), “transforming knowledge into behavior, environmental knowledge, and recycling” were listed as categories of environmentally significant behaviors. Finally, in the Children’s Responsible Environmental Behavior Scale, developed by Erdoğan et al. (2012), “political action, eco-management, consumer and economic action, and individual and public persuasion” were listed as subdimensions of the concept environmentally significant behavior. Table 2 provides a summary of the categorization of environmentally significant behaviors in the relevant literature. All of the studies mentioned below were thoroughly explained in the literature review chapter, providing a comprehensive overview of their content.

Table 2 *Summary of the categorization of environmentally significant behaviors*

Researchers	Topic	Target Group	Categorization of Environmentally Significant Behaviors
Sia et al. (1986)	Identifying determinants of environmentally significant behaviors.	Adults	Persuasion Consumer action Ecological management Political action Legal action
Smith-Sebasto & D’Costa (1995)	Environmentally Significant Behavior Scale Development	Undergraduate Students	Civic action Educational action Financial action Legal action Physical action Persuasive action
Karp (1996)	Values as a determinant of environmentally significant behaviors.	Undergraduate Students	Good citizen behavior Healthy consumer behavior Environmental activism

Table 2. (continued)

Kaiser (1998)	Environmentally Significant Behavior Scale Development	Adults	Prosocial behavior Ecological garbage removal Water and power conservation Ecologically aware consumer behavior Garbage inhibition Volunteering in nature protection activities Ecological automobile use
Goldman et al. (2006)	Environmentally Significant Behavior Scale Development	Pre-service Teachers	Resource-conserving actions with personal financial benefit Environmentally responsible consumerism Nature-related leisure activities Recycling efforts Citizenship action Environmental activism
Whitmarsh & O'Neill (2010)	Pro-environmental self-identity as a determinant of environmentally significant behaviors.	Adults	Waste reduction Eco-shopping and eating Conservation One-off domestic energy Conservation actions Eco-driving Political actions Reducing car use and flying
Cömert (2011)	Effects of Cooperating Learning on Student's Environmental Knowledge, Attitude, and Behavior	Primary School Students	Transforming knowledge into behavior Environmental knowledge Recycling

Table 2. (continued)

Erdoğan et al. (2012)	Environmentally Significant Behavior Scale Development	Primary School Students	Political action Eco-management Consumer and economic action Individual and public persuasion
Markle (2013)	Environmentally Significant Behavior Scale Development	Undergraduate Students	Conservation Environmental citizenship Food Transportation
Zafeiroudi & Hatzigeorgiadis (2014)	Environmentally Significant Behavior Scale Development	Adults	Individual environmental action Group environmental action
Alisat & Riemer (2015)	Environmentally Significant Behavior Scale Development	Adults	Participatory actions Leadership actions
Larson et al. (2015)	Environmentally Significant Behavior Scale Development	Adults	Conservation lifestyle behaviors Social environmentalism Environmental citizenship Land stewardship
Lavelle et al. (2015)	Categorization of environmentally significant behavior	Adults	Habitual behavior Occasional behavior
MacDonald & She (2015)	Systematic Review on Eco-design	-	Curtailing behavior Political behavior Efficiency behavior
Kurisu (2016)	Overview of environmentally significant behaviors	-	According to place According to actor According to influential fields According to sub-impacts

When the above-mentioned literature had been reviewed, utilizing a theory that would address all the aforementioned sub-dimensions while also addressing age-appropriate behaviors to conduct with 36-72 months old children was deemed appropriate. In other words, the classification should include a wide range of actions that children between the ages of 36 and 72 months may also take or participate in. Accordingly, it was decided to use the classifications proposed by Stern (2000) while preparing the semi-structured interview protocol for the current study. In one of Stern's most cited studies, which is also explained in the previous chapter, "Toward a Coherent Theory of Environmentally Significant Behavior", environmentally significant behaviors were classified as; "environmental activism, which can be included among the public sphere behaviors, nonactivist behaviors in the public sphere, private-sphere environmentalism, and other environmentally significant behaviors". As explained earlier, Stern (2000) defined environmental activism behaviors as being observable in people actively attending demonstrations which aimed to protest environmental issues. Nonactivist behaviors in the public sphere were resembled to the environmental citizenship components such as signing petitions, joining, and making donations to environmental organizations, and working towards changing policies into more environmentally friendly ones. Private sphere behaviors are strongly related to personal and minimal behaviors which aim to protect the environment and minimize the negative effects of human lifestyles on the natural world. Behaviors related to purchase, use, and disposal of personal and household products, waste disposal, green consumerism, and conservation were different examples provided by Stern (2000) to private sphere behaviors. According to Stern (2000), other environmentally significant behaviors are related to affecting the actions and positions of significant organizations in terms of being more sensitive to the environment. In other words, it is emphasized that people may use their titles in an organization to make more environmentally friendly decisions, which will affect the position of the whole organization, and have a greater impact.

The public-private distinction suggested by Stern (2000) can encompass a broad range of environmentally significant behaviors without being constrained by a society's developmental stage or cultural differences, which is one of its main benefits; therefore, in empirical investigations, the public-private classification is

frequently utilized (Liu et al., 2018). This is why, also in the current study, the main classification of public-private sphere environmentally significant behaviors was used to build the theoretical framework of the semi-structured interview questions. Under the public sphere behaviors dimensions, questions regarding environmental activism, and nonactivist behaviors in the public sphere are located (Stern, 2000). On the contrary, under the private sphere behaviors dimension, participants' environmentally responsible consumption practices, waste management strategies, and resource conservation behaviors are questioned (Stern, 2000). The “other environmentally significant behaviors” dimension suggested by the Stern (2000) is strongly related to individuals' position in their working places. While fulfilling the task assigned to individuals, they may behave with environmental concerns within the framework of their powers and responsibilities, and they could have an impact on their affiliated organizations' decisions. Those behaviors were not included in the framework since it may not be possible for 36-72 months old children to accompany their parents at work, especially when the parents have organization-based decisions. So, the final classification based on how the interview questions were structured is depicted below.

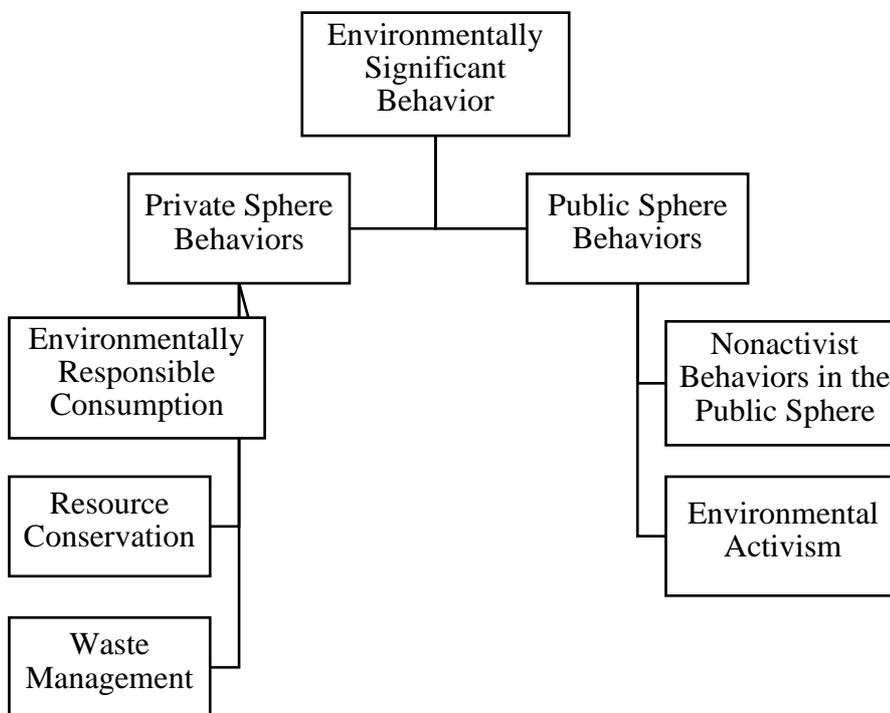


Figure 5 *Theoretical Framework for Semi-Structured Interview Protocol Questions*
(Stern, 2000)

After the main structure of the interview questions was finalized with the help of relevant literature, each subdimension (environmentally responsible consumption, resource conservation, waste management, environmental activism, and nonactivist behaviors in the public sphere) were examined separately to provide participants with clearer questions. In order to develop detailed questions from different contexts, literature relevant to each subdimension was reviewed. Various studies were examined to determine the contexts in which people might exhibit their environmentally responsible consumption behaviors. By combining different research, questions regarding participants' food, book/stationary/toys, cosmetics, clothing, electronic devices, and furniture consumption habits were added to the semi-structured interview protocol (Alper, 2014; Goldman et al., 2006; Jia et al., 2022). Although environmentally responsible consumption is defined as any consumption-related behavior, such as purchasing, using, and disposing, carried out in a way that lessens the impact of consumption on the environment (Gupta & Agrawal, 2017), it is important here to note that questions in the environmentally responsible consumption dimension were designed to solely target people's purchase-related behaviors, not behaviors concerning use or disposal of products since they were presented in the waste management subdimension, similar to some other research (Kim et al., 2012; Sudbury-Riley & Kohlbacher, 2016).

Questions related to the resource conservation subdimension were prepared by utilizing a renewable-nonrenewable resource categorization (Schellens & Gisladdottir, 2018). Resources that renew on a human-life timescale are referred to as renewable resources, whereas some resources that take longer than one human-life timescale to regenerate are called non-renewable resources (Schellens & Gisladdottir, 2018). Although the renewable-nonrenewable classification and above definitions for them are widely used, it is emphasized by several researchers that those definitions may lead to a misunderstanding that no matter how they are managed, renewable resources will always be available (Cutter & Renwick, as cited in Schellens & Gisladdottir, 2018). Thus, it is significant to further categorize renewable resources; unconditionally renewable resources, such as solar energy or conditionally renewable resources, such as wildlife (Schellens & Gisladdottir, 2018). Because unsustainable resource management has the potential to deplete the regenerative capacity of

conditionally renewable resources, and rendering them non-renewable, questions targeting how to protect non-renewable, and conditionally renewable resources were added to the semi-structured interview protocol. For determining the behaviors performed to protect conditionally renewable resources, questions regarding protection of water, forests, biodiversity, and prevention of air/water/soil pollution were prepared. In order to detect behaviors that aim to protect nonrenewable resources, questions related to reduction of fossil fuel use were added to the interview protocol. Due to the dependence of energy generation on a variety of resources, a question regarding energy conservation was also prepared. The energy question was not categorized as renewable or non-renewable because different types of energy can be generated from different types of renewable/non-renewable resources (Schellens & Gisladdottir, 2018).

The questions for the waste management sub-dimension also aim to gather information about parents' definitions of waste to gain a comprehensive understanding of how parents perceive waste management. Then, for the further questions, the steps in the United States Environmental Protection Agency's (2022) Waste Management Hierarchy were utilized. In line with the framework, questions intended to elicit information about waste management behaviors such as "reducing," "reusing," and "recycling" were added to the semi-structured interview protocol.

For the public sphere environmentally significant behavior questions, Stern's (2000) explanations were utilized in general. Despite the need for additional research on some private sphere environmentally significant behaviors, Stern's (2000) theory provided detailed and specific explanations for both nonactivist behaviors in the public sphere, and environmental activism. That's why, the questions designed to gather information about nonactivist behaviors in the public sphere, and environmental activism behaviors, were prepared by utilizing the examples provided by Stern (2000). In order to detect participants' nonactivist behaviors in the public sphere, some questions were added to the protocol which aim to learn environmentally significant behaviors in the context of environmental organizations-municipalities-schools, ways of contacting the authorities with regards to environmental issues, status of attending seminars with others (Tsai & Li, 2021; Zafeiroudi & Hatzigeorgiadis, 2014).

Finally, questions regarding the environmental activism sub-dimension were designed according to Stern’s (2000) examples of those behaviors; attending environmental protests. After the classification of subdimensions were decided with the relevant literature, the structure of the interview protocol was finalized with a total of 27 questions as follows. Each of the concepts listed below was the focus of a different question in the protocol.

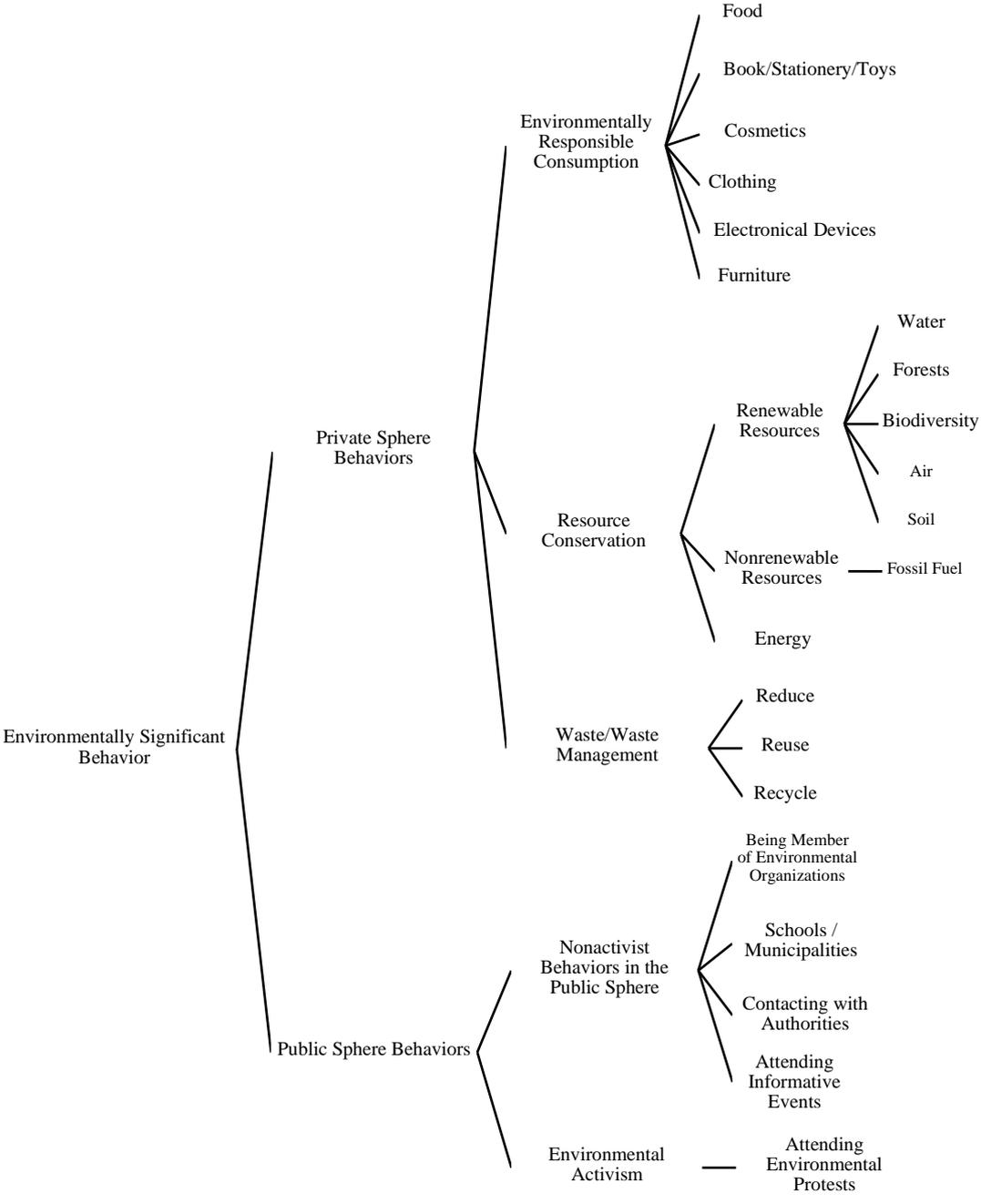


Figure 6 Finalized Structure of Semi-Structured Interview Protocol Questions

Opinions of five experts were sought to validate the interview questions included in the protocol. All of the experts specialized in early childhood education, qualitative research methods, and environmental education. Three of the experts are also parents themselves, therefore, their input on the interview questions were also taken from this perspective. A document was prepared for the experts which includes semi-structured interview questions in two languages, Turkish and English, explanations regarding the research purpose, research questions, and the theoretical framework utilized in the current study. Then, the five experts' opinions were asked regarding the interview questions in terms of research purpose, intelligibility, appropriateness of English-Turkish translation and appropriateness to the relevant sub-dimension. The experts provided their opinions on the document about the questions' alignment with the research questions and purpose as well as their understandability. Their thoughts on how each question was translated and whether the questions were acceptable to ask in relation to the chosen sub-dimension were also taken.

Based on the feedback received from the experts, the protocol's questions changed in a way that there is a terminology that is more in line with everyday discourse, and the structure of the questions were revised. In order to acquire more detailed and accurate answers from the participants, the experts made note of probing questions for a number of the main questions. Therefore, different sub-questions were also added to the protocol's closed-ended (yes/no) inquiries to explain why the answer is yes or no. Additionally, some probing questions that call for participants to provide examples were included in the protocol. After consulting the experts, the number of questions remained the same, so there were no new questions, nor were any of the questions eliminated. Once the interview protocol was revised according to the opinions of the experts, a pilot study was conducted to determine the appropriateness of the semi-structured interview protocol in terms of it being in line with the purposes of the current study.

3.3. Pilot Study

According to Fraenkel et al. (2012) conducting a pilot test is significant to assess the feasibility of the plans for main research. Saldana (2011) stated that pilot studies may help the researcher to evaluate how understandable interview questions are.

Additionally, pilot studies offer excellent opportunities for researchers to experience conducting interviews. Similarly, Fraenkel et al. (2012) emphasized that a wide variety of issues can be identified during a pilot study that can be fixed before the main study is conducted. Identifying problems and obstacles in the recruitment of potential participants process, practicing the role of a researcher in a phenomenological manner and in accordance with cultural norms, and modifying interview questions if necessary were three main purposes for conducting a pilot study in phenomenological research (Kim, 2010).

For the reasons listed above, the pilot study was conducted to finalize the semi-structured interview protocol.

3.3.1. Sampling and Participants for the Pilot Study

The participants of the pilot study were selected by using purposive sampling technique. According to Patton (2014), purposive sampling gives researchers the opportunity to deliberately or intentionally choose participants who may allow them to investigate the phenomenon in more depth. Moreover, there are several strategies may be used within the scope of purposive sampling (Patton, 2014). The current study used criterion-based case selection from various of purposive sampling strategies. In the criterion-based case selection strategy, each participant is chosen based on a set of important criteria, and with those who satisfied the criteria chosen as a sample of the population (Patton, 2014). That is why, before choosing participants, a set of criteria for the sampling was established, including the following requirements: (1) all participants had to agree to take part in the study voluntarily; (2) all participants had to live in Ankara districts; (3) all participants had to be parents of at least one child between the ages of 36 and 72 months; (4) all participants had to have at least one child enrolled in an early childhood education program. The participants in the pilot study were chosen based on abovementioned standards. There were no sample selection criteria for the participants' age, educational level, economic standing, number of children, or the type of preschool the child attended (whether private or public). The pilot study included three mothers who fit the five pre-determined criteria for the study.

3.3.1.1. Demographic Information of Parents in the Pilot Study

In the pilot study, all of the participants were mothers of children aged 36 to 72 months who reside in Ankara. One of the mothers was between the ages of 35-39, with two of them being between the ages of 30-34. Two mothers have children who are 60–72 months old, while one of the mothers has a child who is 36–48 months old. Two of the mothers each have a boy, whereas only one mother has a girl. In the pilot study, one mother had completed her secondary education while the other two had completed their high school education. Two mothers had household incomes that were less than \$27,000 per month, which is considered to be below the poverty line (TÜİK, 2022) (Table 3).

Table 3 *Demographic Information of Parents in the Pilot Study*

	Frequency (f)
Parent Completing the Form	
Mother	3
Father	0
Age	
30-34	2
35-39	1
Child's Age	
36-48 Months	1
60-72 Months	2
Child's Gender	
Girl	1
Boy	2
Child's Pre-school Attendance Duration	
Attendance for Less Than Two Semesters	2
Attendance for Two and More Semesters	1
Highest Education Level Attained by the Parent	

Table 3. (continued)

Secondary School	1
High School	2
Household Monthly Income	
0-9000	1
9001 – 27.000	1
27.001 – 54.000	1

3.3.2. Data Collection Procedure of Pilot Study

After making necessary revisions on the semi-structured interview protocol as suggested by experts, several early childhood educators were contacted by phone and given access to the online version of the prepared invitation form (see Appendix B) in order to ask their help in contacting parents who met the study's participation criteria. The information of the parents who were interested in participating in the study was obtained through teachers, and each mother was contacted to provide information about the study's protocols and to schedule an appointment for the interviews. The time and location of the interviews were determined by the participants according to their availability, and all the participants were visited at their residences.

First, two mothers who met the sampling criteria participated in the pilot study. Before beginning the interviews, both mothers were once again given an explanation of the study's purposes and procedures. Demographic information was provided after the participants were asked to complete a consent form. The semi-structured interview protocol was then used to formulate questions. In addition to taking notes during the interviews, voice recording of the interview was also taken. After conducting the interviews, participants' honest opinions regarding the understandability of the questions were requested. The average length of each interview was 70 minutes. All interview recordings were listened to twice following the interviews, and mothers were contacted to clarify any aspects that were unclear and to receive their approval on the accurateness of their responses.

In these two pilot interviews, it was found that once the participants were not able to define different categories of environmentally significant behaviors, they also went on to answer other questions off-topic. Various strategies were investigated to prevent item non-response bias that may arise from this situation. Different studies revealed that leaving the interpretation of questions solely to participants may decrease data quality (Schober et al., 2004). Moreover, in the interviews, it is more critical to standardize the participants' interpretation rather than standardize the questions (Schober & Conrad, 2002). That is why, more recent attention has focused on the provision of clarifications for the interview questions, in order to ensure that interviewer and the participant have understood each other well enough for the current purposes of the conversation (Schober & Conrad, 2020). In a study by Schober & Conrad (2020), 12 qualitative studies were investigated to test the effectiveness of providing clarifications to the participants during the interviews. The results across different samples and languages demonstrated that giving participants clarifications during the interview results in noticeably more accurate question interpretation and response accuracy (Schober & Conrad, 2020). Therefore, it is advised by the researchers that the interviewer should engage in a grounding dialog with the participant and provide necessary clarifications if, for a specific reason, the interviewer believes the respondent would benefit from clarification—whether because the respondent requested it or because the interviewer senses the respondent is confused or has misunderstood the question (Schober et al., 2004; Schober & Conrad, 2002; Schober & Conrad, 2020). That is why, for the current study, it was decided to provide the participants with clarifications of various behavior types before moving on to the other questions of the dimension if they failed to give accurate answers to the definition questions, and seemed to need further clarification. The first questions for each dimension were revised in a way that firstly, participants' definitions were requested; and then, specific clarifications were provided to the participants if considered necessary.

After the necessary revisions were done, one more interview was conducted within the scope of pilot study. In the final interview, the participant had inaccurate information regarding most of the types of environmentally significant behaviors as well. Then, the pre-determined clarifications were provided to the participant after

requesting her own definition. It was observed that with provided clarifications, the mother was able to answer the remaining questions in the sub-dimension more accurately.

Following the revisions made according to three interviews conducted as a part of the pilot study, the final semi-structured interview protocol included 27 questions, with two main dimensions (public sphere behaviors, private sphere behaviors), and five sub-dimensions (environmentally responsible consumption, resource conservation, waste management, environmental activism, nonactivist behaviors in the public sphere). Table 4 shows how the finalized semi-structured interview questions were arranged.

Table 4 *Distribution of the Semi-Structured Interview Protocol Questions*

Dimensions	Interview Questions
Private Sphere – Environmentally Responsible Consumption	6 questions (1 to 6)
Private Sphere – Resource Conservation	6 questions (7 to 12)
Private Sphere – Waste Management	7 questions (13 to 18)
Public Sphere – Nonactivist Behaviors in the Public Sphere	4 questions (19 to 22)
Public Sphere – Environmental Activism	5 questions (23 to 27)

In the final format, the interview started with the demographic information form that participants were asked to complete. Then, with the first six questions, the researcher aimed to learn how participants define “environmentally responsible consumption”, the environmentally responsible consumer behaviors they perform individually, the environmentally responsible consumer behaviors they perform with their children and challenges they face while performing these behaviors with their children. From the seventh question to the 12th question, participants’ definition of “resource conservation”, their resource conservation behaviors conducted individually, the resource conservation behaviors they perform with their children and challenges they

face while performing these behaviors with their children were investigated in the specified order. Questions numbered 13 to 18 then were asked with the aim of shedding light on the details regarding participants' definition of "waste management", their waste management behaviors conducted individually, the waste management behaviors they perform with their children and challenges they face while performing these behaviors with their children. Questions after the 18th one investigated the public sphere environmental behaviors (Stern, 2000). Questions 19 to 22 were asked in order to learn about nonactivist behaviors in the public sphere that participants perform individually, the nonactivist behaviors they perform with their children and challenges they face while performing these behaviors with their children. Finally, questions 23 through 27 were asked to investigate details regarding participants' definition of "environmental activism", environmental activism behavior conducted by participants individually, the environmental activism behaviors they perform with their children and challenges they face while engaging in environmental activism behaviors with their children. Sample questions for each dimension of the semi-structured interview protocol are provided in Table 5.

Table 5 *Samples of Semi-Structured Interview Protocol Questions*

Environmentally Significant Behavior Interview Questions Dimensions		
Environmentally Consumption	Responsible	What does the term "environmentally responsible consumer" bring to your mind? What traits make a consumer environmentally responsible in your opinion?
Resource Conservation		What are the actions you take to conserve the resources you mentioned? What precautions do you take? Can you provide examples? How do you provide transportation for your daily visits such as school/work/shopping with your child? What changes would you make in your transportation preferences in order to reduce the use of fossil fuels? Can you provide examples?

Table 5. (continued)

Waste Management	<p>How do you include your child in your daily recycling applications? Can you give details about the recycling-oriented practices you do with your child?</p> <p>Are there any factors do you think that prevent you from acting so as to manage your waste with your child (waste reduction /reuse /recycling)? What would enable you to engage in waste management behaviors (waste reduction/reuse/recycling) more often with your child? Can you provide examples?</p>
Nonactivist Behaviors in the Public Sphere	<p>Does your child participate in environmentally friendly activities organized by your child's school, various organizations or local governments (ex. Municipalities) with you? Can you provide examples?</p>
Environmental Activism	<p>Have you ever participated in an environmental protest with your child? What environmental issue was this protest about? Do you think it achieved its purpose? What do you think your child might have learned in this process?</p>

3.4. The Main Study

3.4.1. Sampling and Participants of the Main Study

One of the most crucial steps in the research process is choosing the sample of participants. Since participants are the ones who provide the data, the participants' selection will undeniably affect how well the research questions are answered (Fraenkel et al., 2012). Qualitative research samples are typically unique, smaller, and less representative compared to the samples chosen for quantitative research.

Similarly, it is recommended that qualitative researchers should almost always work with small samples that are available for interaction for a long period of time, and let the researcher make investigations in a greater depth in order to acquire the rich information needed. According to Patton (2014), since phenomenological research includes investigation of a phenomenon from different perspectives and as deeply as possible, a sampling technique which will provide the researcher with the most intense, information-rich participants is significant. When it comes to sample size, the idea of data saturation is the most essential concept to keep in mind when making decisions for qualitative research. Data saturation generally refers to the point at which the data collection process stops producing any new or pertinent data (Dworkin, 2012). Fraenkel et al. (2012) stated that in more concrete terms, sample size, which consists of a range between one to 20 participants is enough to have data saturation.

By taking into account the above-described principles of qualitative research, the participants in the current study were selected by using purposive sampling technique. Since in main studies, the exact procedures which are followed in the pilot study should be replicated (Saldana, 2011), the criteria outlined in the pilot study sampling were also used to determine the participants in the main study; (1) all participants had to agree to take part in the study voluntarily; (2) all participants had to live in Ankara districts; (3) all participants had to be parents of at least one child between the ages of 36 and 72 months; (4) all participants had to have at least one child enrolled in an early childhood education program. Identical to the pilot study, there were no sample selection criteria for the participants' age, educational level, economic standing, number of children, or the type of preschool the child attended (whether private or public).

Initially, there was no set quota for participants because data saturation is a significant phenomenon in qualitative research (Saldana, 2011). The data collection process was terminated after 23 parents were interviewed and it became clear that the parents had stopped providing any novel information, in other words, the data was saturated. The data for the current study was finally provided by 13 mothers, and 10 fathers who met the pre-determined five criteria.

3.4.1.1. Demographic Information of Parents in the Main Study

In the present study, when mentioning participants, both mothers and fathers are being referred to. There was a total of 13 mothers and 10 fathers in the current study. Nine of the total participants (39%) were between the ages of 35 and 39, compared to just one participant (4%) in each of the age ranges of 25 to 29 and 45 to 49. Only two participants (9%) have children who are 36–48 months old, while the majority of participants (61%) have children who are 60–72 months old. Nine participants (39%) have a girl, whereas 14 participants (61%) have a boy. Seventeen of the participants' children (74%) attended pre-school for at least two semesters, compared to six (26%) whose children attended for less than that. In contrast to the 13 participants (57%) who have bachelor's degrees, there were only one participant (4%) with the highest level of education being secondary school and one participant (4%) who is a high school graduate. Eight participants (35%) had household incomes that were less than ₺27,000 per month, which is considered to be below the poverty line (TÜİK, 2022). Regarding the aforementioned traits and other demographic information of the participants in the main study, Table 6 offers an overall framework.

Table 6 *Demographic Information of Mothers and Fathers in the Main Study*

	Frequency (f)		Percentage (%)	
	Mothers N _M = 13	Fathers N _F =10	Mothers	Fathers
Age				
25-29	1	0	8	0
30-34	5	4	38	40
35-39	7	2	54	20
40-44	0	3	0	30
45-49	0	1	0	10
Child's Age				
36-48 Months	1	1	8	10
48-60 Months	5	2	38	20
60-72 Months	7	7	54	70

Table 6. (continued)

Child's Gender				
Girl	5	4	38	40
Boy	8	6	62	60
Child's Pre-school Attendance Duration				
Attendance for Less Than Two Semesters	4	2	31	20
Attendance for Two and More Semesters	9	8	69	80
Highest Education Level Attained by the Parent				
Secondary School	0	1	0	10
High School	1	0	8	0
Bachelor's Degree	8	5	61	50
Graduate Degree	4	4	31	40
Household Monthly Income				
0 – 9001	0	1	0	10
9001 – 27.000	4	3	31	30
27.001 – 54.000	7	4	54	40
54.000 and above	2	2	15	20

3.4.2. Data Collection Procedure of the Main Study

The data for this study was gathered by conducting semi-structured individual interviews with parents who met the study's sampling criteria. After making the necessary modifications to the semi-structured interview procedure in accordance with the revisions recommended by experts and the needs identified during the pilot study, the appropriate permits were obtained from an Ethics Committee to put the instrument into use. Middle East Technical University's Research Center for Applied Ethics ethical committee provided the current study's approval (see Appendix A). In

other words, it is approved that the nature of the study is appropriate to conduct in a manner that maintains the ethical standards.

After necessary permissions were taken by Ethics Committee, preschool principles in different districts of Ankara were contacted via telephone. After the information regarding the purpose and process of the study were given to the principals, their help was requested to reach the parents. The invitation text was sent to some school principals in an online format. Also, a hard copy of the invitation text was delivered to the school principals and teachers to convey to parents. With the help of the school principals and the early childhood educators, volunteer parents were identified, and contacted to make an appointment for the interview.

The interview time and place were scheduled by the participants according to their availability. As preference of both participants and the researcher, quiet places such as offices of participants, homes of participants, home of the researcher, or available cafés were preferred in order to avoid any situations which may interrupt the interview process. The interviews started with small talk about daily habits for easing pressure on the environment, and to make participants comfortable. In the small talks, participants were encouraged to talk about their daily lives, their children, and the practices they conducted with their children to get them used to sharing their experiences. Then, it was explained to participants that the information they would provide will be kept as confidential and they could end the interview whenever they wished. Moreover, the purpose of the study, and the details about the ethics were explained to the participants, as well as taking their verbal and written permission on voice recording. The participants were given a demographic information form after being asked to complete the consent form. Followed by the demographic information form, questions taking place in the semi-structured interview protocol, and some additional questions as probes were asked. The pre-determined questions were asked to each participant in the same order during the interviews, however, probe questions changed from participant to participant. Throughout the interviews, voice recordings were taken in addition to taking notes of the answers of participants. Interviews lasted 75 minutes on average. The interviews were conducted between February and March of 2023.

3.5. Data Analysis

In qualitative research, making meaning of text and visual data is a key component of data analysis. The data analysis procedure entails preparing the data for analysis, getting deeper and deeper into the understanding the data provides, portraying the data, and creating an interpretation of the data's wider meaning (Creswell, 2009).

According to Merriam & Tisdell (2015), in qualitative research, data collection and data analysis should be done simultaneously, and this is one of the most important characteristics of qualitative designs that set them apart from positivist-focused quantitative designs. As soon as the data collection is complete, analysis becomes more sophisticated because all the data has been acquired. In the present research, data analysis got under way as soon as the first interview's transcription was finished. To avoid becoming overwhelmed by the amount of data, each interview was transcribed once it was completed. Then, each of the transcripts was compared and contrasted, and memos were written on them to detect potential codes while the data collection procedure was continuing.

From various data analysis techniques in qualitative studies, content analysis is a tactful method that enables researchers to examine somewhat unstructured data in light of its meanings, symbolic features, explicit contents, and communication functions in the lives of its providers (Merriam & Tisdell, 2015). Fraenkel et al. (2012) stated that utilizing content analysis is advantageous since it is unobtrusive, useful to analyze especially interviews, simple, economical, and replicable by the other researchers. That is why, in the current study, the interview transcriptions were analyzed by utilizing content analysis.

Following the completion of the data gathering process, the study's data was analyzed according to Creswell's (2009) guidelines for data analysis for qualitative research. According to Creswell (2009), the first step is to organize and prepare the data for the study, which is transcribing the interviews in the case of this study. Each of the interviews was transcribed immediately after they were conducted, in order both to start analysis process, and to be able to contact parents immediately if there

were an unclear points regarding their answers. The second step of the data analysis is reading through all data to have a general sense of the overall meaning. As suggested, after transcribing the recordings of the interviews, all the transcripts were read one more time in order to familiarize with the data. In step three, the coding process would be started (Creswell, 2009). Saldana (2011) emphasized that there are numerous coding methods available, and researchers can select the one that best suits the purposes, research questions, and topic of the study. Moreover, a combination of different coding strategies, in other words, utilizing a blended approach, is quite common in literature, if a combination works best for the requirements of the current study (Graebner et al., 2012; Linneberg & Korsgaard, 2019). Therefore, the current study utilized both deductive and inductive coding techniques sequentially. In the beginning, Stern's (2000) Theory of Environmentally Significant Behavior was used as the foundation for the deductive coding. In light of the theoretical framework, the categories were established prior to the analysis. Then, the inductive coding method was utilized to derive the codes from the raw data, and they were assigned to any relevant categories. The fourth step of Creswell (2009) was already finished since deductive coding was also used. In step five, a decision is made regarding how the narrative's ideas and description will be portrayed. It is decided to portray example passages of what participants said, to clearly explain how themes, categories, and codes were determined. Also, some tables were used in order to present findings better and in a clearer way, and they were shared in the results chapter. In step six's scope, deciding how interpretations regarding the data may be conveyed is recommended. While conveying the interpretations, different theories and research studies were used to make accurate interpretations, and details regarding interpretations were shared in the discussion chapter.

3.6. Trustworthiness of the Study

According to Miles et al. (2014), in qualitative research, there are some various types of analytical bias that might invalidate the findings. "The holistic fallacy" which is defined as perceiving patterns in events that are not there, "elite bias" which is underrepresenting data from less articulate, lower status participants in favor of data from more intelligent, typically high status people, "personal bias" which is

explained as bias resulted from the researcher's personal agenda, or making personal biased comments on the findings in a way that desirable outcomes are found, and "going native" which is losing perspective or the capacity for "bracketing," are the ones which are serious threats to the validity and reliability of the research (Miles et al., 2014). In order to avoid any of the biased mentioned, some strategies were used to have valid and reliable findings. In this section, different strategies used in the current research within the scope of validity and reliability are going to be explained.

3.6.1. Validity

Although using the term "validity" in the qualitative-oriented research procedures is controversial (Maxwell, 2013), many researchers preferred to use the term because of its being common sense, and straightforward (Creswell, 2009; Fraenkel et al., 2012; Maxwell, 2013). Validity in the qualitative research is defined as accuracy or credibility of a statement, judgment, explanation, interpretation, or other type of account (Maxwell, 2013). There are some strategies offered by different researchers to ensure the validity of qualitative research. While Guba (1981) suggested that to ensure validity, researcher should lengthen their participation in the study site, observe persistently, use peer de-briefing, conduct member checks, and practice triangulation and reflexivity, Creswell (2009) suggested researchers to use rich, thick description to convey findings, clarify the bias which the researchers themselves may bring to the study, and utilize an outside auditor to examine the entire project. The validity of the current study is ensured by using a few of the strategies suggested.

Firstly, member checks, in other words, respondent validation was used to ensure the validity of the research. According to Creswell (2009), the final report of the participants' answers can be sent to them in order for them to validate that it reflects what they actually meant during the interview. After the interview period, all the interview recordings were listened to and parents were called to get clarification on any unclear points. In total, three parents were contacted to clarify misunderstood points in the interview and to take their validation with regards to the meaning of their answers. All of three parents confirmed their answers. Thus, any potential for misinterpretation of the interview protocol and misunderstanding of responses was removed.

Secondly, while presenting the findings, rich, and thick descriptions regarding the setting, and shared experiences of the participants were provided. According to Creswell (2009), the outcomes are more realistic and richer when qualitative researchers provide specific descriptions of the context or offer a variety of viewpoints on a particular issue, which increase the validity of the study.

Finally, while designing the instrument for the current study, a semi-structured interview protocol, five experts' opinions were taken regarding the interview questions in terms of research purpose, intelligibility, appropriateness of English-Turkish translation and appropriateness to the relevant sub-dimension. Additionally, before the main study was completed, a pilot study had been carried out with three participants to evaluate how easily comprehensible the interview questions were and to discover any issues with the interview protocol and data collection procedure. Revisions were made in response to the needs identified by the expert opinions and pilot research.

3.6.2. Reliability

According to Gay et al. (2011), the degree to which study data consistently measure whatever they measure is referred to as reliability. Although the term generally seems to be related to quantitative studies, reliability can also be taken into account by qualitative researchers in their studies, particularly the reliability of the data collection methods they employ (Gay et al., 2011). Creswell (2009) suggested some strategies for researchers to provide qualitative reliability in their studies. Checking transcriptions to ensure that no obvious mistake was made, and making sure that during the coding process, the meaning of the codes or their definition did not change, was two commonly used strategies offered by Creswell (2009) for researchers working alone rather than in a research group. Both recommendations were taken into consideration in the current study. Transcriptions were checked both by the researcher, and a relative of the researcher who is also interested in qualitative research. The coding process of the analysis were done carefully by writing memos about the codes, as well as continuously comparing data with the codes.

There is yet another technique that aids qualitative researchers in demonstrating the reliability of their study. Creswell (2009) stated that individual researchers should seek a second person to cross-check their codes, which is called intercoder agreement, or cross-checking. Whether two coders agree on the codes used for the identical text passages forms the basis of such an agreement. For good qualitative reliability, Miles & Huberman (1994) advise that the consistency of the coding be in agreement at least 80% of the time. According to the size of the data set, O'Connor and Joffe (2020) suggested that 10–25% of the data units would be optimal to multiply code. Taking into account all the standards of the intercoder agreement, a second coder contributed for the current study as well. The second coder was a post-graduate student working as a research assistant in early childhood education. According to the percentage offered by O'Connor and Joffe (2020), three interviews from a total of 23 interviews were multiply coded with the external coder. Three interviews were selected randomly from the data set. It was discovered that there was an 87% agreement between the coders after the multiple coding procedure, which means that in the current study the qualitative reliability was assured. A discussion is made by the researcher, and the external coder regarding the agreements, and disagreements of the codes, and themes used to analyze the data set, to reach consensus on the final version of the codebook.

3.7. Ethical Issues

According to Fraenkel et al. (2012), in all of the research studies, ethics should be considered throughout study by making sure that any potential harm to participants is avoided, that the information they provided is used only for research purposes and kept confidential, and that there is no participant deception. Therefore, some strategies were used to avoid any potential harm to ethics throughout the study. Before any data collection, necessary permissions were taken from Middle East Technical University's Research Center for Applied Ethics, in which it was confirmed that the instruments used in the study, and data collection procedure was complied with ethical standards. Attendance at the current research study was entirely voluntary. Each participant was asked to sign a consent form before beginning to the interviews. The consent form specifically explained the current

study's purpose, process, and requirements. Before recording any of the interviews, verbal consent of participants was obtained as well. Furthermore, just before interviews began, participants were informed that they could withdraw from the study at any time if they felt uncomfortable. Any personal information that could threaten the respondents' privacy or the confidentiality of their answers was not requested during any part of the study. Each participant received a participation identification code, which they used to complete the demographic information form. Additionally, participants' voice recordings were saved under the same participation identification code, so that the data collected was analyzed collectively, and anonymously.

3.8. Limitations

In order to evaluate the findings of this recent study more accurately, one main significant limitation is identified. The data in this study was obtained through only interviews, which were used to gather detailed information regarding parents' environmentally significant behaviors. As a result, the collected data is self-reported. According to O'Leary (2004), in studies which involve interviews, the participant's honesty and openness are assumed. However, it is a known fact that people want to be liked, uphold their dignity, and maintain some measure of privacy, which is also called as social desirability (O'Leary, 2004). Collecting reliable data may be difficult if respondents feel judged or ashamed. In order to reduce the negative effects of social desirability on the current study, participants were ensured that their data will be kept as confidential, and even their names were not asked and saved to any part of the data. Moreover, an effort was made to create a more relaxed atmosphere before the interview took place, so that participants would feel more at ease expressing their thoughts. According to Saldana (2011), multiple data-gathering methods enhance the credibility of the studies. However, the nature of the current research was not able to deploy additional qualitative data collection methods such as observations, or document analysis. In order to minimize the adverse effects of using only one data-gathering method based on the self-reports of the participants, a comprehensive semi-structured interview protocol was prepared, and sent to high number of experts, and a pilot study was conducted.

CHAPTER 4

FINDINGS

This chapter offers an in-depth explanation of the current study's findings in light of the addressed research questions as well as the study's overall purpose. The framework for the current study consisted of different purposes. The first purpose was to determine how parents define various categories of private environmentally significant behaviors. Determining private and public environmentally significant behaviors engaged in by the parents individually, and with their children as well as understanding variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children is the second purpose of the study. Another purpose of the study is to shed light on parents' challenges while engaging in different categories of private and public sphere environmentally significant behaviors with their children. The final aim of the study is to understand the difference between mothers' and fathers' definitions, self-reported behaviors, and barriers regarding different types of private and public sphere environmentally significant behaviors. Semi-structured individual interviews were used to gather the data. Detailed explanation of these interview results is explained below, and at the end of the chapter, a summary is provided with regards to key findings.

4.1. Mothers' and Fathers' Definitions Regarding Different Types of Private and Public Sphere Environmentally Significant Behaviors

This section presents in-depth research findings on parents' definitions on various types of environmentally significant behaviors, including private sphere environmentally significant behaviors (environmentally responsible consumer, resource conservation, waste management) and public sphere environmentally

significant behaviors (nonactivist behaviors in the public sphere, and environmental activism). Figure 7 summarizes the definitions provided by parents regarding private sphere environmentally significant behaviors, whereas definitions provided by parents regarding public sphere environmentally significant behaviors were summarized in Figure 8. The findings are presented in the same order as depicted in the Figure 7 and Figure 8.

Parents' Definitions Regarding Private Sphere Environmentally Significant Behaviors
Parents' Definitions of "Environmentally Responsible Consumers"
Definitions Related to Product Purchasing Process (nm=12, nf=8)
Purchasing Recyclable Products ($n_m=5, n_f=4$)
Purchasing Chemical-Free Products ($n_m=4, n_f=3$)
Purchasing Products with Eco-Friendly Packaging ($n_m=3, n_f=4$)
Purchasing Local Products ($n_m=2, n_f=1$)
Purchasing Biodegradable Products ($n_m=1, n_f=2$)
Purchasing Cruelty-Free Products ($n_m=2, n_f=0$)
Purchasing Products from Eco-Friendly Brands ($n_m=1, n_f=1$)
Need-based Purchasing ($n_m=3, n_f=0$)
Purchasing Energy-Efficient Products ($n_m=0, n_f=1$)
Definitions Related to Product Disposal Process (nm=5, nf=5)
Not Disposing the Product in the Environment after Use ($n_m=4, n_f=4$)
Engaging in Recycling ($n_m=4, n_f=2$)
Uncategorized Definitions (nm=1, nf=0)
Purchasing Latest Model Products ($n_m=1, n_f=0$)
No Definitions Given for Environmentally Responsible Consumption (nm=0, nf=1)
Parents' Definitions of "Resource Conservation"
Definitions Based on Renewable Resources (nm=13, nf=10)
Water Conservation ($n_m=13, n_f=9$)
Conservation of Nature ($n_m=2, n_f=3$)
Definitions Based on Energy Resources (nm=5, nf=3)
Electrical Energy Conservation ($n_m=5, n_f=3$)
Definitions Based on Nonrenewable Resources (nm=1, nf=3)
Conservation of Fossil Fuels ($n_m=1, n_f=3$)
Uncategorized Definitions (nm=1, nf=0)
Conservation of Money ($n_m=1, n_f=0$)
Parents' Definitions of "Waste" and "Waste Management"
Definitions of Waste (nm=13, nf=10)
Unneeded/Non-Essential Materials ($n_m=7, n_f=4$)
Unrecyclable Materials ($n_m=4, n_f=1$)
Recyclable Materials ($n_m=2, n_f=2$)
Leftover Materials After Use ($n_m=1, n_f=2$)
Materials with a Long Biodegradation Time in Nature ($n_m=0, n_f=1$)
Definitions of Waste Management (nm=11, nf=9)
Waste Segregation and Recycling ($n_m=9, n_f=7$)
Waste Collection and Disposal ($n_m=3, n_f=1$)
Reducing Waste ($n_m=0, n_f=1$)
No Definitions Given for Waste Management (nm=2, nf=1)

Figure 7 Summary of The Findings Related to Parents' Definitions Regarding Private Sphere Environmentally Significant Behaviors

Parents' Definitions Regarding Public Sphere Environmentally Significant Behaviors
Parents' Definitions of "Nonactivist Behaviors in the Public Sphere"
Definitions Related to Collective Environmental Activities (n_m=12, n_f=10)
Garbage Collection Events (n _m =8, n _f =7)
Tree Planting Events (n _m =7, n _f =3)
Informative Events on Environment (n _m =1, n _f =2)
Events Organized by Environmental Organizations (n _m =0, n _f =1)
No Definitions Given for Nonactivist Behaviors in the Public Sphere (n_m=1, n_f=0)
Parents' Definitions of "Environmental Activism"
Definitions Related to Environmental Activists (n_m=13, n_f=10)
Individuals/Institutions with Environmental Knowledge and Sensitivity (n _m =6, n _f =7)
Individuals/Institutions Advocating for the Environment (n _m =8, n _f =3)
People Using Force to Protect the Environment (n _m =2, n _f =2)

Figure 8 *Summary of The Findings Related to Parents' Definitions Regarding Public Sphere Environmentally Significant Behaviors*

4.1.1. Parents' Definitions Regarding Private Sphere Environmentally Significant Behaviors

This section provides the definitions of environmentally responsible consumption, resource conservation, and waste/waste management as expressed by mothers and fathers who took part in the study.

4.1.1.1. Parents' Definitions of "Environmentally Responsible Consumers"

When the participants, 13 mothers and 10 fathers, were asked about the definition of "environmentally responsible consumers," 22 out of 23 participating parents provided a response that could be analyzed (n_m=13, n_f=9). Out of the 22 parents who provided definitions, 12 mothers and eight fathers gave definitions related to the product purchasing process. In other words, a total of 20 parents believe that environmentally responsible consumption is related to practices conducted during the product purchasing process. In addition, out of 22 parents who provided a definition, five mothers and five fathers also defined the term in relation to practices in product disposal (n_m=5, n_f=5). In simple terms, these total of 10 parents constructed the term based on how people behaved when disposing of products. One parent, specifically a mother, gave an irrelevant definition so that it could not be categorized (n_m=1, n_f=0). Moreover, one parent, specifically a father, did not provide any definition (n_m=0, n_f=1).

Table 7 Summary of the Definitions of Mothers and Fathers Regarding Environmentally Responsible Consumers

Theme	Categories	Codes	Mothers			Fathers			
			Participants	n	Percentage	Participants	n	Percentage	
Environmentally Responsible Consumption	Definitions Related to Product Purchasing Process	Purchasing Recyclable Products	M1,M6,M7,M8,M10	5	38%	F2,F6,F7,F9	4	40%	
		Purchasing Chemical-Free Products	M4,M6,M8,M12	4	31%	F1,F3,F9	3	30%	
		Purchasing Products with Environmentally Friendly Packaging	M7, M10,M13	3	23%	F3,F7,F8,F10	4	40%	
		Purchasing Local Products	M8, M12	2	15%	F9	1	10%	
		Purchasing Biodegradable Products	M5	1	8%	F3,F6	2	20%	
		Purchasing Cruelty-Free Products	M2,M5	2	15%		0	0%	
		Purchasing Products from Eco-Friendly Brands	M10	1	8%	F1	1	10%	
		Need-based Purchasing	M3,M9,M12	3	23%		0	0%	
		Purchasing Energy-Efficient Products		0	0%	F9	1	10%	
		Definitions Related to Product Disposal Process	Not Disposing the Product in the Environment after Use	M6,M8,M11,M13	4	31%	F1,F4,F5,F8	4	40%
			Engaging in Recycling	M2,M8,M11,M13	4	31%	F1,F6	2	20%
Uncategorized Definitions	Purchasing Latest Model Products	M3	1	8%		0	0%		
No Definition Given			0	0%	F4	1	10%		

4.1.1.1.1. Parents' Definitions of "Environmentally Responsible Consumers" Related to Product Purchasing Process

Among the participants in the current study, 12 out of 13 mothers and eight out of 10 fathers highlighted that in order to be an environmentally responsible consumer, individuals should perform some behaviors in their purchasing process, such as purchasing environmentally friendly products, or purchasing only for their needs. To begin with, five mothers, and four fathers emphasized that individuals who buy recyclable products can be defined as environmentally responsible consumers ($n_m=5$, $n_f=4$). As an example, one of the participating mothers who provided her definition of an environmentally responsible consumer based on purchasing recyclable products shared that *"If someone is an environmentally responsible consumer, s/he need to use certain products. In other words, these products should be recyclable, that's the first thing that comes to my mind. For example, I think of my child, they grow very fast. When we buy clothes, they can wear the clothes only for a season. So, it needs to be recyclable."* (M1). Four out of 13 mothers and three out of 10 fathers emphasized that environmentally responsible consumers are the ones who purchase chemical-free products ($n_m=4$, $n_f=3$), and one of the mothers elaborated on her definition in the following manner: *"Does the product contain natural ingredients rather than dangerous chemicals? If someone reads what is written on the back, the ingredients, and if someone pays attention to it, we can say that s/he is an environmentally responsible consumer."* (M6). Purchasing products with environmentally friendly packaging was another definition of environmentally responsible consumers, according to three out of 13 mothers and four out of 10 fathers ($n_m=3$, $n_f=4$). With regards to that, one of the participating fathers expressed that being an environmentally responsible consumer means *"avoiding products with one-time disposable packages"* (F10). Whereas two out of 13 mothers and one out of 10 fathers highlighted purchasing local products by stating that *"Purchasing "Made in Türkiye" written products, or instead of buying a coffee from a non-local coffee brand¹, buying the coffee from a local shop, or from farmers, in other words, instead of global brands, buying products from local brands can be a feature of an*

¹ A specific nonlocal coffee brand name was shared by the participant.

environmentally responsible consumer" (M8) ($n_m=2, n_f=1$), one out of 13 mothers and two out of 10 fathers focused on purchasing biodegradable products with one father mentioning *"Not purchasing or underutilizing materials that are difficult to biodegrade"* (F6) ($n_m=1, n_f=2$). Two out of 13 mothers defined the term by highlighting purchase of cruelty-free products, and one of them stated that *"A product's creation involves an experimental procedure; thus, it is essential to consider how much harm it causes to soil, plants, and animals. It merits consideration"* (M2) ($n_m=2, n_f=0$). Moreover, one out of 13 mothers and one out of 10 fathers also defined environmentally responsible consumers as consumers who know eco-friendly brands and prefer those brands by stating that *"for example, more environmentally friendly brands can be preferred rather than a company that pollutes the environment"* (F1) ($n_m=1, n_f=1$). Three out of 13 participating mothers described an environmentally responsible consumer as *"not buying too much of something, that is, more products than you need"* (M3) or *"people who consume as little as possible"* (M12) and highlighted making needs-based, and minimal purchases ($n_m=3, n_f=0$). Lastly, one of the fathers who took part in the study emphasized the importance of considering energy efficiency when purchasing electronic devices. He specifically defined the term as *"paying attention to energy efficiency when buying an electronic device"* (F9) ($n_m=0, n_f=1$).

When the responses of mothers and fathers are compared, it is possible to observe both similarities and differences in their definitions of 'environmentally conscious consumers' related to the purchasing process. Firstly, both groups of parents defined the concept by emphasizing the purchase of recyclable ($n_m=5, n_f=4$), chemical-free ($n_m=4, n_f=3$), local ($n_m=2, n_f=1$), and eco-friendly packaged ($n_m=3, n_f=4$) products. Moreover, similar number of mothers and fathers considered an environmentally responsible consumer as preferring eco-friendly brands. However, based on the findings of the current study, it was observed that mothers are more likely to define environmentally responsible consumers as individuals who purchase cruelty-free products as none of the fathers mentioned this aspect ($n_m=2, n_f=0$). Another important difference was that although some of the mothers in the study defined environmentally responsible consumers as making need-based, minimal purchases, none of the fathers in the current study mentioned that in their definitions ($n_m=3,$

$n_f=0$). It signals that mothers are more likely to define environmentally responsible consumers as individuals who make need-based, minimal purchases. On the other hand, fathers are more likely to define the term in relation to the purchase of products with energy efficiency since none of the mothers participating in the study did not give any definition related to purchasing energy-efficient products ($n_m=0$, $n_f=1$).

4.1.1.1.2. Parents' Definitions of "Environmentally Responsible Consumers" Related to Product Disposal Process

Among the participants in the current study, five out of 13 mothers and five out of 10 fathers defined the term environmentally responsible consumer with regards to specific practices that take place in the product disposal process. In other words, these 10 parents in total highlighted that to be environmentally responsible consumers, individuals should dispose of their products in an environmentally friendly way ($n_m=5$, $n_f=5$). Four out of 13 mothers and four out of 10 fathers emphasized that environmentally responsible consumers are individuals who do not dispose of waste products in the environment after use. In simpler terms, these eight parents emphasized that if someone does not litter, he can be an environmentally responsible consumer ($n_m=4$, $n_f=4$). In this manner, one of the participating mothers stated that "*environmentally responsible consumers are the ones who avoid littering the streets or throwing away plastic*" (M13). A father who had a similar opinion to M13 also expressed that environmentally responsible consumers are "*people who do not pollute the environment and have the necessary sensitivity in this regard*" (F8). Individuals who engage in recycling was another definition for environmentally responsible consumers offered by four of the 13 mothers, and two of the 10 fathers. ($n_m=4$, $n_f=2$), and they clarified their definition as "*when I think of an environmentally responsible consumer, I usually think of people who are engaging in recycling*" (M8) and "*environmentally responsible consumers are people who don't throw batteries and plastic in the same trash*" (F1). When examining the definitions provided by mothers and fathers concerning environmentally responsible consumers related to product disposal, it is possible to conclude that there are no differences between the two genders. Both mothers and fathers tend to view environmentally responsible consumers as individuals who do not dispose of waste products in the environment after their usage ($n_m=4$, $n_f=4$) and engage in recycling ($n_m=4$, $n_f=2$).

4.1.1.1.3. Uncategorized Definitions

Under this section, responses that were irrelevant to the given question were reviewed. Out of the total 23 participants, which included 13 mothers and 10 fathers, one mother provided an unrelated definition to environmentally responsible consumer by stating that “consumers who buy the most up-to-date, latest model of a product” (M3).

4.1.1.1.4. No Definition Given for “Environmentally Responsible Consumer”

Out of the total 23 participants, 13 mothers and 10 fathers, one father did not give a specific definition for the environmentally responsible consumer.

4.1.1.2. Parents' Definitions of "Resource Conservation"

When the 13 mothers, and 10 fathers who participated in the study were asked what resource conservation means to them, all were able to list different resources that should be conserved. Notably, all participants provided definitions of resource conservation that centered around renewable resources ($n_m=13$, $n_f=10$). There were also five mothers, and three fathers who gave a definition related to energy resources ($n_m=5$, $n_f=3$). Definitions related to non-renewable resources were also given by the one mother’s and three fathers’ responses ($n_m=1$, $n_f=3$). One mother, gave an irrelevant definition that could not be categorized ($n_m=1$, $n_f=0$). Table 8 summarizes the definitions provided by mothers and fathers in terms of resource conservation.

Table 8 Summary of the Definitions of Mothers and Fathers Regarding Resource Conservation

Categories	Codes	Mothers			Fathers			
		Participants	n	Percentage	Participants	n	Percentage	
Resource Conservation	Definitions Based on Renewable Resources	Water Conservation	M1,M2,M3,M4,M5, M6,M7,M8,M9,M10, M11,M12,M13	13	100%	F1,F2,F3,F4,F5, F7,F8,F9,F10	9	90%
		Conservation of Nature	M4,M10	2	15%	F5,F6,F7	3	30%
	Definitions Based on Energy Resources	Electrical Conservation	M1,M2,M8,M9,M13	5	38%	F2,F8,F10	3	30%
		Conservation of Fossil Fuels	M13	1	8%	F1,F3,F9	3	30%
Uncategorized Definitions	Conservation of Money	M12	1	8%		0	0%	

4.1.1.2.1. Parents' Definitions of "Resource Conservation" Based on Renewable Resources

Parents' definitions included two types of renewable resources. All the participating mothers, and nearly all the participating fathers stated that resource conservation is actually water conservation ($n_m=13$, $n_f=9$) by stating that "*What is directly on our agenda right now is water, especially water resources. It is the resource that needs to be protected the most intensely*" (F7) and "*I mean, I think water is our most important resource to conserve right now*" (M12). Another renewable resource mentioned in their definitions was nature ($n_m=2$, $n_f=3$), with five parents associating resource conservation with nature conservation. In this manner, one of the participating mothers stated that "*we always talk about the protection of trees and how much these trees as resources are needed for clean air, for nature, for our country, for the world*" (M10). A father also expressed a similar opinion that resource conservation is "*conservation of all of nature, with all its components*" (F7). When examining the definitions provided by mothers and fathers concerning resource conservation based on renewable resources, it is possible to conclude that there are no differences between two groups of parents. Both mothers and fathers tend to view resource conservation as conservation of water ($n_m=13$, $n_f=9$) and nature ($n_m=2$, $n_f=3$).

4.1.1.2.2. Parents' Definitions of "Resource Conservation" Based on Energy Resources

Five out of 13 mothers, and three out of 10 fathers defined resource conservation by referring to energy resources in their definitions ($n_m=5$, $n_f=3$). In simpler terms, these parents perceive resource conservation as the protection of energy resources. Among different energy resources, electrical energy was the one only mentioned by these eight parents. In other words, none of the energy types rather than electricity were not mentioned by the participants. Instead, they emphasized that resource conservation involves the conservation of electrical energy ($n_m=5$, $n_f=3$). One of the mothers, namely M2, shared her resource conservation definition in the following manner:

Conserving energy. We need to deal with electricity not with nuclear power, but with wind, which is more sustainable and more natural. (M2)

Upon examining the definitions given by both mothers and fathers regarding resource conservation focused on energy resources, it can be concluded that there are no notable differences between genders. Both mothers and fathers share the perspective that resource conservation includes the conservation of electrical energy ($n_m=5$, $n_f=3$).

4.1.1.2.3. Parents' Definitions of "Resource Conservation" Based on Non-Renewable Resources

One out of 13 mothers, and three out of 10 fathers addressed conservation of non-renewable resources when they were asked about the definition of resource conservation. These parents reported that resource conservation involves conservation of fossil fuels particularly natural gases, and oil ($n_m=1$, $n_f=3$). Regarding conservation of fossil fuels as a definition of resource conservation, F1 expressed the following.

The conservation of natural gas comes to my mind. It is a problem at the moment, you know, the gradual increase in prices, the problem in providing it. (F1)

According to the findings of the present study, when comparing the responses of mothers and fathers, it was evident that they mentioned conservation of fossil fuels in their definition of resource conservation. However, the proportion of fathers was higher than that of mothers ($n_m=1$, $n_f=3$). It indicated that in the current study, fathers are more prone to define resource conservation as the conservation of fossil fuels.

4.1.1.2.4. Uncategorized Definitions

Under this section, responses that were irrelevant to the given question were reviewed. Out of the total 23 participants, which included 13 mothers and 10 fathers,

only one mother provided an unrelated definition to resource conservation by stating that “*It could be conservation of money. Money is also a resource, it is important to use it appropriately*” (M12).

4.1.1.3. Parents' Definitions of "Waste" and “Waste Management”

To better understand the definitions of parents regarding waste management, their “waste” definitions were also obtained. Once the participants had provided their definitions of waste, they were then asked about their opinions on what waste management means. Below, there is a table that summarizes the definitions of waste, and waste management provided by both mothers and fathers.

Table 9 *Summary of the Definitions of Mothers and Fathers Regarding Waste and Waste Management*

Theme	Categories	Codes	Mothers		Fathers			
			Participants	n Percentage	Participants	n Percentage		
Waste Management	Definitions of Waste	Unneeded/Non-Essential Materials	M2,M5,M7,M8, M9,M12,M13	7	54%	F1,F2,F7,F8	4	40%
		Unrecyclable Materials	M1,M3,M4,M6	4	31%	F2	1	10%
		Recyclable Materials	M10,M11	2	15%	F4,F5	2	20%
	Definitions of Waste Management	Leftover Materials After Use	M7	1	8%	F3,F6	2	20%
		Materials with a Long Biodegradation Time in Nature		0	0%	F10	1	10%
		Waste Segregation and Recycling	M1,M4,M5,M7, M8,M9,M10,M	9	69%	F1,F2,F3,F5, F6,F7,F9	7	70%
		Waste Collection and Disposal	M2,M3,M12	3	23%	F8	1	10%
	No Definition Given	Reducing Waste		0	0%	F10	1	10%
			M6,M11	2	15%	F4	1	10%

4.1.1.3.1. Parents' Definitions of "Waste"

When participating mothers and fathers were asked about what waste means to them, all participants provided responses that can be analyzed and categorized ($n_m=13$, $n_f=10$). Seven mothers, and four fathers stated that waste is materials that are

unneded/non-essential ($n_m=7$, $n_f=4$). According to these parents, a material is considered waste when it is no longer needed by them. Regarding waste as a unneded/non-essential material, one of the mothers expressed that "*I mean, I can say that anything that is no longer needed by me is waste for me, in the simplest terms.*" (M12). Moreover, four out of 13 mothers, and one out of 10 fathers defined waste as materials that are not recyclable. To support their idea of waste as materials that cannot be recycled, one of the fathers shared that "*I define waste as the final form of a substance or a product to the point where it can no longer be recycled.*" (F2). There were also another group of parents who defined waste as materials that are recyclable ($n_m=2$, $n_f=4$), on the other hand. M11 and F4, who supported the idea of waste as a recyclable material stated that waste is "*materials that we can recycle*" (F4) and "*things that can be recycled such as shopping bags and glass*" (M11). Left-over materials were another definition given by one out of nine mothers and two out of nine fathers regarding waste ($n_m=1$, $n_f=2$), and one of the fathers defined the waste by stating that "*materials that arise after consumption are considered waste. For instance, when you purchase food, it often comes with packaging. Once you have used the product, the packaging remains, becoming waste*" (F3). Lastly, one father who defined waste as materials with a long biodegradation time in nature, whereas none of the mothers defined the term in this way ($n_m=0$, $n_f=1$). He expressed his idea as follows: "*if it does not disappear in nature in a short time and causes harm, it is waste*" (F10).

When examining the detailed definitions of waste provided by parents, it is possible to identify certain similarities and differences. Firstly, both mothers and fathers in the present study regarded waste as materials that are unnecessary or non-essential ($n_m=7$, $n_f=4$), and capable of being recycled ($n_m=2$, $n_f=2$). It is also found that both mothers and fathers mentioned left-over materials in their definitions, however, a larger proportion of fathers in the study defined waste as leftover materials, referring to the remaining components of products after use ($n_m=1$, $n_f=2$). Additionally, while only one father defined waste as materials with a lengthy biodegradation time in nature, none of the mothers included this aspect in their definitions ($n_m=0$, $n_f=1$). On the other hand, the proportion of mothers defining waste as unrecyclable material was higher than fathers ($n_m=4$, $n_f=1$).

4.1.1.3.2. Parents' Definitions of "Waste Management"

When study participants were asked what waste management is, 11 out of 13 mothers, and nine out of 10 fathers provided responses that can be analyzed ($n_m=11$, $n_f=9$). Among those 11 mothers, and nine fathers, nine mothers and seven fathers defined waste management as waste segregation and recycling ($n_m=9$, $n_f=7$). These parents believe that waste management involves segregation of waste, and recycling of waste, and they supported their idea by stating that waste management is “*grouping of wastes according to certain characteristics*” (M1), “*separating waste into recyclable and non-recyclable*” (F6) and “*recycling comes to mind when I think of waste management*” (F9). Waste collection and disposal were another waste management definition provided by three of the mothers, and one of the fathers ($n_m=3$, $n_f=1$). Regarding waste management as waste collection and disposal F8 expressed that “*when I think about waste management, areas where garbage is taken for disposal comes to my mind*” (F8). M3, who has similar opinions to F8 regarding waste management also reported that “*waste collection comes to mind*” (M3). Finally, among the 10 fathers interviewed, only one father defined waste management as the act of reducing waste. In contrast, none of the mothers mentioned this aspect in their definitions ($n_m=0$, $n_f=1$). This particular father, referred to as F10, expressed the belief that any efforts to produce less waste also contribute to waste management, stating that “*producing less waste can be waste management*” (F10).

When mothers’ and fathers’ definitions regarding waste management are compared, it is possible to uncover some similarities and differences. Firstly, similar numbers of mothers and fathers in the current study defined waste management as waste segregation, and recycling ($n_m=9$, $n_f=7$). On the other hand, in the current study, mothers were more likely to include waste collection and disposal in the definition of waste management when compared with the participating fathers ($n_m=3$, $n_f=1$). However, one father specifically emphasized the reduction of waste while providing a definition of waste management, whereas none of the mothers did so ($n_m=0$, $n_f=1$).

4.1.1.3.2.1. No Definitions Given for "Waste Management"

Under this section, responses that did not provide a clear definition for the term were reviewed. Two out of 13 mothers, and one of the 10 fathers were unable to provide a

definition of the term "waste management," stating that they did not know its meaning ($n_m=2$, $n_f=1$). A similar proportion of mothers and fathers were unable to provide a definition of waste, suggesting that there is no difference between the two groups in this regard.

4.1.2. Parents' Definitions Regarding Public Sphere Environmentally Significant Behaviors

This section provides the definitions of nonactivist behaviors in the public sphere, and environmental activism as expressed by mothers and fathers who took part in the study.

4.1.2.1. Parents' Definitions of "Nonactivist Behaviors in the Public Sphere"

When participating parents were asked what nonactivist behaviors are performed in the public sphere, 12 out of 13, and 10 out of 10 fathers gave a response that could be analyzed ($n_m=12$, $n_f=10$). Specifically, 12 mothers and 10 fathers defined nonactivist behaviors in the public sphere as various collective environmental activities. Table 10 summarizes the definitions of nonactivist behaviors in the public sphere provided by both mothers and fathers.

Table 10 Summary of the Definitions of Mothers and Fathers Regarding Nonactivist Behaviors in the Public Sphere

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participan	n	Percentage
Nonactivist Behaviors in the Public Sphere	Definitions Related to Collective Environmental Activities	Garbage Collection	M1,M3,M5, M6,M8,M10,			F1,F3,F5, F6,F7,F9,		
		Events	M11,M12	8	62%	F10	7	70%
	Informative Events on Environment	Tree Planting	M1,M3,M7, M8,M9,M10,					
		Events	M13	7	54%	F1,F8,F10	3	30%
	No Definition Given	Environment	M2	1	8%	F2,F4,F9	3	30%
			M4	1	8%		0	0%

4.1.2.1.1. Definitions Related to Collective Environmental Activities

Garbage collection events were the most commonly mentioned definition, with eight out of 12 mothers and seven out of 10 fathers referring to them ($n_m=8$, $n_f=7$). These total of 15 parents viewed participating in garbage collection events as nonactivist behaviors in the public sphere. One of the fathers who defined nonactivist behaviors in the public sphere as garbage collection events mentioned that “*it may be the activities designed to clean up the environment, for example the seas. Or, it may be the activities to clean the coasts*” (F1). A mother who has a similar opinion with F1 added that “*it may be the garbage collection activities in the forest*” (M10). Tree planting events were another activity mentioned by parents when describing nonactivist behaviors in the public sphere, with seven out of 12 mothers and three out of 10 fathers referring to them ($n_m=7$, $n_f=3$). Among those parents, M7 stated, “*it may be a collective tree planting activity*” (M7), while F8 mentioned “*I think of planting a tree with other people*” (F8). Additionally, one of the 13 mothers and three of 10 fathers stated that nonactivist behaviors in the public sphere can involve informative events on the environment ($n_m=1$, $n_f=3$). In this regard, one of the mothers stated that “*it may be the seminars organized by non-governmental organizations to make people more aware*” (M2), whereas another father expressed that “*for example, events where people are told collectively how certain things can be done, what recycling is like, both theoretically and in practice*” (F9).

When mothers’ and fathers’ answers regarding the definition of nonactivist behaviors in the public sphere are investigated, it can be concluded that both groups have similar opinions regarding the meaning of the term. Similarly, parents defined nonactivist behaviors in the public sphere by referring to garbage collection ($n_m=8$, $n_f=7$) and tree-planting ($n_m=7$, $n_f=3$) events. Although mothers and fathers mentioned informative events on the environment in their definitions, the fathers’ numbers were higher ($n_m=1$, $n_f=3$). This signals that fathers participating in the current study were more likely to involve informative events on environment in their descriptions of nonactivist behaviors in the public sphere.

4.1.2.1.2. No Definitions Given for "Nonactivist Behaviors in the Public Sphere"

Under this section, responses that did not provide a clear definition for the term were reviewed. Only one mother, out of 13 mothers, could not define nonactivist behaviors in the public sphere, stating that she did not know its meaning ($n_m=1$, $n_f=0$). All fathers defined the term; none of them left it undefined, which signals a slight difference between mothers and fathers in terms of the definition of the term nonactivist behaviors in the public sphere.

4.1.2.2. Parents' Definitions of "Environmental Activists"

When participating parents were asked about what could be considered environmental activists, all the mothers and fathers provided responses that could be analyzed ($n_m=13$, $n_f=10$). Table 11 summarizes the definitions of environmental activists provided by both mothers and fathers.

Table 11 *Summary of the Definitions of Mothers and Fathers Regarding Environmental Activists*

Theme	Categories	Codes	Mothers		Fathers			
			Participants	n Percentage	Participants	n Percentage		
Environmental Activism	Definitions Related to Environmental Activists	Individuals/Institutions with Environmental Knowledge and Sensitivity	M2,M6,M9, M10,M11,M13	6	46%	F1,F2,F4,F5,F6,F8,F9	7	70%
		Individuals/Institutions Advocating for the Environment	M1,M3,M5, M7,M8,M10, M12,M13	8	62%	F1,F2,F7	3	30%
		People Using Force to Protect the Environment	M4,M7	2	15%	F3,F10	2	20%

Six of the 13 mothers, and seven of the 10 fathers reported that environmental activists are individuals/institutions with environmental knowledge and sensitivity ($n_m=6$, $n_f=7$). These parents emphasized in their definitions that environmental activists are people or individuals who are sensitive to the environment, have environmental knowledge, and spread this sensitivity and expertise to others. With regards to this, M6 and F6 reported the following statements; an environmental

activist is “*a person who is sensitive to the environment and will sensitize the people around him/her*” (M6), and “*I think of people, organizations, and institutions that inform and raise awareness*” (F6). Another definition given for environmental activists was individuals or institutions who advocate for the environment ($n_m=8$, $n_f=3$). In other words, eight of 13 mothers and three of 10 fathers believe that environmental activists advocate for the environment with different strategies, stand up on environmental issues and raise awareness about environmental issues. “*A person who prioritizes the environment, who stands up for the environment*” (F1) and “*a group of people marching to protect the environment, trying to make their voices heard on this issue*” (M13) were definitions given by a mother and father with regards to environmental advocacy. Lastly, there were two mothers, and two fathers who emphasized use of force in their environmental activist definitions ($n_m=6$, $n_f=7$). According to these two out of 13 mothers and two out of 10 fathers, environmental activists utilize force to protect the environment. Regarding this, M4 and F3 shared the following explanations: “*people who fulfill their wishes by shouting*” (M4), and “*people who resort to violence when they cannot get their rights*” (F3).

When mothers’ and fathers’ responses to definitions of environmental activists were analyzed, it can be concluded that there are similar responses between the two groups. Both define environmental activists as individuals or institutions with environmental knowledge and sensitivity ($n_m=6$, $n_f=7$) and people who use force to protect the environment ($n_m=2$, $n_f=2$). Both groups also mentioned individuals/institutions advocating for the environment as environmental activists; however, more mothers than fathers mentioned this aspect in their definitions ($n_m=8$, $n_f=3$). This indicates that in the current study, mothers were more likely than fathers to view environmental activists as individuals/institutions advocating for the environment.

4.2. Private and Public Sphere Environmentally Significant Behaviors That Mothers and Fathers Perform

In this section, various forms of private (environmentally responsible consumption, resource conservation, waste management) and public (nonactivist behaviors in the

public sphere, environmental activism) sphere environmentally significant behaviors of parents, which were conducted individually and with their children, were analyzed.

4.2.1. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually

Parents were initially questioned about different types of environmentally significant behaviors they perform individually. The outcomes for each category of parents' environmentally significant behaviors are listed in this section. Below, there is a figure summarizing the private and public sphere environmentally significant behaviors that parents perform individually. The findings are presented in the same order as depicted in the Figure 9 and Figure 10.

4.2.1.1. Private Sphere Environmentally Significant Behaviors That Parents Perform Individually

4.2.1.1.1. Environmentally Responsible Consumption Behaviors Performed by Parents Individually

When participating parents were asked what behaviors they individually engage in to be environmentally responsible consumers, two categories of behaviors emerged. Firstly, all 13 mothers and seven of the 10 fathers reported purchasing different kinds of eco-friendly products to be environmentally responsible consumers ($n_m=13$, $n_f=7$). These parents listed different eco-friendly products that they pay attention to when shopping.

The second type of behavior mentioned by participants, engaged in by 11 out of 13 mothers and seven out of 10 fathers, was targeting minimalist consumption ($n_m=11$, $n_f=7$). These parents reported that they try to purchase as little as possible.

Table 12 summarizes the environmentally responsible consumption behaviors performed by parents individually with details.

Private Sphere Environmentally Significant Behaviors That Parents Performed Individually
Environmentally Responsible Consumption Behaviors Performed by Parents Individually
Behaviors Targeting Purchase of Eco-Friendly Products (nm=13, nf=7)
Purchasing Chemical-Free Products ($n_m=10, n_f=3$)
Purchasing Long-Lasting Products ($n_m=5, n_f=5$)
Purchasing Cruelty-Free Products ($n_m=6, n_f=2$)
Purchasing Products with Eco-Friendly Packaging ($n_m=7, n_f=1$)
Purchasing Energy-Efficient Products ($n_m=3, n_f=4$)
Purchasing Second-Hand Products ($n_m=3, n_f=2$)
Purchasing Local Products ($n_m=4, n_f=1$)
Purchasing Recycled Products ($n_m=2, n_f=0$)
Behaviors Targeting Minimalist Consumption (nm=11, nf=7)
Need-Based Purchasing ($n_m=11, n_f=7$)
Resource Conservation Behaviors Performed by Parents Individually
Behaviors Targeting Conservation of Renewable Resources (nm=13, nf=10)
Water Conservation ($n_m=13, n_f=9$)
Conservation of Plants and Animals ($n_m=12, n_f=9$)
Prevention of Environmental Pollution ($n_m=12, n_f=8$)
Behaviors Targeting Conservation of Nonrenewable Resources (nm=8 nf=6)
Fossil Fuel Conservation ($n_m=8, n_f=6$)
Behaviors Targeting Conservation of Energy (nm=13 nf=9)
Conservation of Electrical Energy ($n_m=13, n_f=9$)
Waste Management Behaviors Performed by Parents Individually
Behaviors Targeting Reduce of Waste (nm=12 nf=9)
Reducing the Use of Disposable Materials ($n_m=8, n_f=7$)
Long-term Use of Materials ($n_m=8, n_f=6$)
Cooking for Portions ($n_m=4, n_f=4$)
Utilizing Technology to Reduce Waste ($n_m=3, n_f=3$)
Behaviors Targeting Reuse of Waste (nm=13 nf=9)
Donation ($n_m=13, n_f=10$)
Reusing Waste for Same/Different Purposes ($n_m=13, n_f=10$)
Repairing ($n_m=10, n_f=8$)
Utilizing Deposit-Refund Systems ($n_m=5, n_f=3$)
Behaviors Targeting Recycle of Waste (nm=9 nf=4)
Segregating Waste ($n_m=9, n_f=3$)
Making Compost ($n_m=3, n_f=1$)

Figure 9 Summary of the findings related to private sphere environmentally significant behaviors that parents perform individually

Figure 9 presents the all the codes revealed when participants were asked regarding their private sphere environmentally significant behaviors performed individually, whereas Figure 10 presents all the codes revealed when participants were asked public sphere environmentally significant behaviors performed individually. The findings are presented in the same order as depicted in the Figure 9 and Figure 10.

Public Sphere Environmentally Significant Behaviors That Parents Performed Individually
Parents' Nonactivist Behaviors in the Public Sphere Performed Individually
Behaviors Related to Participating in Environmental Collective Activities (n_m=9 n_f=7)
Participating in Volunteer Activities Organized to Protect the Environment (n _m =8, n _f =6)
Participating in Informative Activities on Environment (n _m =7, n _f =2)
Being A Member of Environmental Organizations (n _m =3, n _f =1)
Behaviors Exhibited When Confronted with Environmental Challenges (n_m=5 n_f=2)
Communicating with Authorities on Environmental Issues (n _m =4, n _f =3)
Participating in Petitions Organized on Environmental Problems (n _m =2, n _f =0)
Environmental Activism Behaviors Performed by Parents Individually
Behaviors Related to Environmental Protests (n_m=3 n_f=1)
Attending Environmental Protests (n _m =3, n _f =1)

Figure 10 Summary of the findings related to public sphere environmentally significant behaviors that parents perform individually

4.2.1.1.1.1. Parents' Behaviors Targeting Purchase of Eco-Friendly Products

When mothers' and fathers' behaviors targeting purchase of eco-friendly products were analyzed, it is found that total of 13 mothers and 10 fathers participated in the current study reported that they pay attention to buy chemical-free (n_m=10, n_f=3), long-lasting (n_m=5, n_f=5), cruelty-free (n_m=6, n_f=2), eco-friendly packaged (n_m=7, n_f=1), energy-efficient (n_m=3, n_f=4), second-hand (n_m=3, n_f=2), local (n_m=4, n_f=1) and recycled (n_m=2, n_f=0) products.

Ten mothers, and three fathers reported that they purchase chemical-free products (n_m=10, n_f=3). These parents claimed that they pay attention to purchasing chemical-free products when shopping for various items, including food, clothing, furniture, or toys. In this regard, M13 stated that *"I mean, I pay attention to buy clothes made from cotton, I try to buy organic ones, I try not to buy too much synthetic stuff, I always look at the content"* (M13). Moreover, five out of 13 mothers and five out of 10 fathers expressed that they try to purchase items that can be used for a long time, in order words, long-lasting products (n_m=5, n_f=5). To exemplify those products, M5 expressed that *"I avoid buying things that will become waste immediately and generate plastic waste. I mean, I always prefer reusable items like glass straws instead of plastic ones"* (M5) whereas F8 mentioned that *"I bought rechargeable batteries, and I charged them to use that battery again in order to avoid waste"* (F8).

Table 12 Summary of the environmentally responsible consumption behaviors performed by mothers and fathers individually

Categories	Codes	Mothers			Fathers				
		Participants	n	Percentage	Participants	n	Percentage		
Environmentally Responsible Consumption	Behaviors Targeting Purchase of Eco-Friendly Products	Purchasing Chemical-Free Products	M2,M4,M5,M6,M7,M8,M9,M10,M12,M13	10	77%	F1,F3,F6	3	30%	
		Purchasing Long-Lasting Products	M1,M5,M7,M9,M12	5	38%	F1,F2,F3,F8,F9	5	50%	
		Purchasing Cruelty-Free Products	M1,M2,M5,M9,M11,M13	6	46%	F3,F10	2	20%	
		Purchasing Products with Eco-Friendly Packaging	M1,M3,M7,M8,M9,M10,M12	7	54%	F9	1	10%	
		Purchasing Energy-Efficient Products	M1,M2,M9	3	23%	F1,F2,F3,F10	4	40%	
		Purchasing Second-Hand Products	M2,M8,M12	3	23%	F2,F9	2	20%	
		Purchasing Local Products	M8,M9,M10,M12	4	31%	F6	1	10%	
		Purchasing Recycled Products	M10,M12	2	15%		0	0%	
		Behaviors Targeting Minimalist Consumption	Need-Based Purchasing	M1,M2,M3,M4,M5,M7,M8,M9,M11,M12,M13	13	85%	F1,F2,F3,F4,F8,F9,F10	7	70%

Another eco-friendly product that parents pay attention to purchase was cruelty-free products ($n_m=6$, $n_f=2$). These parents reported that, particularly when it comes to cosmetics, they prefer products that are not tested on animals and do not cause any harm to animals. Regarding cruelty-free products, "*when I shop for cosmetics, the most important factor to me is to purchase products that haven't been subjected to animal testing*" was a statement provided by M9. Seven out of 13 mothers, and one out of 10 fathers also claimed that they purchase products with eco-friendly packages ($n_m=7$, $n_f=1$). In other words, these parents, especially when it comes to food shopping, prefer products that are either unpackaged or packaged in recyclable materials. F9 shared his opinion regarding purchase of eco-friendly packaged products in the following manner: "*When buying something, especially in terms of packaging, I try not to prefer products packaged unnecessarily, garishly, heavily dyed, or more than necessary, paper or plastic*" (F9). M1, who also performs similar behaviors to F9, reported that "*for example, when I buy milk, I prefer glass bottles because I know that glass bottles can be recycled*" (M1). Purchasing energy-efficient products was another behavior performed by three of the mothers, and four of the fathers ($n_m=3$, $n_f=4$). M9 and F3, who are among those parents purchase energy-efficient products, and expressed their behaviors as follows: "*we did not turn on the light at night until our son was afraid of the dark, but now he has such a fear, but we found a solution by purchasing a light bulb that saves much energy*" (M9), and "*for example, when purchasing white goods, we preferred more energy-efficient ones with labels like A++*" (F3). Three out of 13 mothers, and two out of 10 fathers claimed that they purchase second-hand products ($n_m=3$, $n_f=2$). All five of these parents emphasized that they utilize second-hand shopping platforms to purchase various second-hand items. One of the fathers expressed, "*we sold some of our furniture. We also bought second-hand furniture for ourselves*" (F2) highlighting his experience of purchasing second-hand products. Purchasing local products was another performed behavior of both mothers and fathers ($n_m=4$, $n_f=1$). Four of the mothers and one of the fathers reported that they try to purchase products from local manufacturers. While exemplifying her behavior, M9 expressed that "*we prefer to get food locally, for instance, we make an effort to purchase the most well-known natural products from Antep*" (M9). Lastly, two of the mothers out of 13 stated that they pay attention to purchase recycled products ($n_m=2$, $n_f=0$). As these parents

believe that using recycled products is an encouragement for recycling, given the tangible results they observe, they prefer such products. They gift them to others to encourage them. In this manner, M12 shared her experience in the following way: “for instance, a brand² offers products made from recycled glass. Only in that brand² I find this kind of series. I buy those and give them as gifts to my friends, introducing the recycled series to them as well” (M12).

When mothers’ and fathers’ environmentally responsible consumption behaviors targeting purchasing eco-friendly products are investigated, it is found that both mothers and fathers have similar behaviors in this manner. Both groups of parents reported that they perform behaviors such as purchasing chemical-free ($n_m=10$, $n_f=3$), long-lasting ($n_m=5$, $n_f=5$), cruelty-free ($n_m=6$, $n_f=2$), eco-friendly packaged ($n_m=7$, $n_f=1$), energy-efficient ($n_m=3$, $n_f=4$), second-hand ($n_m=3$, $n_f=2$), and local ($n_m=4$, $n_f=1$) products. On the other hand, the behavior of purchasing recycled products was not mentioned by any fathers in the current study, whereas it was reported by two mothers ($n_m=2$, $n_f=0$). It was also notable that the proportion of mothers who performed behaviors targeting purchasing chemical-free, cruelty-free, eco-friendly packaged and local products was higher compared to fathers, which signals that in the current study, mothers were more likely to perform such environmentally responsible consumption behaviors.

4.2.1.1.1.2. Parents’ Behaviors Targeting Minimalist Consumption

In addition to purchasing eco-friendly products, some parents also reported making efforts to consume in a minimalistic manner by making need-based purchases ($n_m=11$, $n_f=7$). More specifically, these parents expressed that when they go shopping, they try to stick to buying what they need to avoid consuming too much. Regarding this issue, M8 and F2 expressed their ideas in the following manner.

When it comes to consuming stuff, I stop and ask myself: "Do I really need this?" If I do, then I make an effort to purchase it (M8).

² The participant shared the name of a specific home product store.

We purchase according to our needs. We're making a list of everything we need beforehand, and we'll stick to that when we go shopping (F2).

When mothers' and fathers' responses regarding minimalist consumption are compared, it is possible to conclude that there are no notable differences between the two groups of parents. According to their self-reports, both mothers, and fathers make need-based purchases.

4.2.1.1.2. Resource Conservation Behaviors Performed by Parents Individually

When mothers and fathers who participated in the current study were asked about their resource conservation behaviors, they reported that they perform some behaviors targeting the protection of renewable ($n_m=13$, $n_f=10$), nonrenewable ($n_m=8$, $n_f=6$), and energy ($n_m=13$, $n_f=9$) resources.

Table 13 summarizes the resource conservation behaviors performed by parents individually in detail.

4.2.1.1.2.1. Behaviors Targeting Conservation of Renewable Resources

All mothers and fathers participated in the current study expressed that they conserve different kinds of renewable resources ($n_m=13$, $n_f=10$). More specifically, parents engage in various behaviors to conserve water ($n_m=13$, $n_f=9$), protect animals and plants ($n_m=12$, $n_f=9$), and prevent environmental pollution ($n_m=12$, $n_f=8$).

According to their responses, all 13 mothers and nine out of 10 fathers conserve water individually ($n_m=13$, $n_f=9$). These parents reported engaging in a variety of behaviors to conserve water, including practicing water conservation in personal or domestic hygiene, reusing wastewater, and protecting natural water resources. Regarding their self-reported behaviors targeting conservation of water conducted individually, mothers and fathers share different experiences. Below, there are some examples provided by participated mothers and fathers on conserving water on their own in different contexts.

Table 13 Summary of the resource conservation behaviors performed by mothers and fathers individually

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Resource Conservation	Behaviors Targeting Conservation of Renewable Resources	Water Conservation	M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13	13	100%	F1,F2,F3,F5,F6,F7,F8,F9,F10	9	90%
	Behaviors Targeting Conservation of Renewable Resources	Conservation of Plants and Animals	M1,M2,M3,M5,M6,M7,M8,M9,M10,M11,M12,M13	12	92%	F1,F2,F3,F4,F6,F7,F8,F9,F10	9	90%
		Prevention of Environmental Pollution	M1,M2,M3,M4,M5,M6,M7,M8,M10,M11,M12,M13	12	92%	F1,F2,F4,F5,F7,F8,F9,F10	8	80%
	Behaviors Targeting Conservation of Nonrenewable Resources	Fossil Fuel Conservation	M4,M5,M7,M8,M9,M10,M11,M12	8	62%	F1,F3,F5,F8,F9,F10	6	60%
	Behaviors Targeting Conservation of Energy	Conservation of Electrical Energy	M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13	13	100%	F1,F2,F3,F4,F5,F6,F7,F9,F10	9	90%

It really bothers me that the water is flowing too much while washing hands-face and brushing my teeth. I have an inner motivation about it. I pay attention to this. (M1)

So basically, when we wash our greens, we save the water and use it for watering the flowers instead of wasting clean water. (M8)

While using the dishwasher, I try to fill the dishwasher properly, and I try to choose the eco-programs of the dishwasher. (F9)

For example, we store the waste oils in packages correctly, and we do not pour them out of the sink. We do not throw napkins and similar things into the toilet that would be hard to go. (M10)

We do not leave any garbage around when we are by the lake or the sea. (F10)

Conservation of plants and animals was another behavior performed by parents individually ($n_m=12$, $n_f=9$). In general, 12 out of 13 mothers and nine out of 10 fathers expressed that to conserve different animal and plant species, they are respecting plants and animals, helping them, and engaging in planting activities to foster plant growth. Regarding this issue, M5 stated that “*we love animals very much; we have a cat and a dog in our house. Whenever we're out, we think about what we can do for them, how to provide a better environment for animals, and we build a hut*” (M5), whereas a father who has similar behaviors expressed that “*just two days ago, a black fly had come to the house. It was quite numb, but instead of killing it, I still took it with a napkin and threw it out*” (F9). For the conservation of renewable resources, the last type of behavior mentioned by 12 of the mothers and eight of the fathers was prevention of environmental pollution by not littering ($n_m=12$, $n_f=8$). “*Whenever I'm outside, I actively search for trash cans along the streets. If I can't find one, I collect my garbage in my pocket. Sometimes, my car ends up being filled with garbage*” (M4) and “*not throwing garbage is the main motivation. I do not throw garbage. In any way, any unnatural product left by us should not stay there, because it causes pollution in various forms*” (F9) were explanations shared by some of the parents regarding their behaviors targeting prevention of environmental pollution.

When mothers' and fathers' renewable resource conservation behaviors are compared, it can be concluded that there are similar responses between the two groups. Both mothers and fathers in the current study mentioned conservation of water ($n_m=13$, $n_f=9$), animals-plants ($n_m=12$, $n_f=9$), and prevention of environmental pollution ($n_m=12$, $n_f=8$).

4.2.1.1.2.2. Behaviors Targeting Conservation of Non-Renewable Resources

Eight out of 13 mothers, and six of the 10 fathers reported that they are performing behaviors targeting conservation of non-renewable resources ($n_m=8$, $n_f=6$). These parents reported that they conserve fossil fuels, especially natural gas, and oil, by preferring eco-friendly modes of transportation and efficient use of natural gas in their homes. Regarding their behaviors targeting the conservation of fossil fuels, F5 shared that *"I switch off the gas when the weather is nice outside and turn it back on when it gets very chilly"* (F5), whereas M12 added that *"if I'm not going out with my child, I use public transportation to fulfill all of my needs throughout the week"* (M12).

Both mothers and fathers in the current study reported that they perform some behaviors targeting the conservation of fossil fuels. Their responses were similar in this manner.

4.2.1.1.2.3. Behaviors Targeting Conservation of Energy

Another resource protected by parents in the current study was energy resources ($n_m=13$, $n_f=9$). Among different energy resources, both mothers and fathers in the current study only mentioned that they perform behaviors targeting electrical energy conservation ($n_m=13$, $n_f=9$). All the mothers and nine out of ten fathers reported that they either turn off the lights when they are not needed, turn off electrical devices, or avoid using electrical devices when given the opportunity. Regarding their behaviors targeting conservation of electrical energy, different experiences were shared by the participants. Different experiences expressed by participants are reported below.

To be honest, it feels awkward to have lights on when no one's around in the room. So, I usually stand up and switch them off (F10)

As an instance, the dryer would be really helpful for me in my busy schedule, but we are still reluctant to use it. Instead, we opt for hanging our clothes to dry, as we have enough space at home. We attempt to be sensible when it comes to electricity usage (M9).

When the behaviors of mothers and fathers are compared, it is seen that both groups of parents reported that they conserve electrical energy, and also with similar methods.

4.2.1.1.3. Waste Management Behaviors Performed by Parents Individually

According to the responses of mothers and fathers who participated in the current study, they perform behaviors targeting reducing ($n_m=12$, $n_f=9$), reusing ($n_m=13$, $n_f=10$), and recycling ($n_m=9$, $n_f=4$) waste related to waste management.

Table 14 summarizes the waste management behaviors performed by parents individually in detail.

4.2.1.1.3.1. Behaviors Targeting Reduce of Waste

In terms of ways to reduce waste, 12 out of 13 mothers, and nine out of 10 fathers reported that they engage in various behaviors in an effort to do so. When those parents' responses were analyzed, it was revealed that they generally engage in four different behaviors, all targeting reduction of waste they produce; reducing the use of disposable materials ($n_m=8$, $n_f=7$), long-term use of materials ($n_m=8$, $n_f=6$), cooking for portions ($n_m=4$, $n_f=4$), and utilizing technology to reduce waste ($n_m=3$, $n_f=3$).

Eight out of 13 mothers, and seven out of 10 fathers stated that they avoid using disposable materials in their daily lives ($n_m=8$, $n_f=7$), in this way, they have made critical attempts to reduce the waste they produce. In other words, these parents do not prefer to use one-time usage materials, which have a significant positive impact on reducing their waste generation.

Table 14 Summary of the waste management behaviors performed by mothers and fathers individually

Theme	Categories	Codes	Mothers		Fathers	
			Participants	n Percentage	Participants	n Percentage
Waste Management	Behaviors Targeting Reduce of Waste	Reducing the Use of Disposable Materials	M2,M3,M4,M7,M8,M9,M10,M12	8 62%	F1,F3,F4,F5,F6,F7,F9	7 70%
		Long-term Use of Materials	M13	8 62%	F1,F3,F4,F6,F9,F10	6 60%
		Cooking for Portions	M7,M9,M11,M12	4 31%	F4,F7,F8,F9	4 40%
		Utilizing Technology to Reduce Waste	M1,M6,M10	3 23%	F3,F7,F10	3 30%
		Donation	M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13	13 100%	F1,F2,F3,F4,F5,F6,F7,F8,F9,F10	10 100%
	Behaviors Targeting Reuse of Waste	Reusing Waste for Same/Different Purposes	M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13	13 100%	F1,F2,F3,F4,F5,F6,F7,F8,F9,F10	10 100%
		Repairing	M2,M3,M4,M7,M8,M9,M10,M11,M12,M13	10 77%	F1,F2,F3,F4,F5,F6,F8,F9	8 80%
		Utilizing Deposit-Refund Systems	M1,M4,M5,M6,M10	5 38%	F1,F2,F7	3 30%
	Behaviors Targeting Recycle of Waste	Segregating Waste	M1,M2,M4,M7,M8,M9,M10,M11,M12	9 69%	F2,F7,F10	3 30%
		Making Compost	M9,M10,M11	3 23%	F9	1 10%

M4 and F1 who are among the parents who try to minimize their use of disposable materials, conveyed their experiences as follows: “*we are making an effort to avoid using grocery bags as much as possible. Instead, we rely on paper or cloth bags to get our groceries*” (M4) and “*I typically use my thermos all the time. I like to drink tea and coffee from it throughout the day at work, right up until the evening*” (F1). Another behavior performed to reduce their waste by parents was long-term use of materials. These parents generally expressed that they do not immediately stop using a product; instead, they try to use it for as long as possible until it serves its purpose. M6, who is among those mothers who use materials for a long time, stated that “*I usually try to use things for as long as possible, especially when it comes to clothes. As long as they're not ripped or torn, I'll continue wearing them. I do the same thing with shoes too. Honestly, I just don't like the idea of throwing things away and wasting them like that*” (M6). M9, who has similar practices to M6, reported that “*when it comes to things like phones, we don't necessarily upgrade to the latest model as soon as it's released. Instead, we use the phone until it no longer meets our needs or until it breaks down completely*” (M9). There were also fathers who try to use materials long-term, and one of them said that “*We've had the same TV for more than 10 years now. Even though I'd like to get a bigger one, I don't really watch TV that often. The TV we have still works, even though it's covered in scratches from our child. But we haven't replaced it yet because it's still functioning properly*” (F10). Cooking in portions was another behavior practiced by four out of thirteen mothers and four out of ten fathers in order to reduce their organic waste, particularly ($n_m=4$, $n_f=4$). While explaining cooking for portions, M12 and F8 stated respectively that “*I limit the variety of food I prepare because we have a certain capacity to consume it, and any excess is likely to go to waste. To avoid this, I am cautious about not making too many different dishes and instead, I focus on preparing meals that will be consumed quickly and remain fresh*” (M12), and “*for example, because our family is small in size, we prepare meals in small portions to minimize food waste and maintain its freshness*” (F8). The final behavior performed by parents to reduce waste was utilizing technology ($n_m=3$, $n_f=3$). Three out of 13 mothers and three out of 10 fathers reported utilizing technology to reduce particularly their paper waste. Regarding this, F10 emphasized that “*since my work is*

computer-based, I note down everything on it or on my phone. I hardly use paper at all” (F10).

When mothers’ and fathers’ behaviors regarding reducing waste are compared, it was evident that both perform similar behaviors to reduce their different kinds of waste; reducing their use of disposable materials ($n_m=8$, $n_f=7$), usage of materials in long-terms ($n_m=8$, $n_f=6$), cooking for portions ($n_m=4$, $n_f=4$), and utilizing technology to reduce their paper waste ($n_m=3$, $n_f=3$). The proportion of mothers and fathers who perform these behaviors was also similar. Concerning behaviors targeting the reduction of waste, there were no notable differences between mothers and fathers in the current study.

4.2.1.1.3.2. Behaviors Targeting Reuse of Waste

A noteworthy finding of the present study was that each of the 23 participating parents employed a method for reuse of their waste ($n_m=13$, $n_f=10$). Mostly, the participants demonstrated a preference for reusing waste by means of making donations ($n_m=13$, $n_f=10$) and repurposing products for similar or different purposes than their original intended use ($n_m=13$, $n_f=10$). There were also different types of behaviors targeting reusing the waste by making repairing ($n_m=10$, $n_f=8$) and utilizing deposit-refund systems ($n_m=5$, $n_f=3$) among the parents. So, there were four different types of behaviors reported by mothers and fathers to reuse their waste.

All mothers, and all fathers who participated in the study reported that they make donations ($n_m=13$, $n_f=10$). While explaining their experiences, M10 and M13 shared respectively that: “*my aim is to donate my furniture to those who need it, as long as it is still usable*” (M10) and “*I give old clothes to people in need*” (M13). Similarly, all participating mothers and fathers conveyed that they repurpose their waste, extending the lifespan of the product by using it in ways similar or different to its original intended use ($n_m=13$, $n_f=10$). Below are statements from various mothers and fathers explaining their process of reusing their waste for similar/different purposes.

I slice open cans of ketchup, fill them with soil, and use them to grow plants outdoors. (M2)

I use plastic containers to feed dogs. (M5)

One option is to repurpose the boxes for storing small items, like buckles, in drawers if they fit well, rather than disposing of them. This way, the boxes can be utilized to organize shelves efficiently. (M9)

As an instance, when clothes become old or have a stubborn stain that cannot be removed, I repurpose them as cleaning cloths or washcloths. (F3)

I prepare a face mask from fruit peels and vegetable peels, or a peeling product from coffee waste... I am very keen on creating gift packages using materials such as paper bags that are not too creased, and I do so with an environmentally conscious mindset. (F9)

We repeatedly utilize our glass jars by simply switching out the lid. (M3)

We store plastic bottles under the sink in case of water scarcity, which happens very rarely. Instead of disposing of a bottle of coke after consumption, we keep it as a backup in case of a water problem. Similarly, we reuse large 10-liter bottles while cleaning our balcony by filling them with water to use for washing. (M12)

Repairing was also prevalent among mothers and fathers to reuse their waste ($n_m=10$, $n_f=8$). Although it was not common as a donation or reusing products with similar/different purposes, it was still performed by 10 out of 13 mothers and eight out of 10 fathers in the current study. While explaining experiences regarding repairing, F2 stated that “*when it comes to electronic products, I usually try to have them repaired and continue using them, if possible*” (F2). F3 had also a similar experience and conveyed that “*I do a lot of repairing myself. I try to repair our phones as much as I can. And when our last computer broke, we fixed it instead of throwing it away*” (F3). The final behavior performed by parents to reuse their waste was utilizing deposit-refund systems ($n_m=5$, $n_f=3$). In their responses, five out of 13 mothers and three out of 10 fathers shared that they take their waste to various stores and, in return, receive different discounts or financial rewards. To clarify further, M5 and M6 provided distinct examples as follows: “*I throw my textile waste in a store’s³ recycling bin and get 15% discount, which is very nice*” (M5) and “*we take the egg*

³ A specific clothing store name was shared by the participant.

boxes back to the place where we bought the eggs, and they deduct it from the price of the next eggs we buy” (M6).

When mothers' and fathers' behaviors targeting the reuse of their waste are compared, the current study's findings emphasized that both mothers and fathers engage in similar behaviors, according to their self-reported responses. Both mothers and fathers reuse their waste for similar/different purposes ($n_m=13$, $n_f=10$), make donations ($n_m=13$, $n_f=10$), do repairs ($n_m=10$, $n_f=8$), and utilize deposit-refund systems ($n_m=5$, $n_f=3$). The proportion of mothers and fathers who perform these behaviors was also similar. To conclude, according to the study's findings, mothers and fathers perform identical behaviors when it comes to behaviors targeting the reuse of their waste.

4.2.1.1.3.3. Behaviors Targeting Recycling of Waste

Although behaviors aimed at reducing and reusing waste were more prevalent than recycling waste, some mothers and fathers reported engaging in various behaviors focused on recycling their waste ($n_m=9$, $n_f=4$). Mothers and fathers mentioned two specific behaviors in the current study, which target recycling of the waste they produce; segregating waste ($n_m=9$, $n_f=3$) and making compost ($n_m=3$, $n_f=1$).

Nine out of 13 mothers, and three out of 10 fathers reported that they segregate waste in their daily lives ($n_m=9$, $n_f=3$). These parents emphasized that they segregate waste in their workplaces or homes, categorizing it into at least two types: recyclable and non-recyclable, or more. Regarding the details of segregating waste, M2 stated that *“I dispose of household garbage and paper, glass, and plastic separately”* (M2). F10 had also similar experiences with M2 and added that *“we separate glass, cardboard and plastics. We also dispose of electronics separately”* (F10). Making compost was another behavior performed by three out of 13 mothers and one out of 10 fathers to recycle their waste ($n_m=3$, $n_f=1$). However, it's worth noting that these four parents had only tried composting in the past, but were not currently practicing it, as they found it to be ineffective and one of them explained her reasoning as *“Unfortunately, we are not doing anything to utilize the food waste. We made compost at home for a*

while, but it smelled too much. Maybe it would be more enjoyable if we had a house with a garden. That was also tried. It was done once or twice. We had a lot of plants in the garden for a while. We were putting them in it, but there were a lot of flies and stuff like that. It wasn't very sustainable for me at that time. It was precious, but unfortunately it wasn't very sustainable for me” (M9).

When mothers' and fathers' behaviors targeting recycle of waste was compared, it is revealed that both groups of parents practice segregating waste and making compost. However, the number of mothers who perform waste segregation ($n_m=9$, $n_f=3$) and compost ($n_m=3$, $n_f=1$) was higher than the fathers in the current study. This points out that mothers in the current study were more likely to perform waste segregation and composting than fathers.

4.2.1.2. Public Sphere Environmentally Significant Behaviors That Parents Perform Individually

4.2.1.2.1. Parents' Nonactivist Behaviors in the Public Sphere Performed Individually

When the responses of mothers and fathers is analyzed, it is found that in general, parents have two types of nonactivist behaviors performed in the public sphere. The most frequently performed behavior by mothers and fathers was to engage in environmental collective activities ($n_m=9$, $n_f=7$). Mothers and fathers also engage in some behaviors exhibited when confronted with environmental challenges ($n_m=5$, $n_f=2$).

4.2.1.2.1.1. Behaviors Related to Participating in Environmental Collective Activities

Nine out of 13 mothers and seven out of ten fathers reported attending environmental collective activities, such as volunteering to protect the environment ($n_m=8$, $n_f=6$), participating in informative activities on the environment ($n_m=7$, $n_f=2$), and being members of environmental organizations ($n_m=3$, $n_f=1$).

Table 15 Summary of the mothers' and fathers' nonactivist behaviors in the public sphere performed individually

Theme	Categories	Codes	Mothers		Fathers		
			Participants	n Percentage	Participants	n Percentage	
Nonactivist Behaviors in the Public Sphere	Behaviors Related to Participating in Environmental Collective Activities	Participating in Volunteer Activities	M1,M3,M5,				
		Organized to Protect the Environment	M8,M9,M10, ,M11,M13	8	62%	F1,F2,F3,F4 ,F6,F8	6 60%
	Behaviors Exhibited When Confronted with Environmental Challenges	Participating in Informative Activities on Environment	M1,M7,M8, M9,M10,M11,M12	7	54%	F1,F9	2 20%
		Being A Member of Environmental	M1,M3,M12	3	23%	F9	1 10%
	Behaviors Exhibited When Confronted with Environmental Challenges	Communicating with Authorities on	M5,M7,M8, M9	4	31%	F1,F6,F9	3 30%
		Participating in Petitions Organized on Environmental Problems	M7,M12	2	15%		0 0%

Participating in volunteer activities organized to protect the environment was the nonactivist behavior in the public sphere that mothers and fathers in this study engaged in the most frequently ($n_m=8$, $n_f=6$). More than half of the parents said they had at least once taken part in volunteer environmental activities like planting trees or picking up garbage collectively. However, it is noteworthy to mention that a considerable number of parents mentioned that they participate in volunteering activities at least once, but it is not a regular habit that they engage in. Some of the parents shared their experiences regarding attending collective environmental activities as follow: “*there was a garbage collection event in Eymir. I participated in that*” (M3), and “*there is a recreation area in Yakacık. I saw people collecting garbage there, so I joined them, and we collected it together*” (F3). Participating in informative activities about the environment was another nonactivist behavior undertaken in the public sphere by seven out of 13 mothers, and two out of 10 fathers ($n_m=7$, $n_f=2$). Those parents engaged in informative activities such as congress, seminars, or lectures regarding the environmental issues at least once. Similar with the volunteering behaviors, it should be noted that the lack of habit or regularity in behavior is applicable to this behavior as well. On their experiences of informative activities, M1 and M12 respectively expressed that: “*I mean, there are elective courses I have taken that have given me a lot of awareness on this issue. I took my first course in the fourth year of my undergraduate degree*” (M1) and “*For example,*

when I am interested in a topic, I research the experts on the subject and listen to their speeches. You know, I listen to them for an hour or two in the long term to see what the truth of the matter is. There are live broadcast meetings of those I follow through social media. There are informative seminars. I try to attend them... I listened to seminars on how to consume less, how to recycle, or how to get your waste to the right place in the right way” (M12). Lastly, three out of 13 mothers and one out of 10 fathers reported that they are a member of an environmental organization ($n_m=3$, $n_f=1$). However, when their activeness was questioned, it is concluded that even if they have a membership to the organizations, many of them do not take any active role in the organization. Instead, they provide money or follow the platform's social media profiles to learn more about environmental issues. On this issue, M3 shared the following statement: “I am a member of an environmental organization⁴, we are planting trees... I usually receive messages, but I don't attend all of them, I mean, I go to as many as I can. I can probably only go once every 3 months or so” (M3).

When mothers' and fathers' nonactivist behaviors in the public sphere are compared, it is revealed that both groups of parents experienced similar nonactivist behaviors, including attending collective environmental activities, informative activities on the environment, and being a member of environmental organizations. However, in the current study, more mothers than fathers attend informative activities on the environment ($n_m=7$, $n_f=2$) and become a member of environmental organizations ($n_m=3$, $n_f=1$). This indicates that mothers in the present study were more prone to perform these two types of behaviors when compared to fathers.

4.2.1.2.1.2. Behaviors Exhibited When Confronted with Environmental Challenges

Five out of 13 mothers and two out of 10 fathers stated that they perform some behaviors when they confront environmental challenges ($n_m=5$, $n_f=2$). More

⁴ The participant shared the specific name of a non-governmental organization (NGO) dedicated to reforestation and the preservation of natural habitats in Türkiye.

specifically, these parents reported that when they face an environmental issue, they contact the authorities ($n_m=4$, $n_f=3$) or attend petition campaigns to address an environmental problem ($n_m=2$, $n_f=0$).

Four out of 13 mothers, and three out of 10 fathers reported that when an environmental problem bothers them, they contact the appropriate authorities to have it fixed ($n_m=4$, $n_f=3$). They expressed their efforts to address environmental issues by sharing specific incidents. One mother stated “*In a park⁵, for example, the animals were in bad condition. The horses, for example, were very dirty there, and I directly called X⁶ municipality and complained, you know, the animals here are in very bad condition, what are you doing?*” (M5). Another father shared “*When we went to Mersin, we once saw the top of a mountain on fire... We called the authorities. We were on one of those tour boats with my wife. Well, the helicopter came, we watched it extinguish the fire*” (F1). Two of the mothers participated in the study reported that they attend online petition campaigns to solve environmental problems ($n_m=2$, $n_f=0$). These mothers highlighted that there are many environmental issues around to address and in order to raise their voices on these issues, they attend petition campaigns. Regarding one of her petitioning experiences, M13 shared that “*there were so many different campaigns that I signed, I can't remember them all now. There was this ship loaded with asbestos. You know, it was going to be broken up in a shipyard in Izmir. There was a petition about it, I signed it*” (M13).

It is noteworthy to highlight that according to the current study's findings, mothers and fathers have similar behaviors regarding contacting the authorities on environmental issues ($n_m=4$, $n_f=3$). Yet, only the mothers refer to participating in petitions organized on environmental problems ($n_m=2$, $n_f=0$), which signals that mothers in the current study were more likely to support petitioning campaigns than fathers.

⁵ A nearby park where various animals like horses, ducks, and rabbits live in small huts under the municipality's care and responsibility.

⁶ The participant mentioned a particular municipality from a province in Ankara.

4.2.1.2.2. Environmental Activism Behaviors Performed by Parents Individually

Upon analyzing the parents' responses, it was found that three out of 13 mothers and one out of 10 fathers had taken part in environmental protests, and their participation was only a one-time occurrence ($n_m=3$, $n_f=1$). One of the mothers who took part in environmental demonstrations shares her experience as “*I have participated in an environmental protest about animals before*” (M5).

Table 16 Summary of the environmental activism behaviors performed by mothers and fathers individually

Theme	Categories Codes	Mothers		Fathers		
		Participants	n Percentage	Participants	n	Percentage
Environmental Activism	Behaviors Related to Environmental Protests	Attending Environmental Protests	M5,M12,M13 3	23%	F9	1 10%

When parents' overall individual behaviors were investigated, it became clear that going to environmental protests was the least regulated behavior. When the differences between mothers and fathers about attending environmental protests are explored, it is seen that while both groups of parents claimed to have attended environmental protests at least once, the proportion of mothers who participated were higher ($n_m=3$, $n_f=1$). This indicates that in the current study, mothers tend to attend environmental protests more than fathers.

4.2.2. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children

In this section, details regarding parents' private and public environmentally significant behaviors that they carry out with their children are reported. Below, there are figures summarizing the private and public sphere environmentally significant behaviors that parents perform with their children.

The findings are presented in the same order as depicted in the Figure 11 and Figure 12.

Private Sphere Environmentally Significant Behaviors That Parents Performed with Their Children
Environmentally Responsible Consumption Behaviors Performed by Parents with Their Children
Behaviors Targeting Purchase of Eco-Friendly Products (nm=4, nf=2)
Purchasing Chemical-Free Products ($n_m=2, n_f=0$)
Purchasing Products with Eco-Friendly Packaging ($n_m=2, n_f=0$)
Purchasing Long-Lasting Products ($n_m=0, n_f=2$)
Purchasing Local Products ($n_m=1, n_f=0$)
Behaviors Targeting Minimalist Consumption (nm=3, nf=1)
Need-Based Purchasing ($n_m=3, n_f=1$)
Uncategorized Responses (nm=4, nf=3)
Informing Children About Eco-Benefit and Eco-Damage of Products ($n_m=2, n_f=3$)
Setting Eco-Rules for Children ($n_m=3, n_f=0$)
Resource Conservation Behaviors Performed by Parents with Their Children
Behaviors Targeting Conservation of Renewable Resources (nm=13, nf=10)
Water Conservation ($n_m=12, n_f=5$)
Conservation of Plants and Animals ($n_m=6, n_f=3$)
Prevention of Environmental Pollution ($n_m=8, n_f=2$)
Behaviors Targeting Conservation of Energy (nm=7, nf=5)
Conservation of Electrical Energy ($n_m=7, n_f=5$)
Uncategorized Responses (nm=9, nf=10)
Warning Children To Conserve Resources ($n_m=5, n_f=7$)
Informing/Being Role Model for Children With Regards to Resource Conservation (nm=6, nf=3)
Waste Management Behaviors Performed by Parents with Their Children
Behaviors Targeting Reduce of Waste (nm=5, nf=2)
Reducing the Use of Disposable Materials ($n_m=4, n_f=2$)
Utilizing Technology to Reduce Waste ($n_m=1, n_f=0$)
Behaviors Targeting Reuse of Waste (nm=13, nf=10)
Reusing Waste for Same/Different Purposes ($n_m=13, n_f=9$)
Repairing ($n_m=5, n_f=6$)
Donation ($n_m=6, n_f=2$)
Behaviors Targeting Recycle of Waste (nm=5, nf=1)
Segregating Waste ($n_m=4, n_f=1$)
Making Compost ($n_m=1, n_f=0$)
Uncategorized Responses (nm=5, nf=4)
Informing/Being Role Model for Children With Regards to Waste Management (nm=5, nf=4)

Figure 11 *Summary of the findings related to private sphere environmentally significant behaviors that parents perform with their children*

Public Sphere Environmentally Significant Behaviors That Parents Performed with Their Children
Parents' Nonactivist Behaviors in the Public Sphere Performed with Their Children
Behaviors Related to Participating in Environmental Collective Activities (nm=4, nf=4)
Participating in Volunteer Activities Organized to Protect the Environment ($n_m=4, n_f=4$)

Figure 12 *Summary of the findings related to public sphere environmentally significant behaviors that parents perform with their children*

4.2.2.1. Private Sphere Environmentally Significant Behaviors That Parents Perform with Their Children

4.2.2.1.1. Environmentally Responsible Consumption Behaviors Performed by Parents with Their Children

When participating parents were asked what behaviors they engage in with their children to be environmentally responsible consumers, two categories of behaviors emerged, similar to the individual behaviors they performed. However, there was a notable decrease in the variety of behaviors, and number of parents who engaged in them. The first category of environmentally responsible consumption behaviors was purchasing eco-friendly products with their children ($n_m=4$, $n_f=2$). Four out of 13 mothers, and two out of 10 fathers listed different eco-friendly products that they pay attention to in their shopping process with their children. The second type of behavior mentioned by participants, engaged in by three out of 13 mothers and one out of 10 fathers with their children, was targeting minimalist consumption ($n_m=3$, $n_f=1$). These parents reported that they try to purchase as minimal as possible with their children.

Despite being asked about the behaviors they engage in together with their children, some parents provided responses that involved behaviors not performed jointly with their children. Instead, these responses mainly consisted of recommendations, intentions to provide knowledge/explanation, or setting rules for their children ($n_m=4$, $n_f=3$). Although these uncategorized responses were not the main focus of the current study, they are also included in the finding, since there was an attempt on not to lose what participants said in addition to the theoretical framework taken as a base in the study. Therefore, this section also reports the findings related to the uncategorized responses.

Below, there is a table which summarizes all environmentally responsible consumption behaviors performed by parents with their children in detail in three categories revealed when the responses of the participants were analyzed in detail.

Table 17 Summary of the environmentally responsible consumption behaviors performed by mothers and fathers with their children

Theme	Categories	Codes	Mothers		Fathers	
			Participants	n Percentage	Participants	n Percentage
Environmentally Responsible Consumption	Behaviors Targeting Purchase of Eco-Friendly Products	Purchasing Chemical-Free Products	M10,M12	2 15%	0 0%	
		Purchasing Products with Eco-Friendly Packaging	M8, M9	2 15%	0 0%	
		Purchasing Long-Lasting Products		0 0%	F1,F8 2 20%	
	Behaviors Targeting Minimalist Consumption	Purchasing Local Products	M10	1 8%	0 0%	
		Need-Based Purchasing	M3,M8,M12	3 23%	F2 1 10%	
	Uncategorized Responses	Informing Children About Eco-Benefit and Eco-Damage of Products	M5, M7	2 15%	F2,F3,F8 3 30%	
		Setting Eco-Rules for Children	M1,M4,M7	3 23%	0 0%	

4.2.2.1.1.1. Parents' Behaviors Targeting Purchase of Eco-Friendly Products Performed with Their Children

When mothers' and fathers' behaviors performed with their children targeting purchase of eco-friendly products were analyzed, it is found that out of total 13 mothers and 10 fathers participated in the current study reported that they pay attention to buy chemical-free ($n_m=2$, $n_f=0$), long-lasting ($n_m=0$, $n_f=2$), eco-friendly packaged ($n_m=2$, $n_f=0$), and local ($n_m=1$, $n_f=0$) products with their children when they go shopping together.

Only two out of 13 mothers mentioned that when they go shopping with their children, they purchase chemical-free products ($n_m=2$, $n_f=0$). In other words, the mothers and their children pay attention to the products they buy in terms of being natural or not. To exemplify this, M10 conveyed, *"When we buy eggs from a market, my daughter has become as attentive as I am to whether it starts with zero, one, or two"* (M10). Purchasing products that are eco-friendly packaged was another behavior two out of 13 mothers performed with their children ($n_m=2$, $n_f=0$). These two mothers highlighted in their responses that, particularly for food shopping, they, and their children both pay attention to purchasing products that are not packaged or recyclable packaged by stating that *"we are very sensitive to the package being reusable. My son is also very sensitive to that recycling sign, he is very curious about it. He always tries to find it on the packages when we are buying something"* (M9). There were also two fathers, out of 10, who reported that they purchase long-lasting products with their children ($n_m=0$, $n_f=2$). One of these fathers conveyed that *"my son asks me, how much battery can we buy? I say batteries are expensive, rechargeable ones are more expensive, but we can use this one for much longer. So, he says let's buy and use rechargeable ones. Then, we charge the batteries at home together"* (F1) emphasizing how his child also decides to purchase a product that can be used long-term instead of disposable ones. Lastly, there was only one mother out of 13 mothers, and 10 fathers, who emphasized that together with her child, they purchase products that are local ($n_m=1$, $n_f=0$) by stating that *"I go to the bazaar with my daughter. I talk to her about the products, and we choose together the ones we want to buy. We usually shop from the villagers there"* (M10).

When mothers' and fathers' behaviors targeting the purchase of eco-friendly products with their children are compared, it is possible to detect some differences. To begin with, whereas mothers reported purchasing chemical-free ($n_m=2$, $n_f=0$), eco-friendly packaged ($n_m=2$, $n_f=0$) and local ($n_m=1$, $n_f=0$) products with their children, none of the fathers did so. In other words, mothers who participated in the current study were likelier to purchase chemical-free, eco-friendly packaged and local products with their children than fathers. On the other hand, whereas two out of 10 fathers conveyed that they purchase long-lasting products with their children ($n_m=0$, $n_f=2$), none of the mothers gave a response in this manner, which signals that fathers tend to purchase long-lasting products with their children more than mothers in the current study.

4.2.2.1.1.2. Parents' Behaviors Targeting Minimalist Consumption Performed with Their Children

In addition to purchasing eco-friendly products, some parents also reported making efforts to consume in a minimalistic manner by making need-based purchases with their children ($n_m=3$, $n_f=1$). Three out of 13 mothers, and one out of 10 fathers stated that they make need-based purchases together with their children. M12 who was among the parents who claimed that they purchase according to their needs, in a minimal way with her child, shared her experience as *"before we go shopping, we make a shopping list. While preparing the list, I ask my child if there is anything missing in our house, if you think we are missing eggs, for example. I send him to the kitchen to check if there are eggs, for example. Then, we stick to this list while we are purchasing."* (M12)

When comparing the responses of mothers and fathers, it is found that both groups of parents attempt to make need-based purchases with their children. However, the number of parents engaging in this behavior is relatively low. Additionally, the proportion of mothers who make need-based purchases with their children exceeds the proportion of fathers in the current study ($n_m=3$, $n_f=1$), suggesting that mothers are more inclined to engage in this behavior with their children.

4.2.2.1.1.3. Parents' Uncategorized Environmentally Responsible Consumption Behaviors Towards Their Children

In this section, the responses of parents who shared experiences related to environmentally responsible consumption behaviors that remained only in discourse and were not translated into actual behavior by their children is reported ($n_m=4$, $n_f=3$). These parents reported that they try to encourage their children to buy eco-friendly products or make need-based purchases by explaining to them why it is essential to buy eco-friendly products ($n_m=2$, $n_f=3$) and setting rules for them to make need-based purchases ($n_m=3$, $n_f=0$).

Two out of 13 mothers and three out of 10 fathers conveyed that they try to inform their children about the eco-benefit and eco-damage of products when shopping with their children and encourage them to make eco-friendly purchases ($n_m=2$, $n_f=3$). Regarding this issue, different experiences shared by parents are listed below.

For example, let's say my daughter sees a pack of colorful plastic straws and wants to buy them. I say to her that these are harmful to the Earth, so we should not buy them. I tell her why we should not buy them. (M5)

I explain to my son how the refrigerator and washing machine work, and which ones we should consider when making a purchase. I try to teach him that some appliances consume more electricity, while others consume less. We discuss the importance of choosing appliances that consume less electricity. (F3)

There were also some mothers who put eco-rules for their children while going to shopping ($n_m=3$, $n_f=0$). In general, three out of 13 mothers were setting rules for children to purchase the products only they need, or the ones which are eco-friendly. M4 was among those parents who put eco-rules for their children and conveyed her idea as following.

When I go shopping with my child, I have a rule that allows him to buy only one thing he wants. This helps to prevent him from buying more than he actually needs. (M4)

Similarities and differences are revealed when mothers' and fathers' uncategorized environmentally responsible consumption behaviors toward their children are compared. Firstly, both mothers and fathers reported that they try to inform their children about the eco-benefit and eco-damage of products they purchase ($n_m=2$, $n_f=3$). However, although three mothers set eco-rules for their children in the purchasing process, none of the fathers did so ($n_m=3$, $n_f=0$). This indicates that mothers in the current study are more likely to put some rules for their children to make them more environmentally responsible consumers.

4.2.2.1.2. Resource Conservation Behaviors Performed by Parents with Their Children

When participating parents were asked what behaviors they engage in with their children to conserve resources, two categories of behaviors emerged. The first category of resource conservation behaviors performed with children was behaviors targeting conservation of renewable resources ($n_m=13$, $n_f=10$). All the mothers and all the fathers participated in the current study conserve renewable resources with their children. The second type of behavior mentioned by participants, engaged in by seven out of 13 mothers and five out of 10 fathers with their children, was targeting conservation of energy resources ($n_m=7$, $n_f=5$). These parents reported that they try to conserve energy together with their children.

Despite being asked about the behaviors they engage in with their children, some parents provided responses involving behaviors not performed jointly with their children. Instead, these responses mainly consisted of warning children to conserve resources, informing them about resource conservation and why it is essential, and being role models to learn how to conserve resources ($n_m=9$, $n_f=10$). In other words, there were also some responses in which parents tried encouraging their children to conserve resources. However, the child is passive and does not engage in the behavior. These uncategorized responses are also included in the findings of the current study. Therefore, this section also reports the findings related to the uncategorized responses related to resource conservation.

Below, there is a table which summarizes all resource conservation behaviors performed by parents with their children in detail.

Table 18 *Summary of the resource conservation behaviors performed by mothers and fathers with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Resource Conservation	Behaviors Targeting Conservation of Renewable Resources	Water Conservation	M1,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13	12	92%	F1,F2,F5,F6,F9	5	50%
		Prevention of Environmental Pollution	M2,M4,M6,M7,M8,M10,M11,M12	8	62%	F2,F8	2	20%
	Behaviors Targeting Conservation of Energy Resources	Conservation of Plants and Animals	M1,M3,M5,M8,M9,M10	6	46%	F1,F2,F8	3	30%
		Conservation of Electrical Energy	M1,M3,M4,M5,M7,M8,M9	7	54%	F1,F3,F6,F7,F10	5	50%
	Uncategorized Responses	Warning Children To Conserve Resources	M2,M4,M5,M9,M13	5	38%	F2,F3,F4,F5,F6,F7,F10	7	70%
		Informing/Being Role Model for Children With Regards to Resource Conservation	M1,M2,M4,M6,M7,M12	6	46%	F1,F8,F9	3	30%

4.2.2.1.2.1. Parents' Behaviors Targeting Conservation of Renewable Resources Performed with Their Children

Like individual behaviors, water conservation was the most performed behavior of parents, with 12 out of 13 mothers and five out of 10 fathers conserving water with their children ($n_m=12$, $n_f=5$). While giving details regarding water conservation, F9 highlighted to conserve water during personal hygiene by stating that “*when brushing teeth, for example, the water is never turned on. I believe we have instilled the need to always keep the volume of water low, because she really turns it down. For example, when she is soaping up after wetting her hand, I turn off the water instead of her, I say, look, there's no need for it to be running right now, then she turned off too*” (F9) whereas M12 emphasized reuse of wastewater to conserve water by referring that “*for example, he takes a flask to school. We don't pour the leftover water into the sink. My son has a grass man, we pour it into the grass man*” (M12). Conservation of plants and animals was another behavior performed by parents with their children ($n_m=6$, $n_f=3$). Six out of 13 mothers and three out of 10 fathers reported that they perform behaviors including helping stray animals, respecting living things, and planting with their children. M1, who was one of the mothers who help stray animals with her child expressed their experience as “*when it's very cold, we make birdseed from toilet paper and hang it on trees, or we feed animals, such as cats and dogs. We believe that they might not be able to find food and they should not have to starve*”. F8, who has similar experiences with M1 also conveyed that “*We don't consume a lot of bread, but unfortunately a lot of bread is wasted. We try to save them in our balcony and put them in our handbag when we go for a nature walk and throw them to the ducks and birds there together with our daughter*” (F8). While M10 emphasized they respect animals with her child by stating that “*For example, if it is raining, we walk looking at the ground so as not to step on snail shells*” (M10), F1 highlighted that they engage in planting with his child together; “*We planted almond or olive trees with him (his child) many times when we went to Mersin*” (F1). The last behavior performed by parents with their children targeting the conservation of renewable resources was preventing environmental pollution by not littering ($n_m=8$, $n_f=2$). Regarding this behavior, M6 conveyed that “*If we have something that we want to throw away, she doesn't throw it into the environment. In fact, she holds*

it in her hand, holds onto it, holds onto it. When she finds a trash can, we then throw it away” (M6).

When mothers' and fathers' behaviors regarding the conservation of renewable resources with their children are compared, it is possible to conclude that both groups of parents have similar behaviors performed with their children. Both mothers and fathers conserve water, plants/animals and prevent environmental pollution by not littering with their children. However, although the proportion of mothers and fathers was similar in terms of conservation of water ($n_m=12$, $n_f=5$) and plants/animals ($n_m=6$, $n_f=3$), the proportion of mothers in the current study was more than fathers, when it comes to prevention of environmental pollution by not littering with their children ($n_m=8$, $n_f=2$). According to the current study's findings, mothers include their children more in their behaviors targeting the prevention of environmental pollution than fathers.

4.2.2.1.2.2. Parents' Behaviors Targeting Conservation of Energy Resources Performed with Their Children

Among different energy resources, both mothers and fathers in the current study emphasized that they conserve electrical energy together with their children ($n_m=7$, $n_f=5$). Seven out of 13 mothers and five out of 10 fathers reported that they conserve energy either by promoting energy-saving lighting or by turning off electrical appliances with their children. One mother and one father shared their experiences as follows: *“we turn off the lights we don't use, and he turns them off too. Or we open the curtains in the morning, so we don't need the lights” (M8)*, and *“together we open the curtains, to get more sunlight. We have a small solar lamp. We charge it in the sun during the day and in the evening, he uses as a night light” (F6).*

Both mothers and fathers reported that they conserve electrical energy together with their children ($n_m=7$, $n_f=5$). There were similar trends observed among these two groups of parents.

4.2.2.1.2.3. Parents' Uncategorized Resource Conservation Behaviors Towards Their Children

In this section, the responses of parents who shared experiences related to resource conservation behaviors that remained only in discourse and were not translated into actual behavior by their children is reported ($n_m=9$, $n_f=10$). Nine out of 13 mothers, and 10 out of 10 parents reported that they try to encourage their children to conserve resources by warning children to conserve resources, informing them about resource conservation and why it is essential, and being role models to learn how to conserve resources.

Five out of 13 mothers and seven out of 10 fathers reported that they warn their children to conserve different types of resources ($n_m=5$, $n_f=7$). Regarding this issue, M4 shared that *“For example, I often warn him to turn off the tap when he brushes his teeth”* (M4) in terms of water conservation, whereas F5 emphasized prevention of environmental pollution by conveying that *“when we go to a picnic area, I tell my children, let's not throw garbage around, let's take a bag, let's throw it in our bag. In other words, I warn them that we should keep the environment clean in that way”* (F5). Moreover, there were also some mothers and fathers who provide information/ be a role model for them in terms of resource conservation ($n_m=6$, $n_f=3$). Regarding informing her children, M2 expressed that *“for example, I inform my child about animals and plants. I explain to them the importance of these living beings in the ecological system, how they contribute to the food chain, and why it's crucial to protect their species. I emphasize that we should take care of them and avoid harming them”* (M2). Moreover, one of the mothers shared her experience on being a role-model as follow: *“At home, my husband and I don't turn on the heater, the radiator, etc. at a very high level. We try to use it a little more economically. We wear warm clothes and burn less natural gas. We talk about the economic and environmental impact of this. My son hears us too. He inevitably witnesses these things”* (M7).

Similarities and differences are revealed when mothers' and fathers' uncategorized resource conservation behaviors toward their children are compared, and similar trends are observed. Both mothers and fathers reported that they try to encourage

their children to conserve resources by warning children to conserve resources ($n_m=5$, $n_f=7$) and informing them/being a role model about resource conservation and why it is essential ($n_m=6$, $n_f=3$).

4.2.2.1.3. Waste Management Behaviors Performed by Parents with Their Children

According to responses of mothers and fathers who participated in the study, they perform three different categories of behaviors with their children, namely behaviors targeting the reduction of waste ($n_m=5$, $n_f=2$), reuse of waste ($n_m=13$, $n_f=10$), and recycling of waste ($n_m=5$, $n_f=1$), similar to the behaviors parents engage in individually. Despite being asked about the behaviors they engage in with their children, some parents provided responses involving behaviors not performed together with their children. Instead, these responses mainly consisted of informing them about waste management and why it is essential and being role models to teach how to manage their waste ($n_m=5$, $n_f=4$).

4.2.2.1.3.1. Parents' Behaviors Targeting Reduce of Waste Performed with Their Children

Five out of 13 mothers and two out of 10 fathers reported trying to reduce their waste with their children by performing different behaviors ($n_m=5$, $n_f=2$). Put simply, these mothers and fathers expressed that they are cautious about minimizing waste generation, and they involve their children in this effort. In general, to reduce their waste, parents either reduce the use of disposable materials ($n_m=5$, $n_f=2$) or utilize technology to reduce their waste ($n_m=1$, $n_f=0$) with their children.

Five out of 13 mothers and two out of 10 fathers specifically mentioned that they avoid using disposable materials with their children ($n_m=5$, $n_f=2$). To exemplify these experiences, M9 shared that *“we have cloth bags that we keep in the car. It is very rare that we forget them at home, and if we do, we prefer not to use plastic bags with my son if they fit in our bag and we can carry them by hand”* (M9). F7, who has a similar experience with M9 also conveyed that *“we make sure that we use flasks, not plastic bottled water. He has two flasks, one for school and one for home, I also have*

mine” (F7). There was also one mother, out of 13, who highlighted their use of technology to minimize waste with their child ($n_m=1$, $n_f=0$). She explained her experience as follows: "We purchased a drawing tablet because my child uses a lot of paper. With the tablet, she can work on her drawings repeatedly by erasing and redoing them. She loves to draw, but it leads to a significant amount of paper waste, and there are papers scattered all over our home. So, we bought the drawing tablet to reduce that" (M6).

When analyzing the waste management behaviors of both mothers and fathers aimed at reducing waste with their children, it becomes apparent that both groups make an effort to avoid using disposable materials ($n_m=5$, $n_f=2$). However, the use of technology to minimize waste was only observed in one mother's interaction with her children. None of the fathers in the current study engaged in such waste reduction behaviors with their children ($n_m=1$, $n_f=0$).

Table 19 Summary of the waste management behaviors performed by mothers and fathers with their children

Theme	Categories	Codes	Mothers		Fathers		
			Participants	n Percentage	Participants	n Percentage	
Waste Management	Behaviors Targeting Reduce of Waste	Reducing the Use of Disposable Materials	M7,M8,M9, M12	4 31%	F5,F7	2 20%	
		Utilizing Technology to Reduce Waste	M6	1 8%		0 0%	
		Behaviors Targeting Reuse of Waste	Reusing Waste for Same/Different Purposes	M1,M2,M3, M4,M5,M6, M7,M8,M9, M10,M11,M12,M13	13 100%	F1,F2,F3,F4,F6, F7,F8,F9,F10	9 90%
		Repairing	M3,M8,M11, M12,M13	5 38%	F1,F3,F4,F5,F6, F8	6 60%	
		Donation	M1,M3,M4, M5,M8,M10	6 46%	F1,F6	2 20%	
		Behaviors Targeting Recycle of Waste	Segregating Waste	M7,M8,M9, M12	4 31%	F10	1 10%
			Making Compost	M11	1 8%		0 0%
		Uncategorized Responses	Informing/Being Role Model for Children With Regards to Waste Management	M2,M4,M5, M12,M13	5 38%	F2,F7,F9,F10	4 40%

4.2.2.1.3.2. Parents' Behaviors Targeting Reuse of Waste Performed with Their Children

All the mothers and all the fathers who participated in the current study reported engaging in different reuse behaviors with their children ($n_m=13$, $n_f=10$). Specifically, parents conveyed that they reuse their waste for same/different purposes ($n_m=13$, $n_f=9$), do repairing ($n_m=5$, $n_f=6$), and make donations ($n_m=6$, $n_f=2$) with their children.

All 13 mothers and nine out of 10 fathers reported that they engage in the practice of reusing waste. They accomplish this by either transforming the waste into a completely new object and utilizing it, or by reusing the item repeatedly for its original intended purpose ($n_m=13$, $n_f=9$). While sharing their experiences with their children regarding the reuse of materials for different or similar purposes, M1, M2 and F9 made the following statements:

We collect these little milk cartons at home. We build them as a building construction game. Or we use them when we need to build a big giraffe for a game. (M1)

We separate the lego toys into small yogurt containers, separate the ones that can fit from the cars and put them in yogurt containers. (M2)

For example, toilet paper rolls. We play with them at least 2-3 more times. We paint them, stick things on them, make figures out of them and use them. If we bought something and it has a big box, it becomes a toy for us for at least 2-3 weeks, a rope is tied to it. It is taken around the house like a car or a ship. (F9)

Repairing was another behavior performed by parents with their children in order to enhance the life-span of the product they use. Five out of 13 mothers and six out of 10 fathers expressed that they do repairing with their children ($n_m=5$, $n_f=6$). F1, who is among those fathers doing repairing with his child, expressed that “*for example, we fix toys together all the time. Last time we even fixed a kettle with my son. Last time something spilled on my keyboard by mistake. We completely disassembled the keyboard; it was a mechanical keyboard. We completely disassembled it and put the keys back together with my son. I found a picture of the keyboard on the internet, we*

looked at the picture and matched the letters” (F1). Lastly, six out of 13 mothers and two out of 10 fathers mentioned that they involve their children in making donations. They specifically stated that they give away their unneeded materials to those who are in need of them ($n_m=6$, $n_f=2$). As an example, M1 provided the following response regarding this issue: "my child gets actively involved in deciding what to give away. He separates the items, saying that babies can play with them. I take the things he has separated and donate them to the toy library. He continues to do this, suggesting items that he feels he no longer plays with, saying 'we can give this, I'm not playing with it anymore'" (M1).

According to the current study, mothers and fathers have similar behaviors performed together with their children regarding reusing their waste. Both groups of parents mentioned that they reuse their waste for same/different purposes, do repairing, and make donations with their children. However, while the proportion of mothers and fathers who engage in reusing waste for similar or different purposes ($n_m=13$, $n_f=9$), as well as making repairs ($n_m=5$, $n_f=6$), is similar, there is a noticeable variation in the proportion of mothers and fathers who make donations with their children ($n_m=6$, $n_f=2$). More mothers in the current study reported that they give unneeded materials to others to reuse their waste with their children, compared to fathers. In simpler terms, mothers in the current study were more likely to make donations with their children than fathers.

4.2.2.1.3.3. Parents’ Behaviors Targeting Recycle of Waste Performed with Their Children

Although it was not mentioned as frequently as the behaviors targeting reducing and reusing waste, parents reported that they also engage in behaviors targeting recycling with their children ($n_m=5$, $n_f=1$). In order to recycle their waste, mothers and fathers in the current study mentioned segregating waste ($n_m=4$, $n_f=1$) and making compost ($n_m=1$, $n_f=0$) with the child.

Four out of 13 mothers and one out of 10 fathers reported that they actively engage in waste segregation with their children. These parents mentioned that they segregate

waste into different categories, such as recyclable and non-recyclable items, or even at a more detailed level by separating paper, composite materials, glass, and metal with their children ($n_m=4$, $n_f=1$). M9, one of the mothers who segregates waste with her son, shared her experiences in the following manner: *“for example, if he drinks milk with fruit, he washes it and then throws it in the recycling bin so that it doesn't smell. We pay attention to recycling at home”* (M9). Out of the 13 mothers interviewed, only one mother reported making compost with her child ($n_m=1$, $n_f=0$). However, it is important to note that this behavior was not a regular habit, but rather a one-time occurrence. M11 shared her composting experience with her daughter by stating, *“we occasionally make compost together with my daughter using eggshells and bananas. Since we have a backyard where we grow vegetables, we need fertilizer, so we make it from these eggshells”* (M11).

When analyzing the behavior of mothers and fathers targeting recycling, performed together with their children, it is revealed that both groups of parents make an effort to segregate waste within their homes, involving their children in the process ($n_m=4$, $n_f=1$). However, according to findings of the current study, it is found that there is a higher proportion of mothers who involve their children in the recycling process compared to fathers. Additionally, while none of the fathers mentioned engaging in composting with their children, one mother reported actively participating in composting together with her child ($n_m=1$, $n_f=0$). These differences indicate that, in the context of the current study, mothers are more likely to engage in behaviors targeting waste recycling with their children.

4.2.2.1.3.4. Parents' Uncategorized Waste Management Behaviors Towards Their Children

In this section, the responses of parents who shared experiences related to waste management behaviors that remained only in discourse and were not translated into actual behavior by their children is reported ($n_m=5$, $n_f=4$). Five out of 13 mothers and four out of 10 fathers reported that they try to encourage their children to manage their waste by informing/being role model for children with regards to waste management. On this issue, M13 shared that *“I make sure my child doesn't tear the*

books; I tell him not to tear the books. I also tell him that when he tears the books, the trees disappear, I try to give information on this” (M13). On the other hand, F9 emphasized reduce of waste, stating, “when we go shopping, we bring our own cloth bags. By doing so, we minimize the consumption of plastic bags, and this action serves as an example for my daughter” (F9).

In general, similarities are revealed when mothers' and fathers' uncategorized waste management behaviors towards their children are compared. Both mothers and fathers reported that they try to encourage their children to manage their waste by informing/being role model for children with regards to waste management ($n_m=5$, $n_f=4$).

4.2.2.2. Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children

4.2.2.2.1. Parents’ Nonactivist Behaviors in the Public Sphere Performed with Their Children

When parents were asked about their nonactivist behaviors in the public sphere that they performed together with their children, it became apparent that the only nonactivist behavior reported by parents was participating in environmental collective activities with their children ($n_m=4$, $n_f=4$). Four out of 13 mothers and four out of 10 fathers stated that they actively participate in collective volunteering activities with their children, particularly focusing on activities such as planting trees and collecting garbage. Regarding these activities, here are some statements shared by parents:

We participated in a garbage collection day on a beach at the summer house. We met all the neighbors there. Everyone took the bag. We collected cigarette butts and stuff on the beach with my daughter. (M5)

We participated in a tree planting event, there was an event organized by a birdwatching community, we participated in that with my son. (F1)

Table 20 *Summary of the mothers' and fathers' nonactivist behaviors in the public sphere performed with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Nonactivist Behaviors in the Public Sphere	Behaviors Related to Participating in Environmental Collective Activities	Participating in Volunteer Activities Organized to Protect the Environment	M3,M5,M8, M10	4	31%	F1,F2,F6,F8	4	40%

When analyzing the nonactivist behaviors of mothers and fathers in the public sphere, it is found that both groups of parents mentioned participating in collective volunteering activities related to the environment, such as tree planting or garbage collection, with their children ($n_m=4$, $n_f=4$). Moreover, the proportion of mothers and fathers who engage in these behaviors with their children was similar. This indicates that mothers and fathers in the current study actively participate in various collective volunteering activities focused on the environment together with their children. Below, there is a table which summarizes parents' nonactivist behaviors in the public sphere performed with their children in detail.

4.2.2.2. Environmental Activism Behaviors Performed by Parents with Their Children

As environmental activism behaviors are closely linked to environmental protests (Stern, 2000), the parents in this study were questioned about their participation in environmental protests with their children. While four parents reported participating in environmental protests on their own, none of the parents in the study had participated in an environmental protest with their children. Therefore, no quotes or tables examining differences between mothers, fathers, regarding this matter can be presented in this section.

4.2.3. Variations in Private and Public Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

The behaviors of parents engaged either individually or with their children are examined in this part to find out how their public and private environmentally

significant behaviors vary depending on whether they engage independently or with their children.

4.2.3.1. Variations in Private Sphere Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

This section examines the environmentally responsible consumption, resource conservation, and waste management behaviors of mothers and fathers when they engage in these behaviors either individually or with their children. It aims to explore the differences in these behaviors when parents engage in them individually compared to when they engage in them with their children.

4.2.3.1.1. Variations in Environmentally Responsible Consumption Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

The following table demonstrates any possible differences in environmentally responsible consumption behaviors among mothers and fathers depending on whether they engage with their children or individually.

According to the current study's findings, both mothers and fathers were more prone to engage in environmentally responsible consumption behaviors on their own rather than with their children. Specifically, mothers and fathers tend to exclude their children from these purchasing decisions when purchasing cruelty-free, energy-efficient, recycled, and second-hand products.

While it is generally concluded that all behaviors are performed individually, variations were found in certain behaviors depending on whether the participant is a mother or a father. For instance, two out of 13 mothers mentioned purchasing chemical-free products with their children, whereas none of the fathers engage in this behavior with their children, despite practicing it individually. A similar pattern is observed for purchasing products with eco-friendly packaging and local products.

While two mothers mentioned that they purchase eco-friendly packaged products with their children, and one mother mentioned purchasing local products with her children, none of the fathers reported engaging in these behaviors with their children, although they did individually. On the other hand, although two out of 10 fathers mentioned involving their children in purchasing long-lasting products, none of the mothers include their children in this specific buying behavior.

Table 21 *Variations in environmentally responsible consumption behaviors of mothers and fathers depending on whether they engage independently or with their children*

Theme	Categories	Codes	Behaviors Performed Individually		Behaviors Performed with the Child		
			Mothers n	Fathers n	Mothers n	Fathers n	
Environmentally Responsible Consumption	Behaviors Targeting Purchase of Eco-Friendly Products	Purchasing Chemical-Free Products	10	3	2	0	
		Purchasing Long-Lasting Products	5	5	0	2	
		Purchasing Cruelty-Free Products	6	2	0	0	
		Purchasing Products with Eco-Friendly Packaging	7	1	2	0	
		Purchasing Energy-Efficient Products	3	4	0	0	
		Purchasing Second-Hand Products	3	2	0	0	
		Purchasing Local Products	4	1	1	0	
		Purchasing Recycled Products	2	0	0	0	
		Behaviors Targeting Minimalist Consumption	Need-Based Purchasing	11	7	3	1
		Uncategorized Responses	Informing Children About Eco-Benefit and Eco-Damage of Products	0	0	2	3
Setting Eco-Rules for Children	0		0	3	0		

4.2.3.1.2. Variations in Resource Conservation Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

The following table illustrates any possible differences in resource conservation behaviors among mothers and fathers depending on whether they engage with their children or individually. In other words, all the revealed codes for environmentally significant behaviors performed individually and with their child are compared and contrasted with the following tables.

Table 22 Variations in resource conservation behaviors of mothers and fathers depending on whether they engage independently or with their children

Theme	Categories	Codes	Behaviors Performed Individually		Behaviors Performed with the Child	
			Mothers	Fathers	Mothers	Fathers
			n	n	n	n
Resource Conservation	Behaviors Targeting Conservation of Renewable Resources	Water Conservation	13	9	12	7
		Conservation of Plants and Animals	12	9	6	3
		Prevention of Environmental Pollution	12	8	8	2
	Behaviors Targeting Conservation of Nonrenewable Resources	Fossil Fuel Conservation	8	6	0	0
		Conservation of Energy Resources	13	9	7	5
	Uncategorized Responses	Warning Children To Conserve Resources	0	0	5	7
		Informing/Being Role Model for Children With Regards to Resource Conservation	0	0	6	3

In the context of resource conservation behaviors, parents mostly prefer to engage in these activities individually. However, despite this preference, a majority of them still include their children in these behaviors especially the ones related to water conservation. The only exception was behaviors targeting non-renewable resources, specifically fossil fuels, which were reported to be performed individually and not with their children.

It is worth mentioning that there was a noticeable decrease in the number of both mothers and fathers who involved their children in resource conservation behaviors compared to the number of parents who performed these behaviors individually. This suggests that any difference could not be observed among the mothers and fathers in terms of performing resource conservation behaviors with their children.

4.2.3.1.3. Variations in Waste Management Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

The following table illustrates any possible differences in waste management behaviors among mothers and fathers depending on whether they engage with their children or individually.

Table 23 Variations in waste management behaviors of mothers and fathers depending on whether they engage independently or with their children

Theme	Categories	Codes	Behaviors Performed Individually		Behaviors Performed with the Child	
			Mothers n	Fathers n	Mothers n	Fathers n
Waste Management	Behaviors Targeting Reduce of Waste	Reducing the Use of Disposable Materials	8	7	4	2
		Long-term Use of Materials	8	6	0	0
		Cooking for Portions	4	4	0	0
		Utilizing Technology to Reduce Waste	3	3	1	0
	Behaviors Targeting Reuse of Waste	Reusing Waste for Same/Different Purposes	13	10	13	9
		Donation	13	10	6	2
		Repairing	10	8	5	6
	Behaviors Targeting Recycle of Waste	Utilizing Deposit-Refund Systems	5	3	0	0
		Segregating Waste	9	3	4	1
	Uncategorized Responses	Making Compost	3	1	1	0
Informing/Being Role Model for Children With Regards to Waste Management		0	0	5	4	

In general, it was observed that both mothers and fathers were more likely to engage in waste management behaviors individually rather than involving their children. The analysis of the responses from parents indicated that both mothers and fathers do not include their children in behaviors that target long-term use of materials, cooking for portions, and utilizing deposit-refund systems, even though they engage in these behaviors individually. Additionally, there was a noticeable decrease in the number of parents who engaged in specific types of behaviors when comparing the behaviors performed individually to the behaviors performed with their children, such as reducing use of disposable materials, making donations, and segregating waste, etc.

However, it is important to note that there was a specific waste management behavior where a significant number of both mothers and fathers included their children; reusing waste for same/different purposes. Out of the 13 mothers and 10 fathers, all 13 mothers and nine out of 10 fathers, in other words, nearly all of the mothers and fathers, reported engaging in reusing waste for either the same or

different purposes with their children. Furthermore, they also individually practiced these behaviors.

When comparing the involvement levels of mothers and fathers in waste management behaviors with their children, certain similarities and differences were identified. First of all, both mothers and fathers generally prefer to engage in waste management behaviors on their own rather than performing these behaviors together with their children, a similar feature of both groups of parents. However, it is essential to note that there were certain behaviors that were performed by mothers both individually and with their children, but not by fathers, even though fathers reported engaging in those behaviors individually; specifically, utilizing technology to reduce waste, and making compost. In other words, while one out of 13 mothers mentioned utilizing technology to reduce waste, and another mother reported making compost with her child, none of the fathers reported engaging in these specific behaviors, despite practicing them individually. This indicates a difference in the involvement of mothers and fathers when it comes to including their children in utilizing technology to reduce waste, and making compost.

4.2.3.2. Variations in Public Sphere Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

This section examines the nonactivist behaviors in the public sphere, and environmental activism behaviors of parents when they engage in these behaviors either individually or with their children.

4.2.3.2.1. Variations in Parents' Nonactivist Behaviors in the Public Sphere Depending on Whether They Engage Independently or With Their Children

The following table shows any possible similarities and differences between mothers' and fathers' nonactivist behaviors in the public sphere based on whether they interact with their children or behave individually. Comparisons between both groups of parents were made with the assistance of the following table.

Table 24 Variations in mothers’ and fathers’ nonactivist behaviors in the public sphere depending on whether they engage independently or with their children

Theme	Categories	Codes	Behaviors Performed Individually		Behaviors Performed with the Child	
			Mothers	Fathers	Mothers	Fathers
			n	n	n	n
Nonactivist Behaviors in the Public Sphere	Behaviors Related to Participating in Environmental Collective Activities	Participating in Volunteer Activities Organized to Protect the Environment	8	6	4	4
		Participating in Informative Activities on Environment	7	2	0	0
		Being A Member of Environmental Organizations	3	1	0	0
	Behaviors Exhibited When Confronted with Environmental Challenges	Communicating with Authorities on Environmental Issues	4	3	0	0
		Participating in Petitions Organized on Environmental Problems	2	0	0	0

Similar to the private sphere environmentally significant behaviors, in the context of nonactivist behaviors in the public sphere, it was observed that both mothers and fathers were more likely to engage in these behaviors individually rather than involving their children. The analysis of the responses from parents indicated that both mothers and fathers do not include their children in behaviors that target participating in informative activities on the environment, being a member of environmental organizations, communicating with authorities on environmental issues, and participating in petitions organized on environmental problems. Moreover, there was a noticeable decrease in the number of parents who engaged in specific behaviors when comparing the behaviors performed individually to those performed with their children, such as participating in volunteer activities organized to protect the environment. Without any notable differences between mothers and fathers, both groups of parents tend to heavily engage in nonactivist behaviors in the public sphere individually rather than involving their children.

4.2.3.2.2. Variations in Environmental Activism Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

The following table highlights potential variations in the environmental activism behaviors of mothers and fathers based on whether they are engaging with their children or behaving independently.

Table 25 *Variations in environmental activism behaviors of mothers and fathers depending on whether they engage independently or with their children*

Theme	Categories	Codes	Behaviors Performed Individually		Behaviors Performed with the Child	
			Mothers	Fathers	Mothers	Fathers
			n	n	n	n
Environmental Activism	Behaviors Related to Environmental Protests	Attending Environmental Protests	3	1	0	0

Upon examining mothers’ and fathers’ environmental activism behaviors, it becomes apparent that both mothers and fathers attend environmental protests on their own, without their children, and those parents are quite rare. In the present study, no parents were found to bring their children to environmental protests. Without any notable differences between mothers and fathers, both groups of parents tend to heavily engage in environmental activism behaviors individually rather than involving their children.

4.3. Obstacles Stand In The Way of Mothers’ and Fathers’ Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children

Parents were finally asked about obstacles they face while performing different types of private and public sphere environmentally significant behaviors with their children. For each type of environmentally significant behavior, the barriers parents identified are provided in this section. Below, there are figures summarizing the obstacles stand in the way of mothers’ and fathers’ performing different types of private and public sphere environmentally significant behaviors with their children. The findings are presented in the same order as depicted in the Figure 13 and Figure 14. Whereas Figure 13 presents obstacles stand in the way of mothers’ and fathers’ performing private sphere environmentally significant behaviors with their children, Figure 14 presents obstacles stand in the way of mothers’ and fathers’ performing public sphere environmentally significant behaviors with their children.

Obstacles Stand in the Way of Mothers' and Fathers' Performing Private Sphere Environmentally Significant Behaviors with Their Children
Obstacles Stand in the Way of Mothers' and Fathers' Performing Environmentally Responsible Consumption Behaviors with Their Children
External Obstacles (n_m=6, n_f=7)
Environmental Factors that Drive Consumption (n _m =5, n _f =4)
Cost and Accessibility of Environmentally Friendly Products (n _m =3, n _f =6)
Urban Lifestyle (n _m =1, n _f =3)
Internal Obstacles (n_m=6, n_f=3)
Time Constraints (n _m =3, n _f =2)
Lack of Information/Awareness (n _m =3, n _f =1)
Obstacles Stand in the Way of Mothers' and Fathers' Performing Resource Conservation Behaviors with Their Children
External Obstacles (n_m=5, n_f=5)
Urban Lifestyle (n _m =3, n _f =3)
Lack of Qualified Transportation Facilities (n _m =3, n _f =3)
Safety Issues (n _m =1, n _f =1)
Internal Obstacles (n_m=8, n_f=4)
Time Constraints (n _m =7, n _f =3)
Lack of Information/Awareness (n _m =2, n _f =1)
Obstacles Stand in the Way of Mothers' and Fathers' Performing Waste Management Behaviors with Their Children
External Obstacles (n_m=11, n_f=6)
Inadequate Infrastructure for Managing Waste (n _m =10, n _f =3)
Lack of Social Consciousness (n _m =4, n _f =2)
Lack of Governmental Sanctions (n _m =3, n _f =2)
Urban Lifestyle (n _m =2, n _f =2)
Internal Obstacles (n_m=9, n_f=4)
Time Constraints (n _m =4, n _f =3)
Insecurity about the Effectiveness of Waste Management (n _m =2, n _f =3)
Lack of Information/Awareness (n _m =4, n _f =0)

Figure 13 Summary of the findings related to obstacles stand in the way of mothers' and fathers' performing private sphere environmentally significant behaviors with their children

Obstacles Stand in the Way of Mothers' and Fathers' Performing Public Sphere Environmentally Significant Behaviors with Their Children
Obstacles Stand in the Way of Mothers' and Fathers' Performing Nonactivist Behaviors in the Public Sphere with Their Children
External Obstacles (n_m=11, n_f=9)
Infrequency of Collective/Volunteer Activities (n _m =11, n _f =9)
COVID-19 (n _m =1, n _f =1)
Internal Obstacles (n_m=10, n_f=8)
Time Constraints (n _m =10, n _f =6)
Mistrust in Environmental Organizations (n _m =1, n _f =3)
Mistrust of the Effectiveness of Nonactivist Behaviors in the Public Sphere (n _m =0, n _f =2)
Obstacles Stand in the Way of Mothers' and Fathers' Performing Environmental Activism Behaviors with Their Children
External Obstacles (n_m=11, n_f=9)
Safety Issues (n _m =5, n _f =4)
Protests Defeating the Purpose (n _m =3, n _f =5)
Lack of Organization of Environmental Protests (n _m =4, n _f =0)
Inappropriateness of Environmental Protests for Children's Age (n _m =1, n _f =2)
Internal Obstacles (n_m=5, n_f=4)
Mistrust in the Effectiveness of Environmental Protests (n _m =3, n _f =2)
Time Constraints (n _m =2, n _f =2)

Figure 14 Summary of the findings related to obstacles stand in the way of mothers' and fathers' performing public sphere environmentally significant behaviors with their children

4.3.1. Obstacles Stand in The Way of Parents' Performing Private Sphere Environmentally Significant Behaviors with Their Children

This section outlines the barriers which stand in the way of mothers' and fathers' performing environmentally responsible consumption, resource conservation, and waste management behaviors with their children.

4.3.1.1. Obstacles Stand in The Way of Parents' Performing Environmentally Responsible Consumption Behaviors with Their Children

Parents cited different obstacles which prevent them from engaging in environmentally responsible consumption behaviors with their children. Six out of 13 mothers and seven out of 10 fathers mentioned external barriers which prevent them from engaging in environmentally responsible consumption behaviors with their children ($n_m=6$, $n_f=7$). Additionally, six out of 13 mothers and three out of 10 fathers highlighted the internal obstacles they encounter ($n_m=6$, $n_f=3$). Table 25 presents a comprehensive summary of the barriers cited by parents.

Table 26. *Obstacles stand in the way of mothers' and fathers' performing environmentally responsible consumption behaviors with their children*

Theme	Categories	Codes	Mothers			Fathers			
			Participants	n	Percentage	Participants	n	Percentage	
Environmentally Responsible Consumption	Environmental Factors that Drive Consumption	Environmental Factors that Drive Consumption	M4,M8,M9, M10,M12	5	38%	F1,F2,F3,F1	4	40%	
		External Obstacles	Cost and Accessibility of Environmentally Friendly Products	M7,M9,M1	2	23%	F1,F2,F3,F6, F8,F9	6	60%
			Urban Lifestyle	M4,M7	2	15%	F3,F6,F8	3	30%
	Internal Obstacles	Time Constraints	M2,M7,M1	2	33%	F2,F8	2	20%	
		Lack of Knowledge/Awareness	M1,M6,M1	3	23%	F7	1	10%	

4.3.1.1.1. External Barriers

In general, parents faced three distinct external barriers to engaging in environmentally responsible consumption behaviors more frequently with their children: environmental factors that drive consumption ($n_m=5$, $n_f=4$), the cost and accessibility of environmentally friendly products ($n_m=3$, $n_f=6$), and urban lifestyle ($n_m=2$, $n_f=3$).

Five out of 13 mothers and four out of 10 fathers highlighted the environmental factors which promotes consumption to them and their children constantly, such as media or social environment ($n_m=5$, $n_f=4$). These parents expressed that the promotion of consumption is very dominant in their daily lives, making it increasingly challenging for them to engage in environmentally responsible consumption behaviors with their children. Regarding this issue, M8 shared that *“there is a huge bombardment of consumption on television”* (M8). M9, who has similar opinions with M8 also added that *“his social environment is a barrier. More emotional factors come into play as parents. For example, my son sees costumes made entirely of polyester in his friends and he wants them. Before I became a mom, I used to say that I would never have an Elsa⁷ costume or, I don't know, a Spiderman⁸ costume for my child. No, my son does too, now. He sees and wants it”* (M9). The cost and accessibility of environmentally friendly products was another obstacle to parents' performing environmentally responsible consumption behaviors with their children, and emphasized by the three out of 13 mothers and six out of 10 fathers ($n_m=3$, $n_f=6$). These parents conveyed their concerns regarding the lack of accessibility to environmentally friendly products, citing both financial constraints and limited variety. F2 and F3 who were among those fathers cited the cost and accessibility of environmentally friendly products as a barrier, shared respectively that *“you can only find one product of this standard and they are usually a bit more expensive. Sometimes you can afford it or not, you have to give it up. So, you are not really left with much choice”* (F2) and *“well, of course, materiality is important here.*

⁷ A cartoon character.

⁸ A cartoon character.

*There needs to be a strategy for every budget” (F3). The final external barrier emphasized by mothers and fathers was urban lifestyle ($n_m=2, n_f=3$). Two out of 13 mothers and three out of 10 fathers expressed that the conditions present in urban life, such as the daily commute, absence of green spaces for planting, and the inability to produce their own food, pose significant barriers to engaging in environmentally responsible consumption behaviors with their children. M7 was among those mothers who believe that the conditions she encountered in urban life is a significant barrier, and explained her reasoning as follow: “*I’m thinking especially of urban life. All products are sold in packages. I don’t know how much attention can be paid in this situation, we cannot produce our own food*” (M7).*

When mothers’ and fathers’ external barriers towards performing environmentally significant behaviors with their children are compared, it is revealed that both groups of parents highlighted similar barriers, namely, environmental factors that drive consumption, the cost and accessibility of environmentally friendly products, and urban lifestyle. Moreover, the proportion of mothers and fathers who view environmental factors that drive consumption ($n_m=5, n_f=4$) and urban lifestyle ($n_m=2, n_f=3$) as significant barriers was also similar. On the other hand, the proportion of fathers who emphasized the cost and accessibility of environmentally friendly products ($n_m=3, n_f=6$) as a significant barrier was higher than the mothers in the current study. This signals that fathers are more likely to view the cost and accessibility of environmentally friendly products as a significant barrier towards performing environmentally responsible consumption behaviors with their children than the mothers in the current study.

4.3.1.1.2. Internal Barriers

When mothers and fathers were asked regarding the barriers on engaging in environmentally responsible consumption behaviors with their children, according to their responses, in order to engage in environmentally responsible consumption behaviors with their children more regularly, they have to overcome two internal barriers in addition to external ones: time constraints ($n_m=3, n_f=2$), and lack of knowledge/awareness ($n_m=3, n_f=1$).

Three out of 13 mothers and two out of 10 fathers reported that they do not have enough time to perform environmentally responsible consumption behaviors with their children ($n_m=3$, $n_f=2$). These parents stressed how little time they had to spend with their children, which left little time for practicing these behaviors. M2 and F8, who hold similar views on time constraints, expressed their perspectives as follows: “*it also makes our lives easier, for example, a plastic cup, but instead of dealing with the buttermilk dishes at that moment, it is easier for us to drink the glass and throw it in the garbage at that moment, because we don't have time*” (M2) and “*unfortunately, it is difficult to do these things in the chaos of life in the evenings, especially after work, because we have to live quickly due to our current life and time conditions*” (F8). Lastly, three out of 13 mothers and one out of 10 fathers emphasized that they do not have enough knowledge or awareness, to be environmentally responsible consumers, so they also cannot perform those behaviors with their children ($n_m=3$, $n_f=1$). “*Because I don't know much about it. Maybe if I had more knowledge and awareness on this subject, maybe yes, I could do more with my child*” (M1) and “*Actually, we as parents are not fully conscious about this issue*” (F7) were explanations given by M1 and F7 on lack of knowledge/awareness as a significant internal barrier.

When mothers’ and fathers’ self-reported internal barriers towards performing environmentally responsible consumption behaviors with their children were compared, it is concluded that both mothers and fathers reported similar barriers on this issue, namely, time constraints ($n_m=3$, $n_f=2$), and lack of knowledge/awareness ($n_m=3$, $n_f=1$). While the proportion of mothers and fathers who perceive time constraints as a barrier is similar, the proportion of mothers and fathers who consider lack of information/awareness as a barrier differs. In the present study, mothers were more prone than fathers to perceive lack of information/awareness as a barrier.

4.3.1.2. Obstacles Stand in The Way of Parents’ Performing Resource Conservation Behaviors with Their Children

Parents cited different obstacles which prevent them from engaging in resource conservation behaviors with their children. Five out of 13 mothers and five out of 10

fathers mentioned external barriers which prevent them from engaging in resource conservation behaviors with their children ($n_m=5$, $n_f=5$). Moreover, eight out of 13 mothers and four out of 10 fathers highlighted the internal obstacles they encounter ($n_m=8$, $n_f=4$).

Table 27 *Obstacles stand in the way of mothers' and fathers' performing resource conservation behaviors with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Resource Conservation	External Obstacles	Urban Lifestyle	M7,M9,M10	3	23%	F1,F6,F8	3	30%
		Lack of Qualified Transportation Facilities	M1,M4,M7	3	23%	F6,F7,F10	3	30%
		Safety Issues	M7	1	8%	F10	1	10%
	Internal Obstacles	Time Constraints	M2,M6,M8, M9,M10,M11,M12	7	54%	F2,F4,F6	3	30%
		Lack of Knowledge/Awareness	M8,M13	2	15%	F7	1	10%

4.3.1.2.1. External Barriers

In general, parents faced three different external barriers to engaging in environmentally responsible consumption behaviors more frequently with their children: urban lifestyle ($n_m=3$, $n_f=3$), lack of qualified transportation facilities ($n_m=3$, $n_f=3$), and safety issues ($n_m=1$, $n_f=1$).

Three out of 13 mothers and three out of 10 fathers expressed that since they live in a big city, they cannot properly conserve resources with their children ($n_m=3$, $n_f=3$) due to the conditions of urban living. M9 elaborated on the issue “*my child grew up in the big city with us. He always grew up in apartments. We live on the 16th floor, and we always use the elevator. We have no other alternative...* (In terms of electrical energy conservation).” (M9). Lack of qualified transportation facilities was another

barrier cited by three out of 13 mothers and three out of 10 fathers, especially for performing behaviors targeting the conservation of fossil fuels with their children ($n_m=3$, $n_f=3$). These parents highlighted that if they had access to qualified transportation facilities, they could more frequently utilize public transportation with their children, which, in turn, provides conservation of fossil fuels. On this issue, F10 shared that *“the fact that transportation is not very easy is a bit of an obstacle. I mean, I travel abroad. In some of the countries I have visited, public transportation facilities are very good. Like Japan, Czech Republic. There, instead of taking a taxi, I used to commute directly by public transportation, and it was a change for me, and we reduced the use of private vehicles. There is no such thing in Ankara, it is very difficult”* (F10). Lastly, safety issues were also reported by one out of 13 mothers and one out of 10 fathers in the current study as a barrier to performing resource conservation behaviors with their children ($n_m=1$, $n_f=1$). Both parents emphasized stray dog problems in Ankara and highlighted that since they are many in number, they could not prefer to walk with their children; instead, they use their private cars. F10 shared his experience: *“Unfortunately, the problem of stray dogs on the streets is also a bit of an obstacle; it is a bit difficult to walk with children; there are many dogs right outside the building we live in”* (F10).

When examining the external barriers faced by mothers and fathers in engaging in resource conservation behaviors with their children, it becomes apparent that both groups perceive urban lifestyle ($n_m=3$, $n_f=3$), lack of qualified transportation facilities ($n_m=3$, $n_f=3$), and safety issues ($n_m=1$, $n_f=1$) as barriers. Moreover, the proportion of mothers and fathers who consider these issues as barriers is similar.

4.3.1.2.2. Internal Barriers

According to responses of mothers and fathers, in order to engage in resource conservation behaviors with their children more regularly, they have to overcome two internal barriers in addition to external ones: time constraints ($n_m=7$, $n_f=3$), and lack of knowledge/awareness ($n_m=2$, $n_f=1$).

Seven out of 13 mothers and three out of 10 fathers reported that they do not have enough time to perform resource conservation behaviors with their children ($n_m=7$,

$n_f=3$). M6 expressed their perspective on this matter, stating, *“I work very hard and so does my husband. We both work hard as parents. Therefore, even on the weekend, we didn't have many activities such as a forest walk or an event where we could explain that we would value our resources”* (M6). Lack of knowledge/awareness was another barrier reported by two out of 13 mothers and one out of 10 fathers ($n_m=2$, $n_f=1$). Simply put, these three parents mentioned that they would be open to conserving resources with their children, but they lack knowledge about specific strategies for doing so. As a result, they are unable to engage in such behaviors. Regarding this issue, M8 and F7 shared their perspectives as follows: *“we don't really have a different awareness. It seems to me that different things can be done, for example, about protecting the air or saving energy. I mean, I think maybe it would be good for us to be more aware. As parents, we should be aware of what can be done with our children”* (M8) and *“we do as much as we are conscious with our children. We can be more conscious about this”* (F7).

When examining the internal barriers faced by mothers and fathers in engaging in resource conservation behaviors with their children, it becomes apparent that both groups perceive time constraints ($n_m=7$, $n_f=3$), and lack of knowledge/awareness ($n_m=2$, $n_f=1$) as barriers. Moreover, the proportion of mothers and fathers who consider these issues as barriers is similar as well. This signals that both mothers and fathers in the current study tend to view time constraints and lack of knowledge/awareness as a barrier to performing resource conservation behaviors with their children without any difference between the two groups of parents.

4.3.1.3. Obstacles Stand in The Way of Parents' Performing Waste Management Behaviors with Their Children

Parents have highlighted a variety of barriers that prevent them from engaging in waste management behaviors with their children. 11 out of 13 mothers and six out of 10 fathers mentioned external barriers which prevent them from engaging in waste management behaviors with their children ($n_m=11$, $n_f=6$). Moreover, nine out of 13 mothers and four out of 10 fathers highlighted the internal barriers they encounter ($n_m=9$, $n_f=4$).

Table 27 provides an in-depth description of the obstacles stated by mothers and fathers for engaging in waste management behaviors more regularly with their children.

Table 28 *Obstacles stand in the way of mothers' and fathers' performing waste management behaviors with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Waste Management	External Obstacles	Inadequate Infrastructure for Managing Waste	M1,M2,M3, M4,M5,M6, M7,M10,M12,M13	10	77%	F2,F7,F10	3	30%
		Lack of Social Consciousness	M2,M7,M9, M10	4	31%	F9,F10	2	20%
		Lack of Governmental Sanctions	M2,M10,M12	3	23%	F3,F9	2	20%
		Urban Lifestyle	M1,M10	2	15%	F3,F8	2	20%
		Time Constraints	M1,M2,M6, M11	4	31%	F3,F4,F6	3	30%
	Internal Obstacles	Insecurity about the Effectiveness of Waste Management	M8,M12	2	15%	F3,F6,F9	3	30%
		Lack of Knowledge/Awareness	M1,M4,M7, M13	4	31%		0	0%

4.3.1.3.1. External Barriers

In general, parents faced four different external barriers to engaging in waste management behaviors more frequently with their children: inadequate infrastructure for managing waste ($n_m=10$, $n_f=3$), lack of social consciousness ($n_m=4$, $n_f=2$), lack of governmental sanctions ($n_m=3$, $n_f=2$) and urban lifestyle ($n_m=2$, $n_f=2$).

10 out of 13 mothers and three out of 10 fathers reported that there is inadequate infrastructure for waste management, in other words, they could not find any bins to segregate their waste or places where organic waste could be collected and utilized for compost. Some parents highlighted that even garbage bins are lacking, rather than

waste segregation bins ($n_m=10$, $n_f=3$). Regarding this issue, M4 and F10 shared the following statements respectively; *“because there are no sorting boxes around, there is no place where I can sort. It would be better if they were more frequent, in terms of sorting, and the child can also see this. He can better observe what to throw which box”* (M4) and *“the municipality once distributed posters saying that we will collect your waste every Tuesday of the week if you pack it separately. My wife and I started to pack everything separately, glass, boxes, etc. We waited, no one came. Finally, we saw a truck somewhere collecting waste one day. We asked why they didn't come, and we got the answer that we can't go everywhere”* (F10). Lack of social consciousness regarding waste management was another barrier cited by four out of 13 mothers and two out of 10 fathers in the current study ($n_m=4$, $n_f=2$). These parents emphasized that even if they manage their waste properly with their children, other people generally do not, which discourages them and sets a wrong role model for their children. *“You sort your waste and put it in recycling bins, and other people throw their garbage on top of it. Awareness is very lacking”* was a response given by M2 regarding lack of social consciousness. Three out of 13 mothers and two out of 10 fathers expressed that there should be governmental sanctions people to manage their waste. They believe that through this approach, a sense of collectivity can be achieved, and their own waste management efforts with their children can become more meaningful. On this issue, M12 shared that *“In Japan, for example, you cannot throw away wooden furniture waste. There is a tax on this. You know, maybe there could be such sanctions, municipalities charging garbage tax would lead to proper monitoring of waste and it would be valuable. Right now, you can throw a sofa next to the garbage and no one can ask you what you are doing. This is discouraging”* (M12). Lastly, two out of 13 mothers and two out of 10 mothers expressed that due to the living conditions in urban life, they could not manage their waste properly with their children ($n_m=2$, $n_f=2$). Especially, these parents highlighted that they struggle to reduce waste with their children due to the prevalence of packaging in urban lifestyles. M1 elaborated on this issue, stating, *“I know life in the village. We used to go to the village in the summer. Life in the village was not like this, we had no waste. There wasn't even a place for garbage in the village. We used to give the leftovers to the animals, the packages didn't come out much. Now we live in an apartment, it doesn't suit our lifestyle”* (M1).

When mothers' and fathers' cited external barriers regarding waste management behaviors performed with their children is analyzed, it is revealed that both groups of parents have similar barriers towards these behaviors, namely, inadequate infrastructure for managing waste ($n_m=10$, $n_f=3$), lack of social consciousness ($n_m=4$, $n_f=2$), lack of governmental sanctions ($n_m=3$, $n_f=2$) and urban lifestyle ($n_m=2$, $n_f=2$). Although the proportion of parents who view lack of social consciousness, lack of governmental sanctions, and urban lifestyle as barriers is similar, there is a difference in the proportion of mothers and fathers who view inadequate infrastructure for managing waste. According to the findings of the current study, mothers tend to perceive inadequate infrastructure as a greater hindrance to performing waste management behaviors with their children compared to fathers.

4.3.1.3.2. Internal Barriers

According to responses of mothers and fathers, in order to engage in waste management behaviors with their children more regularly, they have to overcome three internal barriers in addition to external ones: time constraints ($n_m=4$, $n_f=3$), insecurity about the effectiveness of waste management ($n_m=2$, $n_f=3$) and lack of knowledge/awareness ($n_m=4$, $n_f=0$).

Four out of 13 mothers and three out of 10 fathers reported that they do not have enough time to perform waste management behaviors with their children ($n_m=7$, $n_f=3$). M6 expressed their perspective on this matter, stating, *"I mean, if there was time, it would be a topic I would really like to focus on. For example, we can't say we had dinner, we can separate the leftovers", even that is a burden because of the time. We just throw it in the garbage. It is actually an obstacle because we have to speed things up"* (M6). Insecurity about the effectiveness of waste management was another obstacle cited by two out of 13 mothers and three out of 10 fathers in the current study ($n_m=2$, $n_f=3$). These parents highlighted that even if they manage waste properly, primarily through waste segregation, they do not believe it to be useful or valuable. All five of these parents stated that due to their lack of belief in its effectiveness, they preferred not to engage in these behaviors with their children. *"You put the waste in boxes, and then you don't know whether it goes where it is*

supposed to or not” (F6) and “Recycling can become demotivating when our efforts seem pointless, and all the waste ends up in the same landfill. These tasks demand significant effort in terms of labor, time, and patience. When we realize that our hard work will not yield good results, it naturally discourages people. This leads them to consider giving up and just throwing things away, rather than washing and sorting them. This feeling is very human and understandable” (F9) was statements which include the opinions of F6 and F9 regarding insecurity about the effectiveness of waste management as a barrier. The final internal barrier mentioned by four out of 13 mothers was lack of knowledge/awareness ($n_m=4$, $n_f=0$). These mothers believe that if they have a higher levels of waste management knowledge, they could perform these behaviors more with their children. M4 was one of the mothers who commented on this issue, stating, “for example, a paper with gelatin on the outside, I don't know where to throw it, in plastic or in paper, I can't show it to the child” (M4).

When mothers’ and fathers’ cited internal barriers regarding waste management behaviors performed with their children is analyzed, some differences and similarities are emerged. Firstly, both mothers and fathers view time constraints and insecurity about the effectiveness of waste management as significant barriers to performing waste management behaviors with their children. However, it was specifically the mothers who mentioned that their own lack of knowledge and awareness regarding proper waste management is also a significant barrier. They recognized that if they themselves do not know how to manage waste properly, they cannot effectively perform these behaviors with their children. This finding indicates that, in the current study, mothers were more likely than fathers to perceive a lack of knowledge and awareness as an obstacle to engaging in waste management behaviors with their children.

4.3.2. Obstacles Stand in The Way of Parents’ Performing Public Sphere Environmentally Significant Behaviors with Their Children

This section outlines the barriers which stand in the way of mothers’ and fathers’ performing nonactivist behaviors in the public sphere, and environmental activism behaviors with their children.

4.3.2.1. Obstacles Stand in The Way of Parents' Performing Nonactivist Behaviors in the Public Sphere with Their Children

Mothers and fathers mentioned different barriers which prevent them from engaging in nonactivist behaviors in the public sphere with their children. 11 out of 13 mothers and nine out of 10 fathers mentioned external barriers which prevent them from engaging in nonactivist behaviors in the public sphere with their children ($n_m=11$, $n_f=9$). Additionally, 10 out of 13 mothers and eight out of 10 fathers highlighted the internal obstacles they encounter ($n_m=10$, $n_f=8$).

Table 28 provides an in-depth description of the obstacles stated by mothers and fathers for engaging in nonactivist behaviors in the public sphere more regularly with their children.

Table 29 *Obstacles stand in the way of mothers' and fathers' performing nonactivist behaviors in the public sphere with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Nonactivist Behaviors in the Public Sphere	External Obstacles	Infrequency of Collective/Volunteer Activities	M1,M2,M3,M4,M5,M6,M7,M8,M9,M12,	11	85%	F1,F2,F4,F5,F6,F7,F8,F9,F10	9	90%
		COVID-19	M12	1	8%	F4	1	10%
		Time Constraints	M1,M2,M3,M5,M7,M9,M10,M11,M12,M13	10	77%	F2,F3,F4,F5,F8,F9	6	60%
	Internal Obstacles	Mistrust in Environmental Organizations	M10	1	8%	F6,F9,F10	3	30%
Mistrust of the Effectiveness of Nonactivist Behaviors in the Public Sphere			0	0%	F3,F10	2	20%	

4.3.2.1.1. External Barriers

In general, parents faced two distinct external barriers to engaging in nonactivist behaviors in the public sphere more frequently with their children: infrequency of collective/volunteer activities ($n_m=11$, $n_f=9$) and COVID-19 ($n_m=1$, $n_f=1$).

11 out of 13 mothers and nine out of 10 fathers mentioned that many of the activities which are related to nonactivist behaviors in the public sphere, such as volunteering activities, informative activities, or petitions on environmental issues, are not frequent, so they could not attend such activities with their children ($n_m=11$, $n_f=9$). Moreover, they also emphasized that even if waste management activities are conducted frequently, they lack knowledge about them. Therefore, they suggested that these activities should be better announced. On this issue, M13 and F6 respectively shared that “*unfortunately, such activities are very limited. Also, these events need to be reflected more prominently in the media, no one knows about them*” (M13) and “*we haven't participated so far because they haven't organized much, or we haven't heard about it*” (F6). The other external barrier mentioned by one out of 13 mothers and one out of 10 fathers was COVID-19 ($n_m=1$, $n_f=1$). These parents stressed that their children are highly affected by the pandemic conditions, such as curfews, so they could not attend any activities related to nonactivist behaviors in the public sphere. F4 elaborated on this issue, stating “*The pandemic ended 2 years after she was born. After the age of 2, she slowly started to meet people. Otherwise, she didn't see people before that. There was no one on the street, we didn't go out, so we didn't have the opportunity to participate*” (F4).

When mothers’ and fathers’ cited external barriers regarding nonactivist behaviors in the public sphere performed with their children is analyzed, it is found that both mothers and fathers have similar views on these barriers. Both group of parents emphasized that infrequency of collective/volunteer activities ($n_m=11$, $n_f=9$) and COVID-19 ($n_m=1$, $n_f=1$) were significant barriers to engage in nonactivist behaviors in the public sphere with their children.

4.3.2.1.2. Internal Barriers

According to responses of mothers and fathers, in order to engage in nonactivist behaviors in the public sphere with their children more regularly, they have to overcome three internal barriers in addition to external ones: time constraints ($n_m=10$, $n_f=6$), mistrust in environmental organizations ($n_m=1$, $n_f=3$) and mistrust of the effectiveness of nonactivist behaviors in the public sphere ($n_m=0$, $n_f=2$).

10 out of 13 mothers and six out of 10 fathers reported that they do not have enough time to perform nonactivist behaviors in the public with their children ($n_m=10$, $n_f=6$). In other words, these parents emphasized that they lack the time to attend volunteering or informative events on the environment and take action against environmental issues with their children. M7 expressed their perspective on this matter, stating, *“It's a matter of time. I really don't have much time because I work very hard. Such events can usually happen on weekends. I don't have time for that either”* (M7). Since being a member of environmental organizations or attending the events they organized is a nonactivist behavior in the public sphere, one out of 13 mothers and three out of 10 fathers expressed that they do not trust environmental organizations in general ($n_m=1$, $n_f=3$). Regarding their reasoning, F6 conveyed that *“we don't intervene too much in these NGOs because they don't do the work they are supposed to do but get involved in politics”* (F6). Lastly, two out of 10 fathers mentioned that they do not trust the effectiveness of involving nonactivist behaviors in the public sphere, so they do not prefer to attend such activities with their children ($n_m=0$, $n_f=2$). F3 shared the rationale behind this preference as follows: *“I don't really believe in it. I don't believe in the magnitude of its impact because, as I said, if you live in the city, the impact is very minimal or it's just that decisions need to be made at a level above NGOs. So, I don't do much about it. I don't want to spend time with my child in there”* (F3).

When mothers' and fathers' cited internal barriers regarding nonactivist behaviors in the public sphere performed with their children is analyzed, some differences and similarities are emerged. Firstly, both mothers and fathers view time constraints ($n_m=10$, $n_f=6$), mistrust in environmental organizations ($n_m=1$, $n_f=3$) as significant barriers to engage in nonactivist behaviors in the public sphere with their children. However, the proportion of fathers who view mistrust in environmental organizations as a barrier was higher than the mothers. Moreover, there were two fathers, out of 10, who mentioned mistrust of the effectiveness of nonactivist behaviors in the public sphere ($n_m=0$, $n_f=2$), whereas none of the mothers cited this as a barrier. When these differences are considered, it can be concluded that fathers in the current study were more likely to view mistrust in environmental organizations and mistrust of the effectiveness of nonactivist behaviors in the public sphere as a

significant barrier to engage in nonactivist behaviors in the public sphere with their children, compared to mothers.

4.3.2.2. Obstacles Stand in The Way of Parents' Performing Environmental Activism Behaviors with Their Children

When participating mothers and fathers were asked regarding the obstacles stand in the way of them in terms of performing environmental activism behaviors with their children, they mentioned different barriers which prevent them from engaging in these behaviors. 11 out of 13 mothers and nine out of 10 fathers mentioned external barriers which prevent them from engaging in environmental activism behaviors with their children ($n_m=11$, $n_f=9$). Additionally, five out of 13 mothers and four out of 10 fathers highlighted the internal obstacles ($n_m=5$, $n_f=4$). In other words, the responses of mothers and fathers revealed two different categories being external and internal, similar with the other subdimensions of environmentally significant behaviors.

Table 30 *Obstacles stand in the way of mothers' and fathers' performing environmental activism behaviors with their children*

Theme	Categories	Codes	Mothers			Fathers		
			Participants	n	Percentage	Participants	n	Percentage
Environmental Activism	External Obstacles	M1,M2,M3, Safety Issues	M5,M11	5	38%	F3,F7,F8,F9	4	40%
		Protests						
		Defeating the Purpose	M7,M10,M11	3	23%	F4,F6,F8,F9, F10	5	50%
		Lack of Organization of Environmental Protests	M3,M4,M12, M13	4	31%		0	0%
		Inappropriateness of Environmental Protests for Children's Age	M6	1	8%	F1,F2	2	20%
	Internal Obstacles	Mistrust in the Effectiveness of Environmental Protests	M1,M2,M13	3	23%	F1,F3	2	20%
		Time Constraints	M8,M9	2	15%	F2,F5	2	20%

4.3.2.2.1. External Barriers

In general, parents faced four different external barriers to engaging in environmental activism behaviors more frequently with their children: safety issues ($n_m=5$, $n_f=4$), protests defeating the purpose ($n_m=3$, $n_f=5$), lack of organization of environmental protests ($n_m=4$, $n_f=0$) and inappropriateness of environmental protests for children's age ($n_m=1$, $n_f=2$). Five out of 13 mothers and four out of 10 fathers highlighted safety issues in the protests in general ($n_m=5$, $n_f=4$). These parents stated that it is unsafe to bring their children to protest because of the violence they may experience. On safety issues, F8 and F3 commented respectively that *"I would not want to take my child to these protests anyway, as I think there may be a security weakness in environmental protests. Even when my child starts to make his/her own decision, I actually don't want my child to participate"* (F8) and *"we are not Norway or Sweden. Let's accept this for once. What my child will experience about the protest here will only be violence"* (F3). Another significant external barrier cited by three out of 13 mothers and five out of 10 fathers was protests defeating the purpose ($n_m=3$, $n_f=5$). These eight parents believe that even if the protest is organized to address an environmental issue, the actual protest is not done for the environment but for political issues. That is why these mothers and fathers prefer not to bring their children to environmental protests, as it defeats the purpose. F8 elaborated on this issue, stating, *"while I find some of the environmental protests justified, some of them raise questions about their purpose. I mean, as far as I can see, I can't say that the main purpose there is the environment"* (F8). Lack of organization of environmental protests was another barrier mentioned by four out of 13 mothers ($n_m=4$, $n_f=0$). These mothers mentioned that they have not heard about many environmental protests, as such activities are scarce. Therefore, they do not attend environmental protests with their children. *"I don't see any protests about the environment. I mean, it's not on the agenda anyway"* was the statement of M4 regarding the infrequency of environmental protests. The final external barrier reported by one out of 13 mothers and two out of 10 fathers was inappropriateness of environmental protests for children's age ($n_m=1$, $n_f=2$). These parents believe that their children are too young to attend any type of protests or advocate at such a level. Regarding this, M6 stated that

“environmental protests may be for a slightly older age group, it is not something that is suitable for my daughter. She cannot protest or defend at this age” (M6).

When mothers' and fathers' cited external barriers regarding environmental activism behaviors performed with their children is analyzed, some differences and similarities are emerged. Firstly, both mothers and fathers tend to view safety issues, protests defeating the purpose and inappropriateness of environmental protests for children's age as significant barriers to perform environmental activism behaviors with their children. However, although the proportion of mothers and fathers who view the safety issues ($n_m=5$, $n_f=4$) as a barrier is quite similar, proportion of fathers who mentioned protests defeating the purpose ($n_m=3$, $n_f=5$) and inappropriateness of environmental protests for children's age ($n_m=1$, $n_f=2$) as barriers was higher than the mothers. On the other hand, mothers in the current study reported lack of organization of environmental protests as a significant barrier as well, whereas none of the fathers mentioned so. All in all, it can be concluded that fathers in the current study were more likely to view protests defeating the purpose and the inappropriateness of environmental protests for children's age as significant barriers to engaging in environmental activism behaviors with their children. On the other hand, mothers tended to regard the lack of organization of environmental protests as a significant barrier.

4.3.2.2.2. Internal Barriers

According to responses of mothers and fathers, in order to engage in environmental activism behaviors with their children more regularly, they have to overcome two internal barriers in addition to external ones: mistrust in the effectiveness of environmental protests ($n_m=3$, $n_f=2$) and time constraints ($n_m=2$, $n_f=4$). Three out of 13 mothers and two out of 10 fathers reported that they do not believe in the effectiveness of environmental protests ($n_m=3$, $n_f=2$). In other words, these parents emphasized in their responses that attending environmental protests would not change anything and would not solve any environmental problems. That is why, these parents do not prefer to perform environmental activism behaviors with their children. Regarding this issue, M1 stated that *“protests don't make anything better,*

unfortunately, according to my observations. I think yes, they should be done, but I don't think it changes anything” (M1). The last internal barrier mentioned was time constraints. Two out of 13 mothers and four out of 10 fathers conveyed that they do not have enough time to perform environmental activism behaviors with their children ($n_m=2$, $n_f=4$). F5 expressed his perspective on this matter, stating, *“As I said, we really don't have time to participate in such things (environmental protests)”* (F5).

When mothers' and fathers' cited internal barriers regarding environmental activism behaviors performed with their children is analyzed, it is found that both mothers and fathers have similar views on these barriers. Both group of parents emphasized that mistrust in the effectiveness of environmental protests ($n_m=3$, $n_f=2$) and time constraints ($n_m=2$, $n_f=4$) were significant barriers to engage in environmental activism

4.4. Key Findings

4.4.1. Definitions of Mothers and Fathers Regarding Different Types of Private and Public Sphere Environmentally Significant Behaviors

- According to the participants, environmentally responsible consumers are individuals who purchase recyclable ($n_m=5$, $n_f=4$), chemical-free ($n_m=4$, $n_f=3$), environmentally friendly packaged ($n_m=3$, $n_f=4$), local ($n_m=2$, $n_f=1$), biodegradable ($n_m=1$, $n_f=2$), cruelty-free ($n_m=2$, $n_f=0$), eco-friendly branded ($n_m=1$, $n_f=1$), and energy efficient ($n_m=0$, $n_f=1$) products in a minimalist way ($n_m=3$, $n_f=0$) and individuals who not dispose the product in the environment after use ($n_m=4$, $n_f=4$), and engage in recycling ($n_m=4$, $n_f=2$). In terms of differences between mothers and fathers, mothers defined environmentally significant behaviors by mentioning purchasing cruelty-free products and making need-based purchases, which fathers did not mention. On the other hand, one father included purchasing energy-efficient products in his definition, while none of the mothers did.

- The participants defined resource conservation as conservation of water ($n_m=13, n_f=9$), nature ($n_m=2, n_f=3$), electrical energy ($n_m=5, n_f=3$), and fossil fuels ($n_m=1, n_f=3$). Both groups of parents generally had similar definitions, except fathers were more inclined to include the conservation of fossil fuels in their definition of resource conservation than mothers.
- Waste is described as material that is unneeded/non-essential ($n_m=7, n_f=4$), unrecyclable ($n_m=4, n_f=1$), recyclable ($n_m=2, n_f=2$), leftover ($n_m=1, n_f=2$) and biodegradable through a long process in nature ($n_m=0, n_f=1$) by the participants. Both mothers and fathers regarded waste as materials that are unnecessary or non-essential, and capable of being recycled; however, only one father defined waste as materials with a lengthy biodegradation time in nature, none of the mothers included this aspect in their definitions. On the other hand, the proportion of mothers defining waste as unrecyclable ($n_m=4, n_f=1$) was higher than fathers. With regards to waste management, the participants defined the term as waste segregation and recycling ($n_m=9, n_f=7$), waste collection and disposal ($n_m=3, n_f=1$), and reducing waste ($n_m=0, n_f=1$). In general, mothers and fathers have similar definitions of waste management. However, mothers are more likely to include waste collection and disposal in their definition, while one father specifically emphasizes waste reduction, which none of the mothers do.
- The participants defined nonactivist behaviors in the public sphere as participation to garbage collection ($n_m=8, n_f=7$), tree-planting ($n_m=7, n_f=3$), and informative events on environment ($n_m=1, n_f=3$). Both groups share similar views on the meaning of the term in relation to garbage collection and tree planting. However, a higher proportion of fathers define the term with informative events.
- The participants defined environmental activists as individuals/institutions with environmental knowledge and sensitivity ($n_m=6, n_f=7$), individuals/institutions advocating for the environment ($n_m=8, n_f=3$) and people using force to protect the environment ($n_m=2, n_f=2$). However, more

mothers than fathers mentioned individuals/institutions advocating for the environment in their definitions.

4.4.2. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually

- The participants conveyed that they purchase chemical-free ($n_m=10$, $n_f=3$), long-lasting ($n_m=5$, $n_f=5$), cruelty-free ($n_m=6$, $n_f=2$), eco-friendly packaged ($n_m=7$, $n_f=1$), energy-efficient ($n_m=3$, $n_f=4$), second-hand ($n_m=3$, $n_f=2$), local ($n_m=4$, $n_f=1$) and recycled ($n_m=2$, $n_f=0$) products, and make need-based purchases ($n_m=11$, $n_f=7$). Less than half of the mothers and fathers preferred the green products except for chemical-free ones, indicating a low involvement in environmentally responsible consumption behaviors especially regarding purchasing green products. The proportion of mothers who performed behaviors targeting purchasing chemical-free, cruelty-free, eco-friendly packaged, recycled and local products was higher compared to fathers. It seems that mothers engage in more environmentally responsible consumption behaviors and exhibit a greater variety of such behaviors than fathers.
- Participants in the current study conserve water ($n_m=13$, $n_f=9$), protect animals and plants ($n_m=12$, $n_f=9$), prevent environmental pollution ($n_m=12$, $n_f=8$), conserve fossil fuels ($n_m=8$, $n_f=6$) and conserve electrical energy ($n_m=13$, $n_f=9$). Nearly all of the mothers and fathers engage in various resource conservation behaviors, indicating a high level of involvement. There were no notable differences between two groups of parents.
- Participants in the current study reduce the use of disposable materials ($n_m=8$, $n_f=7$), use materials for long time ($n_m=8$, $n_f=6$), cook for portions ($n_m=4$, $n_f=4$), utilize technology to reduce waste ($n_m=3$, $n_f=3$), make donations ($n_m=13$, $n_f=10$), reuse their waste for different/similar purposes ($n_m=13$, $n_f=10$), do repairing ($n_m=10$, $n_f=8$), utilize deposit-refund systems ($n_m=5$, $n_f=3$), segregate waste ($n_m=9$, $n_f=3$) and make compost ($n_m=3$, $n_f=1$). Also, more than half of the mothers and fathers practice different kinds of reducing and reusing behaviors, but recycling was less common compared to reducing

and reusing. Both mothers and fathers engage in similar behaviors in terms of reducing and reusing their waste. However, although both groups of parents practice behaviors targeting recycling, proportion of mothers was higher than the fathers in the current study.

- Within the scope of nonactivist behaviors in the public sphere, the participants attend environmental volunteering activities ($n_m=8$, $n_f=6$), informative activities on the environment ($n_m=7$, $n_f=2$), become members of environmental organizations ($n_m=3$, $n_f=1$), contact the authorities to solve environmental problems ($n_m=4$, $n_f=3$) and attend petition campaigns to stop the environmental problems ($n_m=2$, $n_f=0$). Besides participating in environmental volunteering activities, less than half of the parents engaged in non-activist behaviors in public sphere, and all these actions were one-time occurrences instead of regular habits, showing low involvement in these behaviors. The proportion of mothers who attend volunteering and informative activities and sign petitions was higher than that of fathers.
- Participants in the current study attend environmental protests ($n_m=3$, $n_f=1$), however, the level of participation is notably low.
- Private sphere behaviors were more regularly performed than public sphere behaviors by both group of parents.
- The most commonly performed behaviors among both mothers and fathers were related to resource conservation in general, and reusing waste as part of waste management. Additionally, environmental activism behaviors were the least common among both groups.

4.4.3. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children

- The participants reported that they purchase chemical-free ($n_m=2$, $n_f=0$), long-lasting ($n_m=0$, $n_f=2$), eco-friendly packaged ($n_m=2$, $n_f=0$), and local ($n_m=1$, $n_f=0$) products and make need-based purchases ($n_m=3$, $n_f=1$) with their children. There were critical differences between two groups of parents; whereas mothers reported purchasing chemical-free, eco-friendly packaged

and local products with their children, none of the fathers did so. Moreover, the proportion of mothers who make need-based purchases with their children exceeds the proportion of fathers. On the other hand, whereas fathers conveyed that they purchase long-lasting products with their children, none of the mothers gave a response in this manner.

- The participants conserve water ($n_m=12$, $n_f=5$), plants/animals ($n_m=6$, $n_f=3$), electrical energy ($n_m=7$, $n_f=5$) and prevent environmental pollution ($n_m=8$, $n_f=2$) with their children. The proportion of mothers was higher than that of fathers when it comes to the prevention of environmental pollution. The other behaviors were similar between the two groups.
- The participants reduce use of disposable materials ($n_m=4$, $n_f=2$), utilize technology to reduce waste ($n_m=1$, $n_f=0$), reuse their waste for similar/different purposes ($n_m=13$, $n_f=9$), do repairing ($n_m=5$, $n_f=6$), make donations ($n_m=6$, $n_f=2$), segregate waste ($n_m=4$, $n_f=1$), and make compost ($n_m=1$, $n_f=0$) with their children. The proportion of mothers was higher than fathers in terms of the use of technology to minimize waste, making donations, segregation of waste, and making compost. Mothers outperformed fathers in terms of engaging in waste management behaviors with their children.
- The only nonactivist behavior reported by the participants was participating in environmental collective activities with their children ($n_m=4$, $n_f=4$). Both groups of parents perform this behavior with their children.
- Both mothers and fathers don't prefer to attend environmental protests with their children.
- In addition to behaviors performed together, mothers and fathers also prefer to explain their children why it is essential to buy eco-friendly products ($n_m=2$, $n_f=3$), set rules for them to make need-based purchases ($n_m=3$, $n_f=0$), warn their children to conserve resources ($n_m=5$, $n_f=7$), inform/be role model for their children to promote resource conservation ($n_m=6$, $n_f=3$), and inform/be a role model for their children to promote waste management

behaviors ($n_m=5$, $n_f=4$). Setting rules for need-based purchases was only valid for mothers. Other methods were preferred both mothers and fathers.

- Both mothers and fathers perform private sphere behaviors more regularly than public sphere behaviors with their children.
- The most commonly performed behaviors among both mothers and fathers were related to resource conservation in general, and reusing waste as part of waste management. Environmental activism behaviors were the least common among both groups.

4.4.4. Variations in Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

- Mothers were found to engage in environmentally responsible consumption behaviors more than fathers, particularly displaying a strong inclination towards purchasing chemical-free products ($n_m=10$, $n_f=3$) and the lowest inclination towards buying recycled products individually ($n_m=2$, $n_f=0$). On the other hand, both groups show an attention to making need-based purchases ($n_m=11$, $n_f=7$). When behaviors performed with children is investigated, it is revealed that both mothers and fathers are more inclined to individually engage in all behaviors within environmentally responsible consumption. However, while fathers only pay attention to purchasing long-lasting products ($n_m=0$, $n_f=2$) with their children, mothers were found to make need-based purchases ($n_m=3$, $n_f=1$) more, and purchase chemical-free ($n_m=2$, $n_f=0$), eco-friendly packaged ($n_m=2$, $n_f=0$), and local ($n_m=2$, $n_f=0$) products with their children. This signals higher levels of involvement and a greater variety of behaviors related to environmentally responsible consumption by mothers performed with their children compared to fathers, as well.
- Both mothers and fathers exhibit similar resource conservation behaviors when carried out individually, with a higher prevalence of water conservation ($n_m=13$, $n_f=9$) and a lesser emphasis on fossil fuel conservation ($n_m=8$, $n_f=6$). When behaviors performed with children is investigated, it is revealed that both mothers and fathers are more inclined to individually engage in all

behaviors within the resource conservation category. While both mothers and fathers prioritize water conservation ($n_m=12$, $n_f=5$) when engaging in activities with their children, the least commonly practiced conservation behavior varies between the two groups. For mothers, the least performed behavior pertains to conserving plants and animals ($n_m=6$, $n_f=3$), whereas for fathers, it involves addressing environmental pollution ($n_m=8$, $n_f=2$). The proportion of mothers engaging in various resource conservation behaviors with their children was generally higher.

- Individually, both mothers and fathers engage in similar waste reduction and reuse behaviors, which are the most common waste management practices among parents. Recycling is more prevalent among mothers but less common overall compared to reducing and reusing. When considering behaviors with children, both mothers and fathers are more inclined to individually engage in all behaviors within waste management, except for reusing waste ($n_m=13$, $n_f=9$). Both mothers and fathers prioritize waste reuse when involving their children. However, mothers involve their children more in recycling and some reduce-reuse behaviors, showcasing a wider variety of waste management practices with children. This highlights greater engagement and diversity in waste management practices among mothers with their children compared to fathers.
- Mothers were found to engage in nonactivist behaviors in the public sphere more frequently than fathers, particularly displaying a strong inclination towards participating in volunteer activities organized to protect environment ($n_m=8$, $n_f=6$) and the lowest inclination towards participating in petitions organized on environmental problems ($n_m=2$, $n_f=0$). When considering behaviors with children, both mothers and fathers are more inclined to individually engage in all behaviors within nonactivist behaviors in the public sphere category. The findings indicate that the only behavior performed with children is participating in volunteer activities. Other behaviors, such as attending informative events or being a member of environmental organizations, which were reported as individual actions, were not carried out by either mothers or fathers with their children.

- Individually, mothers appear to attend environmental protests more than fathers ($n_m=3$, $n_f=1$). However, it's worth noting that neither mothers nor fathers participate in environmental protests with their children.
- In general, both mothers and fathers are more inclined to individually engage in all environmentally significant behaviors.
- In general, mothers engage in more environmentally significant behaviors with their children compared to fathers.

4.4.5. Obstacles Stand in The Way of Parents' Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children

- Environmental factors that drive consumption ($n_m=5$, $n_f=4$), the cost and accessibility of environmentally friendly products ($n_m=3$, $n_f=6$), urban lifestyle ($n_m=2$, $n_f=3$), time constraints ($n_m=3$, $n_f=2$), and lack of knowledge/awareness ($n_m=3$, $n_f=1$) were barriers cited by the participants on performing environmentally responsible consumption behaviors with their children. Fathers were more concerned about the cost and accessibility of environmentally friendly products, whereas mothers were more concerned about a lack of knowledge/awareness as a barrier.
- Urban lifestyle ($n_m=3$, $n_f=3$), lack of qualified transportation facilities ($n_m=3$, $n_f=3$), safety issues ($n_m=1$, $n_f=1$), time constraints ($n_m=7$, $n_f=3$), and lack of knowledge/awareness ($n_m=2$, $n_f=1$) were barriers cited by the participants on performing resource conservation behaviors with their children. There were not any notable differences between two groups of parents.
- Inadequate infrastructure for managing waste ($n_m=10$, $n_f=3$), lack of social consciousness ($n_m=4$, $n_f=2$), lack of governmental sanctions ($n_m=3$, $n_f=2$), urban lifestyle ($n_m=2$, $n_f=2$), time constraints ($n_m=4$, $n_f=3$), insecurity about the effectiveness of waste management ($n_m=2$, $n_f=3$) and lack of knowledge/awareness ($n_m=4$, $n_f=0$) were barriers cited by the participants on performing waste management behaviors with their children. Mothers were

more concerned about inadequate infrastructure for managing waste and lack of knowledge and awareness as a barrier than fathers.

- Infrequency of collective/volunteer activities ($n_m=11$, $n_f=9$), COVID-19 ($n_m=1$, $n_f=1$), time constraints ($n_m=10$, $n_f=6$), mistrust in environmental organizations ($n_m=1$, $n_f=3$) and mistrust of the effectiveness of nonactivist behaviors in the public sphere ($n_m=0$, $n_f=2$) were barriers cited by the participants to performing nonactivist behaviors in the public sphere with their children. Fathers were more concerned about mistrust in environmental organizations and mistrust of the effectiveness of nonactivist behaviors in the public sphere as a barrier than mothers.
- Safety issues ($n_m=5$, $n_f=4$), protests defeating the purpose ($n_m=3$, $n_f=5$), lack of organization of environmental protests ($n_m=4$, $n_f=0$), inappropriateness of environmental protests for children's age ($n_m=1$, $n_f=2$), mistrust in the effectiveness of environmental protests ($n_m=3$, $n_f=2$) and time constraints ($n_m=2$, $n_f=4$) were barriers cited by participants on performing environmental activism behaviors with their children. Fathers emphasized protests' defeating the purpose and age-inappropriateness as barriers more than mothers, while mothers saw lack of organization in environmental protests as a significant barrier compared to fathers.
- Overall, the most commonly mentioned barriers included time constraints, urban lifestyle, lack of information/awareness, and mistrust in the effectiveness of behaviors.

CHAPTER 5

DISCUSSION, EDUCATIONAL IMPLICATIONS, AND RECOMMENDATIONS

The current study aimed to determine how parents define various categories of private and public environmentally significant behaviors, private and public environmentally significant behaviors engaged in by the parents individually, and with their children, variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children, parents' challenges while engaging in different categories of private and public sphere environmentally significant behaviors with their children and to understand the difference between mothers' and fathers' definitions, self-reported behaviors, and barriers regarding different types of private and public sphere environmentally significant behaviors. In light of these purposes of the study, this chapter begins with a discussion of the findings and continues with implications. Finally, recommendations for further research are shared at the end of the chapter.

5.1. Discussion

5.1.1. Definitions of Private and Public Sphere Environmentally Significant Behaviors

The first category of environmentally significant behaviors investigated was environmentally responsible consumption. When the participants were asked what defines an environmentally responsible consumer, apart from two participants who failed to give accurate definitions for the term, they either defined the term with the green product purchasing processes or product disposal process such as not littering the product after use or engaging in recycling; which is in line with the proposed

definitions in the relevant literature; any consumption-related behavior, such as purchasing, using, and disposing, carried out in a way that lessens the impact of consumption on the environment (Gupta & Agrawal, 2017). That is why, it can be deduced that the majority of the mothers and fathers attribute appropriate definitions to environmentally responsible consumption and show a high level of knowledge regarding the issue. Moreover, mothers and fathers stated that environmentally responsible consumers make minimalist purchases, which is in line with several proposed definitions in the literature related to respecting the right of future generations to access and utilize resources by consuming fewer products today (OECD, 2008). Recyclable, chemical-free, environmentally friendly packaged, local, biodegradable, cruelty-free, eco-friendly branded, and energy efficient products were features of the products the participants mentioned that an environmentally responsible consumer should buy; in other words, green products. When the scope of green products are examined, it is seen that they are defined as manufactured without depleting natural resources (Aksu, 2019; Çalışır, 2020; Durif et al., 2010; OECD, 2008; Ottman, 1998; Onurlubaş et al., 2017; Paavola, 2001; Welsch & Kuhling, 2011), free from toxic substances (chemical-free/organic) (Aksu, 2019; Çalışır, 2020; Durif et al., 2010; OECD, 2008; Ottman, 1998; Welsch & Kuhling, 2011), and do not generate waste or pollutants throughout their entire lifespan (Aksu, 2019; OECD, 2008; Ottman, 1998; Onurlubaş et al., 2017), durable (Çalışır, 2020; Ottman, 1998), made of recycled or recyclable materials (Çalışır, 2020; Ottman, 1998), require as low as possible energy during the production (Ottman, 1998; Onurlubaş et al., 2017), reusable (Carvellon & Carey, 2011), biodegradable (Durif et al., 2010), not tested on animals (Carvellon & Carey, 2011; Durif et al., 2010), locally sourced (Campbell et al., 2015; Durif et al., 2010), hypoallergenic (Durif et al., 2010) and eco-labeled (Durif et al., 2010). When the findings of the study and relevant literature is compared, it is possible to infer that the mothers and fathers have similar views on green products with the studies conducted in different times and countries. When the differences between the two groups of parents were examined in the current study, it was highlighted that whereas mothers defined the term with relation to purchasing cruelty-free products and making need-based purchases, none of the fathers mentioned this aspect. On the contrary, the fathers tended to define the term by referring to purchasing energy-efficient products, while none of the mothers did. One

possible explanation may be that, although the term 'cruelty-free product' is related to both food choices and cosmetics shopping (Grappe et al., 2021), all of the mothers in the current study referred to cosmetics shopping when mentioning cruelty-free products. Since cosmetic shopping is relatively more common among women (Amberg & Fogarassy, 2019; Craig, 2006), mothers are more likely to include cruelty-free products in their environmentally responsible consumer definitions. The similar trend was also observed in making need-based purchasing, with an emphasis given by mothers, but none of the fathers mentioned it in the current study, despite its place in the literature (OECD, 2008). Minimalist consumption is a popular trend in the marketing sector, with campaigns emphasizing simple, minimal, and high-quality products. Industries are adopting slogans like “less is more” to promote this trend (Chen & Liu, 2023). As some women are viewed by marketers as individuals who have strong earning power and spending power, marketers have started to focus on them when preparing advertisements (Li et al., 2015). Women's higher exposure to such marketing campaigns may influence their definitions of an environmentally responsible consumer, leading them to include aspects of making need-based, minimal purchases in their definitions. As a final difference, including energy-efficiency was unique to fathers' answers, whereas none of the mothers mentioned it. A possible explanation for this difference may be that purchasing energy-efficient products is strongly related to the financial cost of the product during the consumption process. Although in the division of labor in the household, practices regarding financial issues such as paying bills are found to be gender-neutral in other countries such as the United States (Noonan, 2004), in Türkiye, these practices are still perceived as men's responsibilities and are more commonly practiced by men within households (Ünver & Demirli, 2022). That may be the reason behind fathers' energy-efficiency related definitions regarding environmentally responsible consumption.

In the current study, participants were also asked to define the second category of environmentally significant behaviors; resource conservation. Mothers and fathers mostly defined resource conservation as the conservation of water and electrical energy. Only some of them included nature and fossil fuels in their definitions, despite the fact that resources encompass various other aspects, such as solar power,

wind energy, geothermal energy, air, mines and soil (Jowsey, 2007; Schellens & Gisladdottir, 2018). This may show that parents may have limited information on resources, and they generally emphasize conditionally renewable resources in their definitions, especially water. One possible reason that explain this finding can be their exposure to numerous news items emphasizing water scarcity in the media, such as the fact that nearly two billion individuals across the globe currently lack access to safe drinking water (UN, 2022). This exposure may create the perception that the water issue is real and has become a serious threat for everyone. Although the scarcity of other resources did not manifest its effects as prominently as water scarcity did, these resources may be viewed by both mothers and fathers as a secondary priority compared to water. Moreover, water is related to the everyday life of individuals and is needed not only for health but also for many other applications such as domestic work and personal hygiene. On the other hand, other resources such as mines or wind power are not in the immediate life cycle of participants, and there are limited behaviors to protect them in a household context, which could be another possible explanation for the prioritization of water as a significant resource. Regarding differences between mothers and fathers as to the definition of resource conservation, both groups of parents generally had similar definitions, except that fathers were more inclined to include the conservation of fossil fuels in their definition, in the current study. In general, fathers referred to gasoline and natural gas when mentioning fossil fuels in their definitions, that is why the difference between two groups of parents in this aspect may also be explained by traditional gender roles still practiced in Türkiye. According to the data presented by the General Directorate of Security in 2018, women comprise only 24.1% of car drivers in Türkiye. Due to the connection between purchasing gasoline and car usage, and the financial aspects of maintaining a supply of natural gas, which are still predominantly handled by men (General Directorate of Security, 2018; Ünver & Demirli, 2022), fathers may be more inclined to include fossil fuels in their definitions of resource conservation, influenced by their daily practices.

Within the scope of the third category, participants were asked for their definitions of waste and waste management. They defined waste as material that is unneeded/non-essential, unrecyclable, recyclable, leftover and biodegradable through a long process

in nature. All explanations for waste were in line with those found in the literature; such as being unneeded/non-essential (Basu, 2009; Lynch, 1990), recyclable (White et al., 1995), leftover (Bilitewski et al., 1994; Lynch, 1990) and biodegradable through a long process in nature (Basu, 2009). This may signal that the participants' level of knowledge is higher than studies conducted over the last decade in developing countries like Nigeria, Ethiopia, Kenya and Türkiye (Adogu et al., 2015; Hacısalihoğlu, 2021; Maldaye et al., 2022; Martínez-Borreguero et al., 2019). One plausible explanation for this difference could be attributed to the varying education levels of the participants involved. For instance, in the study conducted by Hacısalihoğlu (2021), the majority of the participants were secondary school students, with a limited representation of teachers and school administrators. In contrast, the present study comprises mothers and fathers of young children, with higher educational levels. Since the educational level and environmental knowledge are significantly correlated (Grodzińska-Jurczak, 2003), the knowledge of mothers and fathers in the current study could be higher than that of the participants in the other studies. Another notable finding of the current study was that more mothers than fathers defined waste as unrecyclable material. Garbage, typically consisting of wet materials and often composed of animal or food residues, is a type of waste commonly generated from domestic kitchen activities and is considered unrecyclable (Rathje, 1992). It's important to emphasize here that while waste can include garbage, not all waste is synonymous with garbage. This is because there are various waste types that are reusable and recyclable, extending beyond the category of garbage. Since women are still primary actors in households when it comes to preparing meals, which is the main source of garbage, the increased exposure of mothers to garbage may indeed lead them to define it as unrecyclable. In other words, this trend among mothers can be explained by the gender norms that are still present in Türkiye (Ünver & Demirli, 2022). In terms of waste management, the majority of mothers and fathers defined the term as waste segregation and recycling, with a low level of acknowledgment for waste collection and disposal, as well as waste reduction, which is only mentioned by one of the fathers. However, it is important to note that waste management also encompasses activities such as reusing, processing, and monitoring of waste, and reduction of waste is also a fundamental aspect of waste management (Pongracz, 2002). The main perception

among mothers and fathers that waste management is strongly and exclusively linked to waste segregation or recycling can be attributed to the widespread misbelief that recycling represents the most sustainable approach for waste management, which reflects recycling bias, reduction and reusing neglect (Barnett et al., 2023).

According to the findings of the current study, the fourth category of environmentally significant behaviors, nonactivist behaviors in the public sphere, were defined by mothers and fathers as participation in garbage collection, tree-planting, and informative events on environment, which is in line with the proposed definition of the term in the literature; behaviors that are not driven by activism but still contribute to environmental change through public engagement (Liu et al., 2017). However, when the examples of nonactivist behaviors in the public sphere were searched in the literature, many behaviors such as signing petitions regarding environmental problems, being a member of or supporting environmental organizations, supporting policies that promote environmentally friendly choices, such as being willing to pay higher taxes for the protection of the environment (Stern, 2000), participate in environmental policymaking, obey environmental law, and organize events that highlight sustainability (Bell, 2007), making financial donations to environmental organizations (Piyapong, 2019) and voting for green parties (Chen, 2015) were listed, different from the participants of the current study. The limited knowledge of nonactivist behaviors in the public sphere among mothers and fathers can be attributed to the general conclusion that such behaviors are less frequently practiced by individuals when compared to private sphere behaviors (Liu et al., 2018; Lu et al., 2017; Mi et al., 2020). This often results from the fact that public sphere actions often demand more effort and time compared to those in the private sphere (SGuin et al., 1998), further contributing to the lack of familiarity with such behaviors. Another noteworthy finding from the current study was that, although both mothers and fathers have similar views on the definition of nonactivist behaviors in the public sphere regarding volunteering activities, a higher proportion of fathers define the term with informative events. This difference between the two groups of parents may be attributed to traditional gender roles and gender socialization in which education and knowledge acquisition is attributed to men (Sayılan, 2012).

Finally, participants were also asked to give their understanding of behaviors related to environmental activism. They defined environmental activists as individuals/institutions with environmental knowledge and sensitivity, individuals/institutions advocating for the environment, and people using force to protect the environment, which is in line with different definitions provided in the relevant literature, such as trying to prevent individuals or policies that are harmful to the environment which is in line with advocacy (Piyapong, 2019), educating the public, lobbying government or boycotting companies that have a substantial ecological footprint on the environment (Paço & Rodrigues, 2016) or people or organizations that advocate for the environment by emphasizing protection and conservation through various movements and urge governments and corporations to take immediate action and find global solutions to environmental issues (Heyes & King, 2018). In the current study, 15% of the mothers and 20% of the fathers expressed some negative features of environmental activists since they may use force to protect the environment, which reveals that for some of the mothers and fathers, environmental activists also have a bad image in their perceptions. Similar findings were also reported in Klas et al.'s (2018) study, which uncovered that a significant amount of people believe that environmental activists are aggressive in their behavior and stubborn in their beliefs, resulting in different kinds of violence. Thus, having negative perceptions towards environmental activists was not unique to the mothers and fathers of young children. One possible reason parents define environmental activists negatively could be the media image presented regarding the activists. In many countries, environmental protests and activists are negatively portrayed by various media tools, including newspapers and social media (Brown & Harlow, 2019). Another notable finding of the current study was that advocacy for the environment found place mostly in mothers' definitions regarding environmental activists. The majority of fathers (70%) connected environmental activists with spreading environmental knowledge, and the majority of mothers (62%) referred to environmental advocacy in their definitions. Although they focused on different aspects of environmental activism, both views parallel the definitions offered in the literature (Heyes & King, 2018; Paço & Rodrigues, 2016).

5.1.2. Private and Public Sphere Environmentally Significant Behaviors That Mothers and Fathers Perform

In this section, the findings of the current study related to the types of private and public behaviors that mothers and fathers both performed individually and with their children. These are discussed in relation to the relevant literature. Moreover, the differences between individual and joint behaviors are explored.

5.1.2.1. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform Individually

Detecting differences in the environmentally significant behaviors performed by mothers and fathers individually is one of the major purposes of the current study. Behaviors performed within the scope of first category, environmentally responsible consumption, were reported by mothers and fathers as purchasing chemical-free, long-lasting, cruelty-free, eco-friendly packaged, energy-efficient, second-hand, local and recycled products, and making need-based, minimal purchases. Although 85% of mothers and 70% of fathers reported making need-based purchases, the rate of purchasing different green products was not that high. The only common green purchasing behavior was purchasing chemical-free products, with 77% of mothers and 30% of fathers reporting. Less than half of the mothers and fathers preferred the other green products, indicating a low involvement in environmentally responsible consumption behaviors especially regarding purchasing green products. The reported environmentally responsible consumption behaviors were in line with the relevant literature. In other words, different studies have listed environmentally responsible consumption behaviors as follows: purchasing green products such as recyclable materials, organic and energy-efficient products (Roberts & Bacon, 1997), avoiding purchasing products with excessive packaging (Karaman, 2020), purchasing biodegradable products (Kim & Choi, 2005), avoiding purchasing disposable materials (Sun et al., 2022), choosing eco-labeled products (Lee, 2010), preferring cruelty-free products (Ribeiro Cardoso & van Schoor, 2017), selecting durable (Pereira Luzio & Lemke, 2013) and second-hand products (Young et al., 2010), and purchasing products with reusable packaging and consuming them in a minimal way

(Moser, 2016). Avoiding the consumption of meat (Markle, 2013; Moser, 2016) was not mentioned by participants in the current study. This omission may be due to a lack of environmental awareness among these individuals. In different studies conducted in Türkiye, it was revealed that citizens in Ankara have low carbon footprint awareness (Özgen & Demirci-Aksoy, 2017). Additionally, in another study carried out in Antalya, another major city of Türkiye, it was discovered that the main component of the ecological footprint among individuals was food (İlkem, 2019). The second reason may be related to the culture of Turkish cuisine. In Türkiye, cuisine holds significant importance, and it includes a wide variety of dishes made with meat. This culinary tradition has its roots dating back to the early Turkish civilizations (Demirgöl, 2018). So, the parents of young children may not be aware of the contribution of meat consumption to their ecological footprints, or, even if they know, they may prioritize culture over environmental concerns. The low involvement in purchasing green products was not unique to the current study's participants. In many other studies from different cultures, it has been revealed that individuals purchase green products in lower percentages in Bosnia and Herzegovina (Tatic & Cinjarevic, 2010), United Kingdom ((Hughner et al., 2007), Canada (Peattie, 2010), China (Chan, 2001), and also in Türkiye (Gedik et al., 2014; Yeniçeri, 2009). One possible reason for the low involvement rates could be the fact that some of the environmentally significant behaviors require more effort than others, which can demotivate individuals from performing them. Some examples of these behaviors, which are viewed as more difficult than the others, include green purchasing, attending volunteering activities or participating in environmental protests (SGuin et al., 1998). Another contributing factor could be economic reasons, as green products often have higher prices and fewer options compared to other products (Olson, 2012). The findings of the present study show that mothers engage in more environmentally responsible consumption behaviors and exhibit a greater variety of such behaviors. This finding was also in line with the literature, which emphasized that although there are a few studies that emphasized that men outperform women in this regard (Ling-yee, 1997), or that the differences between the groups are insignificant (Fontes et al., 2021), in the majority of studies, females were found to be more environmentally friendly consumers and purchase green products, including women in Türkiye (Çabuk et al., 2008; Lee, 2009; Radman,

2005; Uddin & Khan, 2015; Urena et al., 2008; Yeniçeri, 2009; Witek & Kuzniar, 2021).

When the mothers' and fathers' resource conservation behaviors performed individually are investigated, it is found in the current study that they conserve water, protect animals and plants, prevent environmental pollution, conserve fossil fuels, and conserve electrical energy. Nearly all mothers and fathers engage in all types of resource conservation behaviors, indicating high involvement. Specifically, water conservation stood out as one of the most frequently practiced environmentally significant behaviors by both mothers and fathers individually. One possible explanation may be that the water issue is currently trending and critical. In an annual environmental survey conducted by Gallup (2021), it was found that among issues such as deforestation, global warming, air pollution, and biodiversity loss, water scarcity was the concern that individuals were most worried about. Furthermore, conserving water involves everyday actions that require no extra time, cost, or effort. Additionally, water conservation is linked to financial savings, as water usage comes with a cost. Therefore, may also reduce their water bills through such conservation efforts. The other behaviors reported by the mothers and fathers of young children were in line with the relevant literature, since different studies also emphasized water (Bronfman et al., 2015; Demirci-Güler & Afacan, 2012; Garcesa & Limjuco, Halkos et al., 2018; Lange & Dewitte, 2019; 2014; Timur & Yılmaz, 2013; Zainuri et al., 2022), electrical energy (Bronfman et al., 2015; Demirci-Güler & Afacan, 2012; Halkos et al., 2018; Garcesa & Limjuco, 2014; Lange & Dewitte, 2019; Mateer et al., 2022; Timur & Yılmaz, 2013; Zainuri et al., 2022), fossil fuel (Bronfman et al., 2015; Güven & Aydoğdu, 2012; Halkos et al., 2018; Mateer et al., 2022; Zainuri et al., 2022), soil (Garcesa & Limjuco, 2014; Lange & Dewitte, 2019) and biodiversity (Güven & Aydoğdu, 2012) conservation; however, the scope of the behaviors are not limited to what the participants shared. Although air conservation, such as engaging in behaviors to avoid aerosols or reduce excessive use of planes, was common among the studies in the relevant literature (Bronfman et al., 2015), the participants of the current study did not mention anything regarding the conservation of air quality. When asked why they do not engage in any such behaviors, the majority of participants commented that there is nothing they can do individually for

air protection. Instead, they believed that these are issues related to big companies and factories, which signals the reason for their lack of engagement as the locus of control of mothers and fathers of young children. The high performance rate of resource conservation behaviors was not unique to participants in the current study. Various international studies have highlighted before that resource conservation behaviors are common among individuals from different cities and occupations (Dolnicar et al., 2012; Garcia-Cuerva, 2016; Hori et al., 2013; Lee et al., 2022; Yue et al., 2013). However, in Türkiye, the findings were quite different. There are a considerable number of studies in Türkiye which have shown that conservation behaviors are not performed by individuals at high levels (Boylu, 2012; Alaş et al., 2009; Uyar et al., 2023), or they have highlighted that these behaviors are performed only slightly above average (Koçak & Tektaş, 2022; Vural & Yılmaz, 2016). Although the findings of the current study support those seen in the international literature, there is a difference in terms of the national context. One possible reason for this difference may be that none of the previously mentioned studies conducted at the national level focused directly on parents. According to the legacy hypotheses, when individuals become parents and have children, they tend to consider the legacy they will leave to their children in terms of environmental quality more (Thomas et al., 2017). The hypothesis were also found to be true for water conservation in different studies. To illustrate, Campbell et al. (2004), found that parents tend to conserve water more when compared to individuals without children. Moreover, Moore et al. (1994) reported that compared to secondary school students and teachers, parents were the group most conserving water. That is why, parents in the current study may conserve resources more than other samples due to their parental role. Another notable finding of the current study was that resource conservation behaviors were the most commonly performed behaviors of the participants when compared to other types of both private and public sphere environmentally significant behaviors. Similarly, in a study carried out by Bronfman et al. (2015) in the USA, it was discovered that resource conservation was the most common type of environmentally significant behavior, and Janmaimool & Denpaiboon (2016) found that resource conservation is preferred more than waste management in Thailand. Bronfman et al. (2015) explained this trend as being due to the low cost, absence of behavioral restrictions, reduction in household spending, and the fact that it does not

require major changes. All these explanations may be valid for the participants of the current study, as well. Moreover, another explanation could be the fact that resource conservation behaviors are highly aligned with economic savings. According to the latest statistics shared by the Turkish Statistical Institute (TÜİK, 2021), the earnings of 14.4% of individuals in Türkiye fall below the poverty line, which is a rate calculated to cover only the food necessities of individuals. When the economic effects of the previous two years are considered as well, it is plausible that parents may perform these resource conservation behaviors with the intention of saving money in Türkiye. Another remarkable finding of the current study was that there were no notable differences between mothers and fathers in terms of resource conservation behaviors, while there are contradictory findings on this issue in the literature. It is possible to detect different trends among different types of resource conservation, however it can be generally concluded that there is either no significant difference or a difference in favor of women in terms of resource conservation behaviors (Fatoki, 2022; Janmaimool & Denpaiboon, 2016; Oluk et al., 2019; Tong, 2017; Yue et al., 2013). So, the findings of the current study regarding gender differences in terms of resource conservation behaviors are parallel with the existing studies.

In the current study, mothers and fathers' self-reported waste management behaviors performed individually were also investigated. According to the findings, mothers and fathers in the current study reduce the use of disposable materials, use materials for long time, cook for portions, utilize technology to reduce waste, make donations, reuse their waste for different/similar purposes, do repairing, utilize deposit-refund systems, segregate waste and make compost. Moreover, in general, more than half of the mothers and fathers engage in different reducing and reusing behaviors; however, the rate of recycling was lower when compared to reducing and reusing. Similar findings were revealed in different studies. For the "reduce" category, behaviors such as avoiding the use of disposables (Minelgaite & Liobikiene, 2019), prolonging the use of purchased products (Barr et al., 2005), avoiding restaurant packaging foams (Ebreo & Vining, 2001), paying bills online (Demirci-Güler, 2012), and purchasing products in bulk sizes (Ebreo & Vining, 2001) were listed. For the "reuse" category, behaviors like repairing (Barr et al., 2005; Kurisu & Bortoleto, 2011; Minelgaite &

Liobikiene, 2019) and reusing waste for different purposes (Barr et al., 2005; Kurisu & Bortoleto, 2011; Tanık, 2012), making donations (Barr et al., 2005; Margai, 1997), and returning redeemables (Margai, 1997) were mentioned. Lastly, for the "recycle" category, making compost (Barr et al., 2005; Kurisu & Bortoleto, 2011; Minelgaite & Liobikiene, 2019) and waste segregation (Ebreo & Vining, 2001; Günal et al., 2018; Kurisu & Bortoleto, 2011) were identified as major components of waste management. Moreover, the finding that participants engage in reducing and reusing, rather than recycling, is also supported by different studies in the literature (Barr, 2007; Ebreo & Vining, 2001; Minelgaite & Liobikiene, 2019), as well as by the Waste Management Hierarchy Theory utilized in the current study (EPA, 2022). In the proposed model of the theory, the base is related to behaviors targeting reduction. If someone cannot reduce their waste, then they may prefer to reuse it. Finally, if reuse is also not an option, recycling should be considered. In other words, the preferred steps for achieving waste management are reduction, followed by reuse and recycling, which aligns with the individual behaviors of the participants in the current study. However, other studies have published contradictory findings and indicate that recycling and reusing were mostly performed, rather than reducing (Barr et al., 2004). Additionally, some studies suggest that there is no significant difference between performing reducing, reusing, and recycling behaviors (Swami et al., 2011). Since recycling requires more knowledge, physical space, and is not directly related to economic savings, mothers and fathers of young children may prefer to engage in recycling-related behaviors less, similar to what previous studies have mentioned. In terms of involvement rates in recycling, the literature presented contradictory findings. However, considering different studies, it can be concluded that the recycling rates in developed countries were higher, while the rates for developing and underdeveloped countries were low including Türkiye (Demirbağ & Güngörmüş, 2012; Kılıç and Eryılmaz, 2022; Minelgaite & Liobikiene, 2019; Mutang & Haron, 2012; Whitmarsh et al., 2018; Whitmarsh et al., 2017; Vicente-Molina; 2018), as also supported by the findings of the current study. Another notable finding was that although both groups of parents practice behaviors targeting recycling, the proportion of mothers was higher than fathers in the current study, which is parallel with other studies conducted in China (Kurisu & Bortoleto, 2011; Li et al., 2022) the United Kingdom (Barr et al., 2011), and also in Türkiye (Aydın-

Eryılmaz & Kılıç, 2021). There may be two possible reasons for the higher engagement of women in recycling. The first reason could be their higher environmental concern (Gifford & Nilsson, 2014), and also their higher empathy skills (Christov-Moore, 2014), including concern for future generations. As a result, women may engage in recycling more than men. The second reason can be gender-stereotyped domestic work in households, since women are stereotypically responsible for waste disposal in kitchens especially in Türkiye (Ünver & Demirli, 2022), they may engage in recycling behaviors more.

Another category of behaviors investigated in the current study was nonactivist behaviors in the public sphere performed individually by mothers and fathers of young children. The mothers and fathers' self-reports indicated that they participate in environmental volunteering activities such as tree planting or garbage collection, informative activities on the environment, become members of environmental organizations, contact the authorities to solve environmental problems and attend petition campaigns to stop the environmental problems. Apart from attending environmental volunteering activities, the majority of nonactivist behaviors in the public sphere were performed by less than half of the parents, with all such being reported as one-time occurrences rather than a habit, which indicates low involvement in these kinds of behaviors. Participating in environmental events, volunteering projects to protect the environment and making suggestions to friends on these environmental organizations and events (Song et al., 2019; Güven & Aydoğdu, 2012; Trelohan, 2022; Tsai et al., 2021), participating in workshops related to the environment, organizing an educational event regarding the environment, talking with others about environmental issues, using online tools to raise awareness regarding environmental issues, contacting authorities when facing with an environmental problem, financially supporting or active involvement in environmental organizations, organizing or attending a petition and participating in nature conservation efforts with others (Alisat & Riemer, 2015; Tanık, 2012; Trelohan, 2022; Tsai et al., 2021; Xing et al., 2022), supporting green policies and green political parties (Liu et al., 2018; Menardo et al., 2019; Piyapong, 2020; Tanık, 2012) were some of the listed nonactivist behaviors in the public sphere in the literature. Although the self-reported non-activist behaviors of the mothers and

fathers of young children are in line with previous studies, it is essential to highlight that the range of behaviors performed by parents is limited. To illustrate, although in the previous studies, participants were found to be engaged in the organization of educative/volunteering events related to the environment or money donation to environmental organizations, none of the participants in the current study reported such behaviors. One possible reason for parents' lack of engagement in organizing environmental events may be due to their low take-up of membership in environmental organizations. According to the findings of the current study, only 23% of mothers and 10% of fathers said they were members of environmental organizations that have the capacity to organize various events. Furthermore, organizing such an event demands significantly more time and effort compared to merely attending. As emphasized by SGuin et al (1998), individuals are less likely to engage in environmentally significant behaviors that necessitate higher levels of effort to perform. It was also noteworthy that parents were not making donations to environmental organizations, a practice that is very common in other studies (Alisat & Riemer, 2015; Tanik, 2012; Trelohan, 2022; Tsai et al., 2021; Xing et al., 2022). This could be attributed to the impact of economic challenges experienced in Türkiye over the past few years. As of 2021, 14.4% of citizens were living below the poverty line, and currently, the conditions have become even more challenging. This situation might lead parents to refrain from making financial donations to environmental organizations. Low involvement in nonactivist behaviors in the public sphere among mothers and fathers of young children were another remarkable finding of the current study, and it is supported by different studies carried out in different locations and time (Balzekiene & Telesiene, 2011; Liu et al., 2018; Lu et al., 2017; Mi et al., 2020). As found in the current study, in other studies it is also emphasized that private sphere environmentally significant behaviors are performed more than public sphere environmentally significant behaviors (Heidbreder et al., 2023; Mi et al., 2020). Furthermore, in the majority of the studies, the most commonly performed non-activist behavior in the public sphere was attending events related to the environment, either voluntarily or for educational purposes (Alisat & Riemer, 2015; Liu et al., 2018). This pattern is consistent with the findings of the current study, as well. Finally, although there were no notable differences in certain behaviors, such as participating in volunteering activities or communicating with

authorities regarding environmental issues between mothers and fathers, in other behaviors, such as participating in activities regarding the environment, being a member of environmental organizations, and participating in petitions, mothers outperformed fathers. This trend was also in line with the studies in the literature which revealed that women engage in nonactivist behaviors in the public sphere more than men (Heidbreder et al., 2022; Trelohan, 2021). Since non-activist behaviors in the public sphere require more time and effort (SGuin et al., 1998), a higher level of concern and dedication is needed to participate. This dedication appears to be higher in females compared to males. Another explanation could be that, in general, females tend to be more inclined to participate in public and collective activities, indicating higher levels of social engagement compared to males across various contexts (Zani & Barrett, 2012). This could be one reason; regardless of environmental concerns, females might participate in such collective behaviors more than fathers.

The final category of behaviors that was examined involves the environmental activism behaviors of mothers and fathers of young children, specifically their level of participation in environmental protests. According to the findings of the current study, only 23% of mothers and 10% of fathers participated in environmental protests. However, these instances were also one-time occurrences, which positions the environmental activism category as the least performed behavior category. Low rates of involvement among mothers and fathers of young children were also reported as 2% in Türkiye (Özek, 2016), 2.8% in Australia (Tranter, 2010), 2.7% in Lithuania (Balzeikiene & Telesiene, 2011), and 17% recently in the United States (Geiger, 2022). One possible reason for low involvement could be attributed to the low enrollment rate in environmental organizations since Geiger (2022) also emphasized that individuals who are members of environmental organizations are more likely to participate in environmental protests. It may be that residents of the capital Ankara, from where the participants were drawn, do not face with any critical environmental challenges as suggested by a lack of media coverage and low levels of engagement with civil society organizations. Consequently, environmental protests might not be organized, or they could be organized as general events. Koyuncu & Çiftçi (2022) found that when there is a critical environmental issue very close to

where people live, the involvement rates tend to rise. In their study, 68% of Bartın citizens were noted to have participated in protests related to the construction of a coal-fired power plant. Therefore, if there were a critical event in Ankara that is more specific, mothers and fathers of young children might be more inclined to attend protests. A lack of organization of environmental protests might also discourage participants from engaging in protests, as they claim. According to findings of the current study, the mothers were more likely to engage in environmental protests, compared to fathers. There were contradictory findings on this issue in the related literature. While certain findings have suggested that women tend to participate more in environmental protests (Gıçır et al., 2020; Heidbreder et al., 2022; Moor et al., 2019), other studies have shown that there are no significant gender differences (Arslan & Kızıldağ, 2018; Demir et al., 2022; Tindall et al., 2003), and in some cases, men attend more (Piyapong, 2020). Although there are contradictory findings, in the current study, more mothers than fathers participated. One possible reason could be the mothers' higher engagement in environmental organizations in the current study, which may give them more opportunities to participate. The second reason could be women's greater involvement in mainstream media (Kimbrough et al., 2013), an influential channel for information about environmental protests. For these reasons, the mothers of young children might prefer to attend environmental protests in the current study.

5.1.2.2. Private and Public Sphere Environmentally Significant Behaviors That Parents Perform with Their Children

Another major purpose of the current study was to investigate different kinds of private and public sphere environmentally significant behaviors that parents perform with their children. Similar with the previous sections, the first category investigated was environmentally responsible consumption. According to the findings, very few mothers and fathers engage in purchasing chemical-free, long-lasting, eco-friendly packaging and local products and making need-based purchases with their children. Moreover, some of the parents prefer to explain to their children why it is essential to buy eco-friendly products and set rules for them to make need-based purchases, instead of performing behaviors together. The finding that mothers and fathers

involve their children to a limited extent in their purchasing practices is not exclusive to the present study. In a study carried out by Hota & Bartsch (2019), it was reported that parents are more likely to engage in conversations and behaviors related to environmentally responsible consumption together with their children when they are adolescents, but less so in early childhood. Moreover, they emphasized that during early childhood, the interaction primarily revolves around restrictions on what their children can buy, which is parallel to the findings of the current study. Involving children directly in the behavior or simply imposing restrictions represents a distinction that has been identified in various studies. Researchers have labeled these approaches as concept-oriented (involving children in the behavior and explaining) and socio-oriented (setting rules and limits during the purchasing process) communication structures in consumer socialization (Al-Zu'bi, 2008; Vassallo, 2003). Both of these approaches were present in the current study; however, both approaches were limited in their implementation. According to the statements of the participants in the current study, many of them do not actually prefer to bring their children along while shopping due to time constraints. Shopping with a child and explaining things to them consumes much more time compared to shopping individually. Additionally, avoiding children's impulse purchases is another reason, as children might desire many things that are not necessary, and this could lead to conflicts during the shopping process. As a result, the participants of the current study were unable to engage in environmentally responsible consumption behaviors with their children to a high degree of involvement. Another remarkable finding of the current study was related to the differences between environmentally responsible consumption behaviors performed by mothers and fathers with their children. In most of the behaviors, such as buying chemical-free, eco-friendly packaged, and local products with their children and setting specific rules, mothers outperformed fathers. Ongoing gender roles might still play a role in this trend, as women are often associated with child-rearing and shopping for the household (Ünver & Demirli, 2022). The combination of these stereotypical attributes could explain why mothers are more likely to involve their children in purchasing practices. Another contributing factor could be the fact that, in general, mothers spend more time with their children when compared to fathers (Guryan et al., 2008). Given their increased time together, it's understandable that mothers also engage in

environmentally responsible consumption behaviors more frequently than father-child dyads.

Resources conservation behaviors performed by mothers and fathers with their young children was investigated in the current study, as well. According to the findings, the mothers and fathers conserve water, plants/animals, electrical energy, and prevent environmental pollution with their children and the rate of child involvement in these activities is higher compared to other behavioral categories. In addition to performing behaviors together, mothers and fathers also prefer to warn, inform/serve as role models for their children in order to promote resource conservation. This increased involvement is also consistent with previous studies in the literature. For instance, Campbell et al. (2004) discovered that parents are more inclined to conserve water compared to individuals without children. Additionally, Mills & Schleich (2012) highlighted that individuals with children under 12 years old are more likely to conserve energy in their homes. It's understood that there is a positive correlation between the resource conservation behaviors of parents and their children (Grønhøj & Thøgersen, 2012; Klöckner, 2020; Lindemann-Matthies & Matthies, 2004). Given the high occurrence of individually performed resource conservation behaviors among mothers and fathers of young children, it aligns with the expectation that they also engage in these behaviors with their children, or at the very least, warn, serve as role models/inform them. Parents' preference for being role models is consistent with one of the fundamental theories of the current study: Bandura's Social Learning Theory. Bandura (1977) highlighted that parents serve as primary role models for their children, playing a crucial role in shaping their attitudes, behaviors, and intentions, whether consciously or unconsciously. The findings of the current study confirmed that parents, whether knowingly or unknowingly, indeed function as role models for their children, particularly in terms of resource conservation. A notable difference between mothers and fathers regarding resource conservation behaviors performed with their children was informing/serving as role models and preventing environmental pollution. Mothers tended to engage their children in these behaviors and pay attention to be role models more than fathers. Similar to the category of environmentally responsible consumption, the superior performance of mothers can be attributed to gender roles

that associate child-rearing with mothers, resulting in them spending more time with their children (Craig, 2006). Another potential explanation could involve mothers' higher levels of anxiety concerning their children's future. Given that resource conservation behaviors are linked to mitigating climate change and environmental issues (Ekholm, 2017), and considering that mothers often experience greater climate change-related and general environmental anxiety compared to fathers, they might be more inclined to pay additional attention to conserving resources with their children and teaching them about it. This could be driven by their concerns for their child's future, as highlighted by certain participants in the current study.

Waste management behaviors were the third category that was investigated. According to the findings of the current study, mothers and fathers reduce use of disposable materials, utilize technology to reduce waste, reuse their waste for similar/different purposes, do repairing, make donations, segregate waste and make compost with their children. In addition to performing behaviors together, mothers and fathers also prefer to inform/serve as role models for their children to promote waste management behaviors, similar with the resource conservation category. Although nearly all parents involve their children in reusing waste for various purposes, fewer than half of the parents participate in other behaviors. This once again underscores the fact that parents do not engage their children in waste management behaviors at high levels. The findings of the study were parallel with the previous studies; to illustrate, Matthies et al. (2012) also discovered that parents influenced their children's recycling behavior through the use of various sanctions and by modeling their own behavior, rather than performing behaviors together. So, similar methods were employed by the parents to teach their children regarding waste management. Furthermore, a low involvement in children's waste management behaviors were also reported in previous studies. Ergazaki et al. (2009) revealed that only 25% of the children had the chance to separate their waste together with their parents at home. Similarly, Grodzinska-Jurczak et al. (2006) discovered that while over half of the parents participate in recycling activities, only 30% of children accompany them. Faridy & Rohendi (2020) also highlighted that only half of the parents actively involve their children in practicing behaviors related to reduce, reuse, and recycle and provide their children with examples from their daily

lives. Therefore, the low involvement of children in waste management behaviors by parents is not exclusive to the current study. Different reasons were listed by the parents for the low involvement of children in the current study, such as inadequate infrastructure for managing waste, lack of social consciousness, lack of governmental sanctions, urban lifestyle, time constraints, insecurity about the effectiveness of waste management and lack of information/awareness. In addition to these factors, another reason could be that parents may not believe their children are capable of effectively managing their waste. They might consider these behaviors age-inappropriate, given the potential hygiene concerns involved. However, this belief is contradictory to what is found both in national, and international literature. Kahriman-Öztürk et al. (2012) found that preschool children have a clear understanding and accurate ideas, particularly about the environmental pillar of sustainability concepts, more specifically; reduce, reuse, and recycle. When questioned, preschool children demonstrated knowledge of these concepts and provided examples of related behaviors. Likewise, Palmer et al. (2007) demonstrated that preschool children in the United Kingdom and Poland are indeed highly capable of developing a sophisticated understanding of waste-related issues. These diverse studies indicate that preschool children have the potential to engage in various waste management behaviors with their parents if provided with the opportunity. Another remarkable finding of the current study was related to differences between mothers; mothers outperformed fathers in terms of engaging in waste management behaviors with their children. One possible explanation could be linked to the higher individual involvement of mothers in waste management behaviors. Since mothers tend to perform more of these behaviors individually in the current study, it can be expected that they would engage in them with their children more frequently as well. Despite what was analyzed in the resource conservation category, with regards to waste management, both mothers and fathers prefer to inform/be role models for their children. The unexpected result of fathers serving as role models and informing their children as much as mothers could be linked to participants' perceptions of fatherhood. In a study conducted by Ünlü-Çetin & Olgan (2018), fathers viewed themselves as the primary providers and reported frequently engaging in activities that could be categorized as "mother support & teaching". If fathers in the current study held similar perceptions, this might explain their preference to be role models

and especially inform their children, which is a more passive approach compared to engaging in behaviors together with children. This aligns with helping mothers who are trying to teach children about waste management.

Another behavioral category investigated was nonactivist behaviors in the public sphere. According to the findings, the only nonactivist behavior reported by parents was participating in environmental collective activities with their children, and less than half of the parents reported this, indicating very low involvement in nonactivist behaviors in the public sphere with their children. These findings parallel those reported in the relevant literature. To illustrate, Halmatov & Ata (2017) revealed that only 37% of participating parents reported making trips related to the environment with their children, only 2% of them attended garbage collection events that took place in their children's school, and 5% participated in planting events at their children's school, which reveals a low participation rate, supporting the findings of the current study. One of the most likely reasons behind the low participation rate could be the absence of such activities, particularly in Türkiye. The majority of these activities are organized by various environmental organizations, rather than state entities. Since parents in the current study often lack membership in environmental organizations, with only 23% of mothers and 10% of fathers having memberships, they might not be aware of when and where events are taking place. This could result in their inability to attend such events with their children. Furthermore, these behaviors often demand more effort than domestic activities and sometimes require additional costs. This could be another reason why parents are hesitant to involve their children in such events related to environment. While both mothers and fathers engaged in behaviors such as attending informative activities on the environment, contacting authorities to address environmental issues, and participating in petition campaigns to prevent environmental problems, none of these actions were carried out in the presence of their children. Given that many of these activities often have legal age restrictions of 18 and above (especially for contacting authorities and participating in petitions), it was anticipated that children would not be able to participate in such nonactivist behaviors in the public sphere, as found in the study. Finally, there was not any notable differences between mothers and fathers in terms of their nonactivist behaviors in the public sphere performed with their children; both

groups brought their children to various environmental events; however, the participation rates were low for both. Similar results were also presented by Hunter et al. (2004), who observed that both women and men participate in nonactivist behaviors in the public sphere without any notable differences. This may also suggest that both groups of parents are equally prone to involve their children in such activities.

Environmental activism behaviors performed by mothers and fathers with their young children is also investigated; however, it is found that neither mothers nor fathers prefer to attend environmental protests with their children. According to Arslanalp & Erkmen (2022), participating in protests can lead to sanctions, including instances of violence, protest bans, and administrative penalties (Arslanalp & Erkmen, 2022). That is why, the parents may not want to attend environmental protests with their children. Moreover, there were some participants in the current study, as well as in previous studies in the literature (Klas et al., 2018), who hold a negative view of protests. These participants view environmental activists as stubborn in their beliefs and display aggressive behavior, which can lead to various forms of violence. Given the negative perception of environmental activists, the mothers and fathers of young children may choose not to attend environmental protests with their children.

One of the most significant findings of the current study is that, when compared to mothers, fathers are seen to be less likely to engage in environmentally significant behaviors with their children, especially concerning behaviors within the private sphere. They also tend to be less involved in behaviors related to the public sphere's environmental significance. However, it's worth noting that this trend was also observed for mothers. Despite the fact that fathers play a crucial role in the development of young children, and a child's development is notably impacted by both the extent and quality of father involvement (Wilson & Prior, 2009), it is well-acknowledged that fathers often have limited engagement in various aspects of their children's lives. This includes caregiving responsibilities (Paquette, 2004), as well as activities both at home and in school, including early education (Ihmeideh, 2013). A similar pattern was also observed for environmentally significant behaviors, with

fathers displaying more hesitancy to engage in such behaviors with their children. On the contrary, Jia et al. (2022) found that both mothers and fathers engage in environmentally significant behaviors with their children without any significant differences in China. This contradicts the findings of the current study. This difference with the existing literature may be attributed severally as follows. First, the gender norms that are still present in Türkiye can be one possible explanation (Ünver & Demirli, 2022). It is highlighted that the role of mothers is often defined by responsibilities such as housework, childcare, and low-income jobs, whereas the role of fathers is commonly associated with leadership, authority, and high-income jobs, in line with the stereotypical gender roles (Mercan & Tezel-Şahin, 2017). These norms could potentially have an impact on fathers' reduced engagement in behaviors with their children. A second possible reason could be one of the most influential factors of low father involvement; maternal gatekeeping, which refers to the extent to which mothers either encourage or discourage father involvement in childrearing (Schoppe-Sullivan, 2015). In a recent study conducted in Türkiye by Akgöz-Aktaş (2017), it was discovered that almost half of the mothers discourage fathers from participating in child-rearing, reflecting a discouraging form of maternal gatekeeping. Since these mothers often hold the belief that fathers are not sufficiently competent to be involved in child-rearing, they discourage fathers from participating and instead take full responsibility for caring for the child themselves. On the other hand, in a study carried out in China, it was revealed that even though mothers prefer to discourage fathers, which may be also referred to as maternal gate-closing, it was not associated with father involvement (Liu et al., 2022). The difference between the two countries can be explained by the distinct dynamics that occur in relation to maternal gatekeeping. Since this term is relatively new within the national literature, additional studies are required to investigate whether maternal gatekeeping might influence environmentally significant behaviors carried out by fathers with their children. A third possible explanation could be the comparatively lower involvement of fathers in preschool events when compared to mothers (Orçan-Kaçan et al., 2020). As fathers tend not to attend events organized by schools for young children, they miss out on opportunities to learn about the environment and sustainability. This could be another reason why they might not engage in environmentally significant behaviors with their children to the same extent as mothers do.

5.1.2.3. Variations in Environmentally Significant Behaviors of Parents Depending on Whether They Engage Independently or With Their Children

Another major purpose of the current study was to understand the variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children. According to the findings, both mothers and fathers, without any differences between two groups of parents, are more inclined to individually engage in all behaviors within environmentally responsible consumption, resource conservation, waste management in the public sphere, and environmental activism categories, except for reusing waste for same/different purposes in the waste management category. This low level of involvement has also been observed in various previous studies, particularly in the behavioral categories of environmentally responsible consumption (Hota & Bartsch, 2019), waste management (Ergazaki et al., 2009; Grodzinska-Jurczak et al., 2006; Padilla et al., 2022), and nonactivist behaviors in the public sphere (Halmatov & Ata, 2017). However, due to the limited research on resource conservation and environmental activism, similar studies were not identified. Nevertheless, the current study revealed that similar trends were observed for these two categories as well. Several reasons may contribute to the low involvement of young children in their parents' environmentally significant behaviors. The first reason could be parents' beliefs regarding their children's low capabilities and lack of knowledge regarding environmentally significant behaviors. Parents may believe that their children are too young to engage in certain behaviors, such as making purchases, participating in environmental events, or sorting waste, as reported by some of the participants in the current study. In a study carried out by Engdahl (2015), in which data were obtained from 28 participating countries, involved more than 44,330 children aged from birth to 8 years, it is revealed that adults often underestimate the competencies of young children regarding environmental issues. However, these misconceptions have been refuted by many different studies in the literature (Engdahl, 2015; Kahriman-Öztürk et al., 2012; Palmer et al., 2007). The second reason for the low levels of joint environmentally significant behaviors done by children and parents could be the time constraints faced by parents, which participants themselves also identified as a significant barrier. Performing a behavior individually requires less time compared to

when performing the behavior with a preschool child, as children in the preoperational stage of their cognitive development are highly curious and tend to ask many questions about the behaviors being performed and the stimuli in their environments (Piaget, 1929). So, the busy schedule of parents may prevent them from performing different environmentally significant behaviors with their children. A third reason could be parents' tendency towards overprotection. In a study conducted by Yılmaz (2020) in Türkiye, it is found that one-third of mothers and one-seventh of fathers were found to be overprotective by their children. Due to their efforts to overprotect their children, they may prevent them from participating in various environmentally significant behaviors, particularly those related to waste management, nonactivist behaviors in the public sphere, and environmental activism. The final reason for the low involvement of children in environmentally significant behaviors with their parents could be attributed to different parenting styles. Grønhøj & Thøgersen (2017) demonstrated that certain parenting styles have a more significant impact on children's environmentally significant behaviors than others. For instance, it was found that an autonomy-supporting parenting style is positively correlated with a child's engagement in environmentally significant behaviors. Since, in the current study, the parenting styles of mothers and fathers are not investigated, this could be a critical dynamic that plays a role behind mothers' and fathers' decisions to perform environmentally significant behaviors with their children. Waste reuse was the only behavior that stood out as different from all the others, as parents engaged their children in these activities. Interestingly, in the waste reuse behavior, there was no decrease in involvement when comparing individually performed behaviors with those done jointly with children. The reason behind this preference could be the potential of waste materials to be used as open-ended materials or different types of toys for children. Since the waste materials are open-ended, can be manipulated in different ways, it is found in one of the studies that some children were more interested in playing with used items than bought toys (Faridy & Rohendi, 2020). The strong interest that children have in waste materials may encourage parents to engage more in reusing waste behaviors with their children. Furthermore, since reusing waste materials is also a common activity in preschools, the familiarity that children have with this practice may also contribute to the joint behavior performed with parents and children.

5.1.3. Obstacles Stand in The Way of Parents' Performing Different Types of Private and Public Sphere Environmentally Significant Behaviors with Their Children

The final aim of the current study was to understand obstacles stand in the way of parents' performing different types of private and public sphere environmentally significant behaviors with their children. Firstly, mothers and fathers were asked about the barriers they face in terms of practicing environmentally responsible consumption behaviors with their children. They reported that environmental factors that drive consumption, the cost and accessibility of environmentally friendly products, urban lifestyle, time constraints and lack of knowledge/awareness were the main ones. Similar barriers were reported by the participants in other studies conducted previously. To illustrate, Gleim et al. (2013) also reported that the prices of green products, knowledge, availability, and lack of options were some of the most cited barriers among their participants. Moreover, Barbarossa & Pastore (2012) had similar results since their participants also reported that higher price and scarce availability were two main barriers. Lack of time was another significant barrier found in different studies (Barbarossa & Pastore, 2012; Tan et al., 2016). Whereas environmental factors that drive consumption were also stressed in Hasan et al.'s (2018) study, urban lifestyle was mentioned as a significant barrier in the study of Tan et al. (2016). So, it is possible to conclude that mothers and fathers participating in the current study reported barriers to engaging in environmentally responsible consumption behaviors with their children in line with the previous studies. However, the reported barriers in the literature were not limited to what participants said. To illustrate, poor experience with green products (Gleim et al., 2013), lack of trust in green products (Gleim et al., 2013; Joshi & Rahman, 2015; Nguyen et al., 2017; Veral, 2023), and lack of encouragement to purchase green products (Barbarossa & Pastore, 2012) were other barriers which have a considerable role in the literature. One possible reason behind the absence of mention of experience with green products and lack of trust in green products by the mothers and fathers in the current study could be attributed to the fact that these are barriers related to re-purchasing the product, rather than for the first time. Since mothers' and fathers' green purchase behaviors are low in the current study, they may not have

encountered such barriers. With regards to the lack of encouragement purchase such products not being listed, the dominance of other cited barriers may play a role; this could be the reason why mothers and fathers did not mention it, even if they experienced it. Another notable finding regarding this section was that fathers were more concerned about the cost and accessibility of environmentally friendly products, whereas mothers were more concerned about a lack of knowledge/awareness as a barrier. Fathers' greater concern regarding cost can be attributed to the gender roles still common in Türkiye where fathers are thought the breadwinners of the family and to control financial issues (Ünver & Demirli, 2022). Apart from that, different studies have claimed that women are more environmentally sensitive (Mohai, 1997), more concerned about the environment (Xiao & McCright, 2012; Zelezny et al., 2000) and they are more inclined to seek out information on environmental issues or environmental impacts (Heidbreder et al., 2022). This tendency may lead them to be more concerned about lack of knowledge/awareness as a barrier.

The current study also investigated obstacles that stand in the way of parents' performing resource conservation behaviors with their children. According to the findings, urban lifestyle, lack of qualified transportation facilities, safety issues, time constraints, and lack of knowledge/awareness were significant barriers to performing resource conservation behaviors with their children, among mothers and fathers, without any notable differences. Only a few of the cited barriers, namely time constraints (Nageotte & Buck, 2023; Onyenankeya et al., 2021; Stokes et al., 2012; Yuriev et al., 2018), and lack of information/awareness (Manolas, 2015; Nageotte & Buck, 2023; Oluk et al., 2019; Yuriev et al., 2018; Zhao et al., 2019) was parallel with the existing studies in the literature. Urban lifestyle, lack of qualified transportation facilities, and safety issues were special to the participating mothers and fathers in the current study. Participants cited the urban lifestyle, especially for the conservation of energy and fossil fuels. They mentioned that the demands of urban living, such as residing in high-rise buildings requiring elevator use or the necessity of using private cars due to the problems they face when commuting to and from work in the city, hinder their ability to individually conserve resources. Consequently, these limitations also prevent them from performing these behaviors

with their children. The urban lifestyle may not seem to be a significant barrier, especially for participants from developed countries, such as China, the United States, and countries in the European Union, as they have access to green energy alternatives (International Energy Agency, 2021) and a high prevalence of electric cars in countries like Germany, the United Kingdom, France, and Norway (Eurostat, 2022). However, these opportunities are unavailable to many citizens in Türkiye. In underdeveloped and developing countries, quality of public transportation is also a significant issue. It involves difficulties and threats for users, such as overcrowding and safety issues, especially when traveling with children. There are often no safety precautions taken for children during travel (Sohail et al., 2006). That is why, as citizens of a developing country, it is expected for mothers and fathers to view qualified public transportation as a significant barrier towards conserving fossil fuels. Finally, safety concerns were a distinct aspect in the responses of the participants in the current study. When addressing safety issues, both mothers and fathers frequently mentioned the problem of stray dogs in Türkiye. This concern led them to choose private cars over walking for transportation and prevent them from meaningfully engaging in fossil fuel conservation behaviors with their children. Due to human destruction of dogs' habitats and improper feeding practices, Türkiye is confronting a considerable threat from stray dogs. In the previous years, 340 dog attacks were reported, 13 people died directly from dog bites, and 20 were killed in traffic accidents while fleeing from dogs. Regarding injuries, 307 were reported, including 134 children (TÜİK, 2022). Therefore, it is common for parents to choose vehicles over walking or biking, which is not surprising. Although some unique barriers were identified by mothers and fathers, the barriers reported in the literature were not limited to what the participants said. Previous studies reported more honest barriers mentioned by participants, including impracticality (Dolnicar & Hurlimann, 2010), laziness, forgetfulness, and diffusion of responsibility (Stokes et al., 2012), which were not mentioned by the participants in the current study. One possible reason could be social desirability among mothers and fathers in the current study, which refers to a tendency to conceal behaviors or attitudes that are viewed as socially undesirable while being more outspoken about behaviors and attitudes that are viewed as socially acceptable (Chung & Monroe, 2003). When considering that mothers and fathers tend to have social desirability regarding their parenting as well

(Bornstein et al., 2014), it is possible that they may not mention such barriers even if they have experienced them before. Both mothers and fathers had similar opinions regarding obstacles in the way of parents' resource conservation behaviors with their children; both groups reported the same barriers. Since both groups exhibit a similar level of individual involvement and engage in similar behaviors with their children, and there is a high level of involvement in both types of parents, it may be expected that they would report the same barriers.

Parents' self-reported barriers to performing waste management behaviors with their children were also investigated as a critical part of the current study. According to the findings, inadequate infrastructure for managing waste, lack of social consciousness, lack of governmental sanctions, urban lifestyle, time constraints, insecurity about the effectiveness of waste management and lack of knowledge/awareness were barriers cited by parents on performing waste management behaviors with their children. Similar findings were also presented by previous studies in both the national and international literature. Insufficient waste management equipment provided by municipalities (Ezeah & Roberts, 2012; Kattoua et al., 2019; Kılıç-Aydın & Eryılmaz, 2022; Tümer-Kabadayı et al., 2023; Whitmarsh et al., 2018; Yukalang et al., 2017), lack of knowledge (Biu et al., 2020; Ezeah & Roberts, 2012; Kattoua et al., 2019; Kılıç-Aydın & Eryılmaz, 2022; Viljoen et al., 2021), financial constraints (Whitmarsh et al., 2018), poor cooperation in residency (Biu et al., 2020; Viljoen et al., 2021), lack of time (Biu et al., 2020; Kattoua et al., 2019; Kılıç-Aydın & Eryılmaz, 2022) and mistrust in efficacy of waste management (Tümer-Kabadayı et al., 2023) were some of the barriers listed by different samples in previous studies. So, it can be concluded that similar with the other citizens, mothers and fathers of the young children also view inadequate infrastructure for managing waste, lack of social consciousness, time constraints, insecurity about the effectiveness of waste management and lack of information/awareness as significant barriers towards performing waste management behaviors with their children. Different from what was listed in the previous studies, the lack of governmental sanctions and urban lifestyle were unique barriers reported by the mothers and fathers participating in this study. In Türkiye, although there are different regulations for institutions or organizations, there are no specific

regulations decided by the government for citizens to manage their household waste. Different regulations and sanctions provided by governments may be effective in encouraging parents to perform waste management, similar to how sanctions work in different instances, such as traffic. It is known that fines for people violating rules in traffic reduce accidents and promote traffic-friendly behavior. However, it is also noted that these effects are typically short-term (Kavsıracı & Demirbaş, 2021), which is similar to what is expected for reward and punishment systems, as they hinder internal motivation to act (Kohn, 1993). There are some examples in different countries, such as Japan, Singapore or United States, where penalties exist if a person is caught littering: a fine not exceeding \$1000 for the first time; a fine not exceeding \$2000 for the second time; and a fine not exceeding \$5000 for a third or subsequent time, and it seems to work (NCSL, 2022; Ong & Sovacool, 2012). Since there are similar instances in some countries, the lack of sanctions may be perceived as a significant barrier to mothers and fathers in Türkiye when it comes to performing waste management behaviors with their children. Mothers and fathers also commented on urban lifestyle, which was quite new compared to previous studies, stating that since they cannot produce the products they use and need to purchase everything, they find it impossible to reduce waste with their children. This may be a result of the lack of qualified products and a limited variety of accessible sustainable/green products in Türkiye (Metem & Toptaş, 2022). Furthermore, another contributing factor could be the declining amount of time parents spend outdoors with their children (Witten et al., 2013; Yılmaz & Güney, 2021). This lack of outdoor time may lead them to feel disconnected from various natural activities including planting. Apart from the barriers mentioned by mothers and fathers participating in the current study, there were some additional barriers frequently mentioned in the literature, as reported by various studies. These include limited storage space in households (Kılıç-Aydın & Eryılmaz, 2022; Whitmarsh et al., 2018) and the effort required to manage waste (Kattoua et al., 2019; Tümer-Kabadayı et al., 2023). Since the sample of the current study consisted of mothers and fathers, all of whom have at least one child, it is more likely for them to have additional spaces in their homes or they are more capable of using areas in a more effective way due to their children compared to individuals without children. This could be the reason why the lack of storage area is not a significant barrier for mothers and fathers of

young children. Although the effort required to manage waste was not directly mentioned by the participants of the current study, some of the barriers cited by parents, such as lack of time and lack of appropriate services, can be easily related to the effort required for waste management. Another notable finding on parents' self-reported barriers to performing waste management behaviors with their children was that mothers were more concerned about inadequate infrastructure for managing waste and lack of knowledge and awareness as a barrier than fathers. These tendencies can be attributed to the gender roles practiced by mothers, as they are more responsible for waste disposal in their homes (Ünver & Demirli, 2022), making it more likely for them to detect deficiencies in the waste management systems provided. Women are more worried about not having enough knowledge when managing waste with their children. Similar findings were found in terms of barriers to environmentally responsible behavior. So, the same reasons can apply to waste management. Women are more sensitive to the environment (Xiao & McCright, 2012; Zelezny et al., 2000) and attend more informative events (Heidbreder et al., 2022), making it easier for them to notice the lack of knowledge.

Investigating obstacles that stand in the way of parents performing different types of public sphere environmentally significant behaviors with their children was another purpose of the current study. In part of this scope, barriers reported by parents in terms of engaging in non-activist behaviors in the public sphere with their children are explored. According to the findings of the current study, mothers and fathers of young children view infrequency of collective/volunteer activities, COVID-19, time constraints, mistrust in environmental organizations and mistrust of the effectiveness of nonactivist behaviors in the public sphere as significant barriers towards performing nonactivist behaviors in the public sphere with their children. When the relevant literature is reviewed, similar barriers were reported by participants in different studies, such as insufficient presence of environmental organizations (Kollmuss & Agyeman, 2002; O'Brien et al., 2010), lack of time (Bushway et al., 2011; Higgins & Shackleton, 2015; Kollmuss & Agyeman, 2002; Wahl, 2010) and mistrust in efficacy of volunteering activities (Ahmad et al., 2012). There were some distinct barriers which were mentioned by the mothers and fathers of young children but not before in different studies in the literature; namely COVID-19 and mistrust in

environmental organizations. The main reason that COVID-19 is mentioned firstly in the current study may be that mothers and fathers were asked about their barriers to performing these behaviors together with their children. Since their children's age is between three to six, these children spent a very significant amount of time in pandemic conditions, making it impossible to physically attend any non-activist behaviors in the public sphere. Since the dates of other studies are older, this may be a reason why COVID-19 was revealed as a barrier in the current study. It also signals that studies regarding each component of environmentally significant behaviors should be replicated after the pandemic, as there might be alterations after that time. Apart from COVID-19, there is a current trend in Türkiye of mistrust in non-governmental organizations due to some instances in the past where donations were used for other purposes and where individuals used the name of such organizations for their own gain (Özgen et al., 2020). Consequently, the current trust level in Türkiye varies from NGO to NGO and is generally low (Özgen et al., 2020), which aligns with the findings of the current study; parents highlighted that they cannot trust environmental organizations, which hinders their ability to attend with their children. Another notable finding of the current study was that the fathers were more concerned about mistrust in environmental organizations and mistrust of the effectiveness of nonactivist behaviors in the public sphere as a barrier than the mothers. These findings could be attributed to the fact that men generally score higher in external locus of control regarding various issues, including environmental ones, compared to women (Suárez-Álvarez et al., 2016). In other words, men tend to attribute external factors to their behaviors, which may lead to trust issues, as they attribute a cause for their reluctance to exhibit them in public. This external locus of control may lead them to mistrust the efficacy of nonactivist behaviors in the public sphere and prevent them from attending those activities with their children. In a similar manner, Stern et al. (1999) also highlighted in their theory that the ascription of responsibility contributes to environmentally significant behaviors. This is why it aligns with the theory of Stern et al. (1999) that fathers engage less in environmentally significant behaviors with their children, as they lack an ascription of responsibility. This lack of ascription responsibility is evident from their responses to barriers, where they frequently emphasize mistrust.

The final category of environmentally significant behaviors investigated was environmental activism, specifically, attending environmental protests, and barriers cited by parents on performing environmental activism behaviors with their children. The mothers and fathers of young children mentioned that safety issues, protests defeating the purpose, lack of organization of environmental protests, inappropriateness of environmental protests for children's age, mistrust in the effectiveness of environmental protests and time constraints were significant barriers for them to perform environmental activism behaviors with their children. Some of the reported obstacles were in line with the relevant literature, such as safety issues (Morgan, 2017), mistrust in the effectiveness of environmental protests (Quimby, 2011; Roser-Renouf et al., 2014) and time constraints (Latkin et al., 2022; Quimby, 2011). However, some of the barriers mentioned by mothers and fathers were specific to the current study, namely, protests defeating the purpose, lack of organization of environmental protests, inappropriateness of environmental protests for children's age. It is important to keep in mind that studies investigating barriers towards participation in environmental protests have been very limited. Furthermore, studies that have focused on mothers and fathers of young children and their joint involvement have been lacking. Therefore, it is not surprising to discover new barriers in addition to the ones that have already been identified in the related literature. The belief held by mothers and fathers that many environmental protests end up defeating their purpose and transforming into protests against the government appears to be supported when examining the history of environmental movements in Türkiye. Even in the first reported environmental protest in Artvin, which concerned a factory causing harm to plant diversity in the region in 1975, apart from protesting the environmental damage, there were also protests against the economic harm caused by the government to the country (Bozkır, 2018). In many instances, the actors responsible for environmental damage are either private companies or governmental entities. However, when the focus shifts from environmental concerns to direct protests against the government, it appears that mothers and fathers become hesitant to bring their children, as they might encounter different aspects beyond just environmental protection, which is also strongly related to the perception of parents that environmental protests are not age-appropriate for their preschool children. Mothers and fathers also mentioned that the absence of environmental organizations

is another barrier. This indicates that if they know any environmental protests, they would be more prone to attend with their children. One of the possible reasons for parents' perception that environmental protests are lacking is their lack of membership in environmental organizations. Environmental protests are generally prepared and announced through the channel of environmental organizations, and it is known that people who have an active membership in these NGOs have higher levels of participation in environmental protests (Gıcıır et al., 2020). Another notable finding regarding the reported barriers of mothers and fathers to participating in environmental protests with their children was that fathers emphasized protests' defeating the purpose and age-inappropriateness as barriers more than mothers, while mothers saw lack of organization in environmental protests as a significant barrier compared to fathers. These findings revealed that fathers of young children have more negative views towards environmental protests than mothers. This trend may be the result of the fact that men tend to participate more in types of activism that include confrontational actions (Dodson, 2015), so they may experience more conflict during the protests, which may eventually lead to their negative perceptions. Since, in general, fathers did not want to participate in protests and held negative views, they did not list many barriers, as their negative beliefs are the main barriers. That is why the number of mothers who view the lack of environmental protests as a barrier can be higher, as fathers did not mention any additional barriers due to their negative perceptions of protests.

In general, the reported barriers of the mothers and fathers were in line with Stern's Theory of Environmentally Significant Behaviors, which is the foundational theory utilized for the current research. Stern (2000) indicated that attitudinal factors—such as norms, beliefs, and contextual forces like interpersonal influences—along with personal capabilities, including knowledge and skills, as well as habits or routines, were significant factors affecting the environmentally significant behaviors of individuals. Similar to what was emphasized in the summary, the majority of mothers and fathers mentioned their mistrust in the effectiveness of various forms of environmentally significant behaviors as an example of attitudinal factors. They also highlighted the lack of encouragement to perform certain behaviors and a lack of social awareness as examples of contextual forces. Furthermore, they indicated a

lack of knowledge as an example of personal capabilities, and time constraints or urban life style as examples related to general routines. The perfect fit with the theory can be attributed to the theory's comprehensiveness and well-established nature, which incorporates a blend of insights from various prior research and theories. Furthermore, when investigating the reported barriers of the mothers and fathers from an ecological systems perspective, it becomes possible to detect how each system in the theory has an actual impact on the children's engagement in environmentally significant behaviors with their children. Parental dynamics, such as a lack of knowledge/awareness or time constraints, hinder children from engaging in environmentally significant behaviors within their parents. This occurs within the microsystem of the child and directly affects them. On the other hand, various dynamics, including the cost and accessibility of specific behaviors, the absence of qualified waste management and transportation services, and governmental issues encompassing those in the exosystem, continue to influence the experiences of young children. The culture in urban cities, which is a part of the macrosystem, was also mentioned by the parents. Furthermore, some dynamics are emphasized by both mothers and fathers in terms of the chronosystem, particularly COVID-19. This is why, within the reported barriers of the mothers and fathers, it is inevitable to identify dynamics from different systems, as suggested by Bronfenbrenner (1979).

5.2. Implications

The current study aimed to investigate environmentally significant behaviors of parents with a holistic approach. Definitions for different types, individual and joint behaviors conducted with children, and barriers to performing these behaviors together with their children were investigated. As a result, critical implications were revealed regarding both research and practice, especially for preschool teachers, managers and policymakers. In other words, the findings of the current study present valuable insights to all stakeholders of early childhood environmental education. The current section starts with the implications on research and then continues with implications related to practice. Finally, recommendations for further research will be discussed.

5.2.1. Implications for Research

This study has five different implications for future research based on the notable findings highlighted. First, since parents serve as children's primary role models and socialization roles (Bandura, 1977; Bronfenbrenner, 1979), it is significant to investigate environmentally significant behaviors of mothers and fathers. Although there are different examples in the relevant literature on this topic (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012), the majority of the studies conducted have a quantitative nature, which emphasizes numerical results to draw conclusions about the behaviors of parents. However, the highlights of the current study are hidden in the details, given its qualitative nature. For instance, while other quantitative studies provide general results on green purchasing, the current study offers distinct results for each specific behavior, such as purchasing cruelty-free products. This approach may expose researchers to a broader range of environmentally significant behaviors performed by parents, leading them to investigate more specific behaviors. In other words, it opens the gate to further research on these specific behaviors.

Secondly, there is cumulative research on the literature that parents are significant to their children's performing environmentally significant behaviors, since it is discovered in many studies that children that have parents who engage in environmentally significant behaviors tend to exhibit similar behaviors to their parents (Grønhøj & Thøgersen, 2009; Katz-Gerro et al., 2020; Matthies et al., 2012; Jia & Yu, 2021). However contradictory results were also observed in some specific behaviors (Matthies et al., 2012; Jia & Yu, 2021). This led to a shift in focus towards the idea that parental active involvement might moderate the relationship between parental and children's environmentally significant behaviors (Jia & Yu, 2021). Consequently, emphasizing the relationship between parents and children while engaging in environmentally friendly actions becomes significant in better understanding the intergenerational transmission of environmental behaviors. Indeed, the current study serves as an example of the idea by focusing on environmentally significant behaviors performed by both mothers and fathers with their children. Since such studies are very scarce, and there is a shift to focus on the active

involvement of parents, the current study may provide insights to researchers on the issue from a developing country and help them to construct their own research by referring to the findings of the current study.

Since the dynamic and active relationship between parents and their children on environmental issues has not been thoroughly investigated in the literature (Jia et al., 2022), it is also striking that there is no valid and trustworthy measurement tool available to assess active parental involvement in children's environmentally significant behaviors, especially one that is appropriate to the cultures of developing countries. The qualitative nature of the current study may help researchers develop a reliable and valid measurement tool to assess parental active involvement in children's environmentally significant behaviors by presenting various different behaviors performed by mothers and fathers with their children. Consequently, the results of the current study may contribute to research on developing a reliable scale for measuring this issue.

Another implication offered by the current study to research is filling specific gaps in the literature, especially regarding public sphere environmentally significant behaviors. When compared to private sphere environmentally significant behaviors, studies on public sphere environmentally significant behaviors are very limited (Xing et al., 2022), and studies focusing on mothers and fathers of young children are even lacking. With the help of the current study's findings, researchers who are interested in public sphere environmentally significant behaviors may utilize the results to inform and shape their own research. The study provides valuable insights into how parents of young children view these behaviors, the extent to which they engage in them individually and with their children, and the barriers they face in performing these behaviors. By referencing the current study's findings, researchers can gain a better understanding of the dynamics of public sphere environmentally significant behaviors, parental involvement in these behaviors and further contribute to the body of knowledge in this field.

Finally, apart from the educational perspective, the current study also provides some implications for the field of environmental psychology by focusing on mothers and

fathers of young children, which has not been deeply investigated in the current environmental psychology literature. The majority of studies have focused on general citizens; however, each social role may contribute to individuals' behaviors (Matsumoto, 2007). By centralizing motherhood and fatherhood, the findings of the current research may contribute to other studies in the field of environmental psychology and enhance the understanding of environmentally significant behaviors.

5.2.2. Implications for Practice

The findings of the current study provide different implications for various stakeholders responsible for early childhood environmental education. To begin with, the current study revealed that mothers and fathers have some accurate, however, limited knowledge with regards to definitions of different environmentally significant behaviors. For instance, a significant number of parents tend to perceive waste management as primarily involving recycling and waste segregation, which underscores a bias towards recycling while neglecting the concepts of reduction and reusing (Barnett et al., 2023). However, in the waste management hierarchy, recycling comes after reduction and reuse. These gaps in both theoretical understanding and practical knowledge among mothers and fathers need to be addressed. Preschool institutions may play a critical role to enhance parents' understandings and knowledge on the environmental behaviors, as well as issues since there is a strong emphasis on parent education programs within the Ministry of National Education Early Childhood Education Curriculum (OBADER, 2013). According to Fine (1980), Parent education programs are designed to impart knowledge, awareness, or skills to the parents of young children in a systematic manner. These programs typically take the form of weekly meetings lasting a few hours. In these programs, preschool teachers may focus on various types of environmentally significant behaviors and provide theoretical knowledge. They may utilize various methods, such as presentations, group discussions, and skill-building activities, including homework assignments (Fine, 1980). In this way, these parent education programs can play a crucial role in preventing the transmission of misconceptions or limited knowledge about environmentally significant behaviors to children. This is especially significant as parents are the primary influencers in

transmitting environmental attributes to their children (Grønhøj & Thøgersen, 2009; Leppanen et al., 2012).

Another significant finding of the current study was that for all types of environmentally significant behaviors, parents tend to perform them individually, rather than including their children. This finding has critical implications, especially for preschool teachers. Parents can be assisted via various parent involvement methods in terms of this issue. To illustrate, preschool teachers could provide parents with various environmentally significant behavior experiences that they can perform with their children in their daily lives. This can be achieved by encouraging parents to volunteer in the classroom and be exposed to different environmentally significant behaviors that they can perform with their children, assigning home activities related to environmentally significant behaviors, or offering guidelines and a list of ideas for behaviors that parents can engage in together with their children (Eipstein, 2001). In other words, preschool teachers should be aware of parents' needs regarding engaging in environmentally significant behaviors together with their children and should address these needs through various parent involvement methods. Indeed, the findings of the current study, which encompass information about which environmentally significant behaviors are performed more frequently, which are performed less frequently, and which are never practiced by parents, can be valuable for preschool teachers when considered that effective parental involvement programs are established upon careful consideration of the distinct needs of the community (Durisic & Bunijevac, 2017). Moreover, the current study highlighted that fathers were more hesitant than mothers to engage in environmentally significant behaviors and involve their children, although children's learning and well-being is significantly affected by father involvement (Wilson & Prior, 2011). By taking this finding into consideration, preschool teachers may place greater emphasis on father involvement in environmental education while designing their practices. To increase fathers' participation in their efforts to educate about the environment, they can create and carry out special sessions for fathers to be involved. They should provide chances for men to take part in activities where they can show their skills. They should also design programs for mothers that highlight the importance of fathers'

involvement and develop programs that help fathers build their abilities in this area (Lipscomb, 2011).

Given that mothers and fathers engage in a limited number of environmentally significant activities with their children, and sometimes choose a more passive role for their children by simply teaching these behaviors without actively participating, as indicated by the low levels found in the current study, various stakeholders involved in the environmental education of young children must assume an increased responsibility to compensate for the gaps in household practices, especially for the active involvement of the child. To fill the gaps in home hands-on practices and to serve as role models for mothers and fathers, teachers should involve students in various classroom activities that provide children with opportunities to actively engage in environmentally significant behaviors. A range of techniques could involve field trips to enhance children's connectedness to nature and attachment to specific places, concept maps to help them identify the relationships between environmentally significant behaviors, experiments conducted to demonstrate human impact on the environment, projects focused on environmentally significant behaviors that also involve parents in enhancing these behaviors, and various types of play and drama techniques (Taştepe, 2020). While employing these methods, preschool teachers are also recommended to focus on designing activities for children that revolve around various systems. The goal is to show how these behaviors are connected. This might involve emphasizing how people and nature depend on each other and giving importance to the child's own surroundings to develop a stronger connection to their environment. Furthermore, incorporating activities from everyday life and blending activities from different areas can make these ideas clearer and easier to grasp for the child (Olgan & Cengizoglu, 2020). Expecting all of these responsibilities solely from preschool teachers could be misleading, as there are various contributors to the environmental education of young children. By working together with the community, teachers can partner with local government institutions to tap into their resources for classroom activities and efforts involving parents (Eipstein, 2001). Furthermore, providing in-service training for preschool teachers on involving parents in environmental education can be beneficial. Similarly, in pre-service teacher programs, the importance of parental

involvement could be emphasized. Therefore, academics may also make use of the insights discovered from the present study.

Since the present study also investigated the self-reported barriers of mothers and fathers of young children in performing environmentally significant behaviors, it is revealed that some of these barriers may be addressed by preschool teachers as well. To illustrate, preschool teachers may support minimalist consumption in the classroom by acting accordingly themselves and taking steps to decrease the influence of environmental factors that encourage excessive consumption. This could involve setting rules and guidelines to limit excessive consumption when working with children in the classroom setting. Additionally, this minimalist mindset could be reflected in the materials purchased by parents, in order to encourage them as well. Another issue that preschool teachers could address is the lack of information/awareness barrier reported by mothers and fathers regarding all types of environmentally significant behaviors. As previously mentioned, parents may have misconceptions, limited awareness and knowledge in this regard, so that they cannot engage with their children. To overcome this barrier, preschool teachers can organize various informative activities such as theoretical sessions and practical workshops, ateliers, etc (Epstein, 2001). The findings of the current study may enlighten preschool teachers about the kind of subjects that should be focused on in such informative events.

The current study revealed some further implications for preschool principals, as well. When investigating mothers and fathers' self-reported barriers to engaging in environmentally significant behaviors with their children, it becomes evident that some of these barriers can be addressed by preschools, particularly through the organization of principals and school administrators. To begin with, since mothers and fathers have difficulty accessing green products, preschools may encourage them by initially purchasing green products for themselves. Subsequently, the preschools can act as a bridge between the providers of these green products and parents, facilitating easier access to such environmentally friendly items. Furthermore, preschools may function as waste management centers, offering parents reliable and practical waste management opportunities. For instance, preschools may provide

waste segregation bins to use in the school area and ask parents to place their waste in these designated boxes. Preschools can highlight the significance of responsible waste management within the school community by encouraging parents to participate in waste segregation practices while dropping off or picking up their children. Moreover, principals may organize events such as exchange days or donation drives where all parents and children can participate by bringing the items they wish to donate. During these events, the collected donations can be distributed to those in need, promoting the principles of reducing and reusing. Since it is known that implementing such activities in preschools can offer convenience to parents and enhance children's awareness of waste management (Mohamed et al., 2017), it holds significance for principals to take action. Indeed, preschools are also well-positioned to address the complaint about the lack of collective volunteering activities to protect the environment. Principals may organize such events being both non-activist (volunteering, informative events on environment) and activist (age-appropriate, child-friendly environmental protests), and invite parents and children to practice various kinds of environmentally significant behaviors together. Apart from organization, following up on and announcing such behaviors may also inform mothers and fathers about different environmental events, which can help them engage in such behaviors with their children. To conclude, the barriers identified in the findings of the current study can serve as a valuable road map for preschool principals and teachers. By understanding these barriers, they can develop effective strategies to support and encourage parents to engage more in environmentally significant behaviors, both individually and with their children.

Finally, the current study provided implications for not only educational stakeholders but also for general policy-makers and governmental institutions. To begin with, concerning environmentally responsible consumption, similar to previous studies, it is revealed that green products lack variety, have high prices, and are not accessible to many people (Berger, 2019). Therefore, authorities can make efforts to provide a wider range of green products at lower costs to increase their usage and promote sustainable consumption practices. When it comes to resource conservation, it was reported by mothers and fathers that the lack of qualified transportation facilities and safety issues related to stray dog problems hinder their ability to conserve fossil fuels

with their children. These critical issues should be addressed by local municipalities to create safer and more sustainable transportation options that encourage families to adopt eco-friendly practices. Moreover, mothers and fathers also expressed complaints about the insufficient waste management opportunities provided by municipalities, especially, the difficulty in accessing waste segregation bins. Therefore, authorities in institutions should prepare policies that are more practical and reliable for parents, addressing this serious issue. Policies targeting more transparent waste management processes should be developed to convince parents that their efforts in waste management are valuable and contribute to a cleaner environment, since there is some mistrust among the mothers and fathers of young children. Another implication of the current study may contribute to the policy-makers in environmental organizations, since it is revealed that parents have some trust issues relating to these organizations and they unaware of the events they prepare, so, there are significant problems in the announcement of these events. Moreover, parents did not believe that the events organized would be effective, indicating a need for more transparent and concrete procedures.

5.3. Recommendations for Further Studies

This study investigated how parents define various categories of private environmentally significant behaviors, private and public environmentally significant behaviors engaged by the parents individually and with their children; variations in environmentally significant behaviors of parents depending on whether they engage independently or with their children, parents reported barriers while engaging in different categories of private and public sphere environmentally significant behaviors with their children and the difference between mothers' and fathers' definitions, self-reported behaviors, and barriers regarding different types of private and public sphere environmentally significant behaviors. To extend the findings of the current study and have a more comprehensive idea of the subject of environmentally significant behaviors of mothers and fathers, several recommendations are listed in this section for further research.

First, the current study was conducted with 13 mothers and 10 fathers, and a semi-structured interview protocol was used as the data collection tool. In further studies, this aspect of the research could be enhanced by employing additional data collection methods, such as observations. Since data collected through a semi-structured interview protocol is vulnerable to social desirability bias (Chung & Monroe, 2003), as is common in all self-reported tools, it is essential to employ additional methods, such as observations, in future research. By doing so, researchers can make cumulative contributions to the findings of the current study and enhance the overall validity and reliability of the research.

Moreover, in future studies, similar methodological approaches can be implemented, but this time with a focus on parents who have a boy and parents who have a girl. In other words, further research may investigate whether parents' environmentally significant behaviors performed with their children differ based on the gender of their children. In various instances, such as in shared scientific thinking or mathematical experiences, parents may unintentionally alter their involvement in relation to their children. For instance, they might explain more scientific concepts to boys rather than girls (Crowley et al., 2001) or provide less information about mathematics to girls compared to boys (Gunderson et al., 2011). Similar trends could also be observed among mothers and fathers of young children in relation to joint environmentally significant behaviors. Consequently, further studies are significant to investigate potential gender differences in parental involvement in these behaviors.

The current study investigated the environmentally significant behaviors of mothers and fathers of young children. However, the underlying causes and motivations of their behaviors were not explored. Some statements from participants suggested that, while they engage in specific behaviors with the intention of environmental protection, there are additional motivations driving these behaviors, as well. These motivations include factors such as financial savings, health considerations, or moral norms. This perspective is also supported by various studies in the literature (Evans et al., 2012; Helm et al., 2019). To reveal the relationships between such concerns and environmentally significant behaviors and to better understand the motivations

behind the environmentally significant behaviors of mothers and fathers of young children, further studies may focus on this issue.

Furthermore, the current study focused on the mothers and fathers of young children. However, the socioeconomic status of parents, which is also a strong contributor to environmentally significant behaviors (Bronfman et al., 2015; Eom et al, 2018; Moser & Kleinhüchelkotten, 2017), was not investigated. In other words, whether parents from different socioeconomic statuses exhibit different environmentally significant behaviors with their children, or if their level of engagement varies according to socioeconomic status, is worth studying in future research. This could provide a better understanding of the dynamics of engagement in environmentally significant behaviors within parent-child dyads, and any potential effects on parents' definitions and self-reported barriers.

The latest research has revealed that parents' engagement in their children's behaviors may indeed be affected by their parenting styles. This is because the transmission of various environmentally significant behaviors from parents to children is influenced by the parenting styles of the parents, favoring those who have an autonomy-supporting parenting style (Grønhøj & Thøgersen, 2017). In the current study, although parents' behaviors performed with their children were investigated, their parenting styles were not considered. Since environmentally significant behaviors performed by parents and children may be affected by parenting styles, further studies could focus on this aspect and explore the relationship between parent-child environmentally significant behaviors.

The sample of the current study included mothers and fathers of children aged between three and six. Although three years might seem like a small span, in early childhood, even a single year witnesses rapid development across all developmental domains in a child (Harkness et al., 2012). That's why it could be anticipated that the environmentally significant behaviors of mothers and fathers might differ based on their children's age. Therefore, future studies could also examine mothers and fathers with varying age ranges and explore potential differences among parents' of children

aged three to four, four to five, or five to six environmentally significant behaviors performed together.

The current study has a qualitative nature and aims to explore the definitions, behaviors, and self-reported barriers of both mothers and fathers, while also shedding light on the differences between these two groups of parents. The study is designed to use a small sample size to delve deeply into parental definitions, behaviors, and barriers. Its purpose is not to arrive at definitive conclusions concerning the differences. However, in a future study, a larger number of participants from various cities or countries could be involved in the research process. This future study might employ a quantitative approach to compare and contrast different participants, leading to the identification of definitive conclusions regarding the observed differences between mothers and fathers with regards to behaviors performed individually and together with their children.

Finally, the current study revealed various findings that were not explored in detail since they were not the primary focus of the study. For instance, the study highlighted that mothers and fathers of young children tend to warn, provide information, serve as role models, or explain various types of environmentally significant behaviors in both public and private spheres to their children, rather than engaging in these behaviors together with them. The underlying motivations and reasons for these preferences could be the subject of further research, and the potential impact of misconceptions, culture, or parenting styles on the decision-making processes of mothers and fathers on this issue can be investigated in detail.

REFERENCES

- Adogu, P. O., Uwakwe, K. A., Egenti, N. B., Okwuoha, A. P., & Nkwocha, I. B. (2015). Assessment of waste management practices among residents of Owerri Municipal Imo State Nigeria. *Journal of Environmental Protection*, 06(05), 446–456. <https://doi.org/10.4236/jep.2015.65043>
- Ahmad, A. L., A. Rahim, S., Pawanteh, L., & Ahmad, F. (2012). The understanding of environmental citizenship among Malaysian youths: A study on perception and participation. *Asian Social Science*, 8(5). <https://doi.org/10.5539/ass.v8n5p85>
- Ahmat Zainuri, N., Abd-Rahman, N., Halim, L., Chan, M. Y., & Mohd Bazari, N. N. (2022). Measuring pro-environmental behavior triggered by environmental values. *International Journal of Environmental Research and Public Health*, 19(23), 16013. <https://doi.org/10.3390/ijerph192316013>
- Ainsworth, M. D., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41(1), 49. <https://doi.org/10.2307/1127388>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl and J. Beckman (Eds.), *Action-control from cognition to behavior* (pp.11-39). Heidelberg: Springer.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago: Dorsey Press
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Process*, 50, 179-211.
- Ajzen, J., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. NJ: Englewood Cliffs.
- Aksöz-Aktaş, G. (2017). *Baba katılımı ve çocuk uyumu arasındaki ilişkinin incelenmesi: Anne bekçiliği ve evlilik uyumunun etkisi* (thesis). Mersin University.

- Aksu, S. (2019). Yeşil Ürün İletişimi Kapsamında Tüketicilerin Yeşil Ürünlere Yönelik Değerlendirmeleri . *Atatürk İletişim Dergisi* , 17, 21–38.
- Akyol, B. (2014). İlköğretim öğretmen adaylarının çevresel tutum ve çevre bilgi düzeyleri üzerine bir çalışma [Master's thesis, Niğde Ömer Halis Demir University]. YÖKTEZ.
- Al Mamun, A., Mohamad, Mohd. R., Yaacob, Mohd. R., & Mohiuddin, M. (2018). Intention and behavior towards green consumption among low-income households. *Journal of Environmental Management*, 227, 73–86. <https://doi.org/10.1016/j.jenvman.2018.08.061>
- Alisat, S., & Riemer, M. (2015). The Environmental Action Scale: Development and psychometric evaluation. *Journal of Environmental Psychology*, 43, 13–23. <https://doi.org/10.1016/j.jenvp.2015.05.006>
- Al-mosa, Y., Parkinson, J., & Rundle-Thiele, S. (2017). A socioecological examination of observing littering behavior. *Journal of Nonprofit & Public Sector Marketing*, 29(3), 235–253. <https://doi.org/10.1080/10495142.2017.1326354>
- Alper, U. (2014). Modelling Pre-Service Science Teachers' Environmentally Friendly Behaviours In Relation To Psychological And Cognitive Variables [Master's thesis, Middle East Technical University]. YÖKTEZ. <https://etd.lib.metu.edu.tr/upload/12617893/index.pdf>
- Amasuomo, E., & Baird, J. (2016). The concept of waste and waste management. *Journal of Management and Sustainability*, 6(4), 88. <https://doi.org/10.5539/jms.v6n4p88>
- Amberg, N., & Fogarassy, C. (2019). Green consumer behavior in the cosmetics market. *Resources*, 8(3), 137. <https://doi.org/10.3390/resources8030137>
- Amérigo, M., Aragonés, J., De Frutos, B., Sevillano, V., & Cortés, B. (2007). Underlying Dimensions of Ecocentric and Anthropocentric Environmental Beliefs. *The Spanish Journal of Psychology*, 10(1), 97-103. doi:10.1017/S1138741600006351
- Amoah, A., & Addoah, T. (2020). Does environmental knowledge drive pro-environmental behaviour in developing countries? evidence from households in Ghana. *Environment, Development and Sustainability*, 23(2), 2719–2738. <https://doi.org/10.1007/s10668-020-00698-x>

- Arachchi, J., & Managi, S. (2021). Preferences for energy sustainability: Different effects of gender on knowledge and importance. *Renewable and Sustainable Energy Reviews*, 141, 110767. <https://doi.org/10.1016/j.rser.2021.110767>
- Arbuthnot, J. (1977). The roles of attitudinal and personality variables in the prediction of environmental behavior and knowledge. *Environment and Behavior*, 9(2), 217–232. <https://doi.org/10.1177/001391657792004>
- Arslanalp, M. & Erkmen, T. D. (2022). Yurttaşlar Protesto Hakkını ve Yasaklarını Nasıl Değerlendiriyor? İstanbul'da Yurttaş Tavırları Üzerine Bir Anket Çalışmasının Söyledikleri. *Mülkiye Dergisi*, 46 (2), 372-406. Retrieved from <https://dergipark.org.tr/en/pub/mulkiye/issue/72239/994371>
- Aydın Eryılmaz, G. & Kılıç, O. (2021). Eysel ambalaj atıklarıyla ilgili tüketicilerde cinsiyete göre davranış farklılıkları: Samsun ili örneği. *Ünye İktisadi ve İdari Bilimler Fakültesi Dergisi*, 4 (2), 1-8. <https://dergipark.org.tr/tr/pub/uiibfd/issue/66218/976552>
- Aydın, S., & Tufan, F. (2018). Sürdürülebilirlik ve yeşil kavramları bağlamında Y kuşağının satın alma davranışları. *Journal of Selcuk Communication*, 11(2), 397–420. <https://doi.org/10.18094/josc.377009>
- Aydiner Boylu, A. & Yertutan, C. (2012). Erkeklerin evde enerji ve su tasarrufu konusundaki alışkanlık ve satın alma odaklı davranışlarının incelenmesi. *Sosyoekonomi*, 17 (17). <https://dergipark.org.tr/tr/pub/sosyoekonomi/issue/21077/226925>
- Ayob, S. F., Sheau-Ting, L., Abdul Jalil, R., & Chin, H.-C. (2017). Key determinants of waste separation intention: Empirical application of TPB. *Facilities*, 35(11/12), 696–708. <https://doi.org/10.1108/f-06-2016-0065>
- Ayvaz Kızılgöl, Ö. & İpek, E. (2019). Türkiye’de Hanehalkı Tasarruf Davranışının Analizi. *İzmir İktisat Dergisi*, 34 (3), 331-344. 10.24988/ije.2019343816
- Balzekiene, A., & Telesiene, A. (2012). Explaining private and public sphere personal environmental behaviour. *Social Sciences*, 74(4). <https://doi.org/10.5755/j01.ss.74.4.1031>
- Bandura, A. (1977). *Social Learning Theory*. Prentice-Hall

- Bang, H.-K., Ellinger, A. E., Hadjimarcou, J., & Traichal, P. A. (2000). Consumer concern, knowledge, belief, and attitude toward renewable energy: An application of the reasoned action theory. *Psychology and Marketing*, 17(6), 449–468. [https://doi.org/10.1002/\(sici\)1520-6793\(200006\)17:6<449::aid-mar2>3.0.co;2-8](https://doi.org/10.1002/(sici)1520-6793(200006)17:6<449::aid-mar2>3.0.co;2-8)
- Barbarossa, C., & De Pelsmacker, P. (2014). Positive and negative antecedents of purchasing eco-friendly products: A comparison between green and non-green consumers. *Journal of Business Ethics*, 134(2), 229–247. <https://doi.org/10.1007/s10551-014-2425-z>
- Barbarossa, C., & Pastore, A. (2015). Why environmentally conscious consumers do not purchase green products. *Qualitative Market Research: An International Journal*, 18(2), 188–209. <https://doi.org/10.1108/qmr-06-2012-0030>
- Barr, S. (2007). Factors influencing environmental attitudes and behaviors. *Environment and Behavior*, 39(4), 435–473. <https://doi.org/10.1177/0013916505283421>
- Barr, S., Gilg, A., & Ford, N. (2005). Defining the multi-dimensional aspects of household waste management: A study of reported behavior in Devon. *Resources, Conservation and Recycling*, 45(2), 172–192. <https://doi.org/10.1016/j.resconrec.2004.12.007>
- Batista, M., Goyannes Gusmão Caiado, R., Gonçalves Quelhas, O. L., Brito Alves Lima, G., Leal Filho, W., & Rocha Yparraguirre, I. T. (2021). A framework for sustainable and integrated municipal solid waste management: Barriers and critical factors to developing countries. *Journal of Cleaner Production*, 312, 127516. <https://doi.org/10.1016/j.jclepro.2021.127516>
- Bell, D. R. (2005). Liberal environmental citizenship. *Environmental Politics*, 14(2), 179–194. <https://doi.org/10.1080/09644010500054863>
- Berger, J. (2019). Signaling can increase consumers' willingness to pay for green products. Theoretical model and experimental evidence. *Journal of Consumer Behaviour*, 18(3), 233–246. <https://doi.org/10.1002/cb.1760>
- Bhawal Mukherji, S., Sekiyama, M., Mino, T., & Chaturvedi, B. (2016). Resident knowledge and willingness to engage in waste management in Delhi, India. *Sustainability*, 8(10), 1065. <https://doi.org/10.3390/su8101065>

- Bilitewski, B., Härdtle, G. & Marek, K. (1994). *Waste Management*. Berlin: Springer-Verlag.
- Bjerke, T. O. R. E., & Kaltenborn, B. J. Ø. R. N. P. (1999). The relationship of Ecocentric and anthropocentric motives to attitudes toward large carnivores. *Journal of Environmental Psychology*, 19(4), 415–421. <https://doi.org/10.1006/jevp.1999.0135>
- Blake, J. (1999). Overcoming the ‘value-action gap’ in environmental policy: Tensions between national policy and local experience. *Local Environment*, 4(3), 257–278. <https://doi.org/10.1080/13549839908725599>
- Bornstein, M. H., Putnick, D. L., Lansford, J. E., Pastorelli, C., Skinner, A. T., Sorbring, E., Tapanya, S., Uribe Tirado, L. M., Zelli, A., Alampay, L. P., Al-Hassan, S. M., Bacchini, D., Bombi, A. S., Chang, L., Deater-Deckard, K., Di Giunta, L., Dodge, K. A., Malone, P. S., & Oburu, P. (2014). Mother and father socially desirable responding in nine countries: Two kinds of agreement and relations to parenting self-reports. *International Journal of Psychology*, 50(3), 174–185. <https://doi.org/10.1002/ijop.12084>
- Bozdemir, H., & Faiz, M. (2018). Öğretmen Adaylarının Çevreye Yönelik Ekosentrik, Antroposentrik ve Antipatik Tutumları. *Sakarya University Journal of Education*, 61–75. <https://doi.org/10.19126/suje.330546>
- Bozkır, Ö. (2018). Çevreci Anlayışın Siyasallaşması: Yeşil Siyaset ve Türkiye. *Uluslararası Batı Karadeniz Sosyal ve Beşerî Bilimler Dergisi*, 2 (1), 56-69. doi: 10.46452/baksoder.429524
- Brenan, M. (2021, November 20). *Water pollution remains top environmental concern in U.S.* Gallup.com. <https://news.gallup.com/poll/347735/water-pollution-remains-top-environmental-concern.aspx>
- Bridgewater, P. (2016). The man and biosphere programme of UNESCO: Rambunctious child of the sixties, but was the promise fulfilled? *Current Opinion in Environmental Sustainability*, 19, 1–6. <https://doi.org/10.1016/j.cosust.2015.08.009>
- Briscoe, M. D., Givens, J. E., Hazboun, S. O., & Krannich, R. S. (2019). At home, in public, and in between: Gender differences in public, private and transportation pro-environmental behaviors in the US intermountain west. *Environmental Sociology*, 5(4), 374–392. <https://doi.org/10.1080/23251042.2019.1628333>

- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist*, 34(10), 844–850. <https://doi.org/10.1037/0003-066X.34.10.844>
- Bronfman, N., Cisternas, P., López-Vázquez, E., Maza, C., & Oyanedel, J. (2015). Understanding attitudes and pro-environmental behaviors in a Chilean community. *Sustainability*, 7(10), 14133–14152. <https://doi.org/10.3390/su71014133>
- Brown, D. K., & Harlow, S. (2019). Protests, Media Coverage, and a Hierarchy of Social Struggle. *The International Journal of Press/Politics*, 24(4), 508–530. <https://doi.org/10.1177/1940161219853517>
- Bui, T. D., Tsai, F. M., Tseng, M.-L., & Ali, M. H. (2020). Identifying sustainable solid waste management barriers in practice using the Fuzzy Delphi method. *Resources, Conservation and Recycling*, 154, 104625. <https://doi.org/10.1016/j.resconrec.2019.104625>
- Bushway, L. J., Dickinson, J. L., Stedman, R. C., Wagenet, L. P., & Weinstein, D. A. (2011). Benefits, motivations, and barriers related to environmental volunteerism for older adults: Developing a research agenda. *The International Journal of Aging and Human Development*, 72(3), 189–206. <https://doi.org/10.2190/ag.72.3.b>
- Çabuk, P. S., Nakıboğlu, A. B. & Keleş, C. (2008). Tüketicilerin Yeşil Ürün Satın Alma Davranışlarının Sosyo demografik Değişkenler Açısından İncelenmesi. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 17 (1), 85-102. <https://dergipark.org.tr/tr/pub/cusosbil/issue/4378/60011>
- Çalışır, T. (2020). Tüketicilerin yeşil ürünlere yönelik yaklaşımı: Nitel bir çalışma örneği. *Sosyal Bilimler Elektronik Dergisi / Electronic Journal of Social Sciences*, 6(6), 71–98. <https://doi.org/10.29228/sbe.42939>
- Campbell, B., Khachatryan, H., Behe, B., Dennis, J., & Hall, C. (2015). Consumer perceptions of eco-friendly and sustainable terms. *Agricultural and Resource Economics Review*, 44(1), 21–34. <https://doi.org/10.1017/s1068280500004603>
- Campbell, H. E., Johnson, R. M., & Larson, E. H. (2004). Prices, devices, people, or rules: The relative effectiveness of policy instruments in Water Conservation1. *Review of Policy Research*, 21(5), 637–662. <https://doi.org/10.1111/j.1541-1338.2004.00099.x>

- Cappellaro, E., & Yazıcı, Z. (2020). Erken Çocukluk Dönemi Çevre Eğitiminde Paydaşların Rolü. In R. Olgan (Ed.), *Erken Çocukluk Döneminde Çevre Eğitimi* (pp. 196–221). Pegem Akademi.
- Cardoso, P. R., & Van Schoor, M. (2017). Portuguese consumers' green purchase behavior: An analysis of its antecedents and a proposal of segmentation. *Revista Brasileira de Marketing*, 16(2), 140–153. <https://doi.org/10.5585/remark.v16i2.3229>
- Carmi, N., Arnon, S., & Orion, N. (2015). Transforming Environmental Knowledge into behavior: The mediating role of environmental emotions. *The Journal of Environmental Education*, 46(3), 183–201. <https://doi.org/10.1080/00958964.2015.1028517>
- Caruana, A., & Vassallo, R. (2003). Children's perception of their influence over purchases: the role of parental communication patterns. *Journal of Consumer Marketing*, 20(1), 55–66. <https://doi.org/10.1108/07363760310456955>
- Casaló, L. V., & Escario, J.-J. (2016). Intergenerational Association of Environmental Concern: Evidence of parents' and children's concern. *Journal of Environmental Psychology*, 48, 65–74. <https://doi.org/10.1016/j.jenvp.2016.09.001>
- Cervellon, M.-C., & Carey, L. (2011). Consumers' perceptions of “green”: Why and how consumers use eco-fashion and green beauty products. *Critical Studies in Fashion & Beauty*, 2(1), 117–138. https://doi.org/10.1386/csfb.2.1-2.117_1
- Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology and Marketing*, 18(4), 389–413. <https://doi.org/10.1002/mar.1013>
- Chawla, L. (1998). Research methods to investigate significant life experiences: Review and recommendations. *Environmental Education Research*, 4(4), 383–397. <https://doi.org/10.1080/1350462980040403>
- Chawla, L. (1998). Significant life experiences revisited: A review of research on sources of environmental sensitivity. *The Journal of Environmental Education*, 29(3), 11–21. <https://doi.org/10.1080/00958969809599114>
- Chawla, L. (2001). Significant life experiences revisited once again: Response to vol. 5(4) 'five critical commentaries on Significant Life Experience Research in Environmental Education'. *Environmental Education Research*, 7(4), 451–461. <https://doi.org/10.1080/13504620120081313>

- Chawla, L. (2007). Childhood Experiences Associated with Care for the Natural World: A Theoretical Framework for Empirical Results. *Children, Youth and Environments* 17(4): 144-170.
- Chen, M.-F. (2014). An examination of the value-belief-norm theory model in predicting pro-environmental behaviour in Taiwan. *Asian Journal of Social Psychology*, 18(2), 145–151. <https://doi.org/10.1111/ajsp.12096>
- Chen, M.-F. (2015). Self-efficacy or collective efficacy within the cognitive theory of stress model: Which more effectively explains people’s self-reported proenvironmental behavior? *Journal of Environmental Psychology*, 42, 66–75. <https://doi.org/10.1016/j.jenvp.2015.02.002>
- Chen, W., & Liu, J. (2023). When less is more: Understanding consumers’ responses to minimalist appeals. *Psychology & Marketing*. <https://doi.org/10.1002/mar.21869>
- Cheng, L., Abraham, J., Zhu, J., Trenberth, K. E., Fasullo, J., Boyer, T., Locarnini, R., Zhang, B., Yu, F., Wan, L., Chen, X., Song, X., Liu, Y., & Mann, M. E. (2020). Record-setting ocean warmth continued in 2019. *Advances in Atmospheric Sciences*, 37(2), 137–142. <https://doi.org/10.1007/s00376-020-9283-7>
- Chengqin, E. K., Zailani, S., Rahman, M. K., Aziz, A. A., Bhuiyan, M. A., & Gazi, Md. A. (2022). Determinants of household behavioural intention towards reducing, reusing and recycling food waste management. *Nankai Business Review International*. <https://doi.org/10.1108/nbri-01-2022-0011>
- Cheremisinoff, N. P. (2003). *Handbook of Solid Waste Management and waste minimization technologies*. Butterworth-Heinemann.
- Christov-Moore, L., Simpson, E. A., Coudé, G., Grigaityte, K., Iacoboni, M., & Ferrari, P. F. (2014). Empathy: Gender effects in brain and behavior. *Neuroscience & Biobehavioral Reviews*, 46, 604–627. <https://doi.org/10.1016/j.neubiorev.2014.09.001>
- Clark, W. A., & Finley, J. C. (2007). Determinants of water conservation intention in Blagoevgrad, Bulgaria. *Society & Natural Resources*, 20(7), 613–627. <https://doi.org/10.1080/08941920701216552>

- Cole, J. C., McDonald, J. B., Wen, X., & Kramer, R. A. (2018). Marketing energy efficiency: Perceived benefits and barriers to home energy efficiency. *Energy Efficiency*, 11(7), 1811–1824. <https://doi.org/10.1007/s12053-018-9614-z>
- Cömert, H. (2011). Çevre sorunları ve etkileri konusundaki işbirlikli öğrenme etkinliklerinin öğrencilerin bilgi, tutum ve davranışlarına etkisi [Master's thesis, İstanbul University]. YÖKTEZ.
- Conrad, F. G., & Schober, M. F. (2020). Clarifying question meaning in standardized interviews can improve data quality even though wording may change: A review of the evidence. *International Journal of Social Research Methodology*, 24(2), 203–226. <https://doi.org/10.1080/13645579.2020.1824627>
- Corraliza, J., & Collado, S. (2019). Ecological Awareness and Children's Environmental Experience. *Papeles Del Psicólogo - Psychologist Papers*, 40(2). <https://doi.org/10.23923/pap.psicol2019.2896>
- Corral-Verdugo Víctor, Bechtel, R. B., & Fraijo-Sing, B. (2003). Environmental beliefs and water conservation: An empirical study. *Journal of Environmental Psychology*, 23(3), 247–257. [https://doi.org/10.1016/s0272-4944\(02\)00086-5](https://doi.org/10.1016/s0272-4944(02)00086-5)
- Cottrell, S. P. (2003). Influence of sociodemographics and environmental attitudes on general responsible environmental behavior among recreational boaters. *Environment and Behavior*, 35(3), 347–375. <https://doi.org/10.1177/0013916503035003003>
- Craig, L. (2006). Does father care mean fathers share? *Gender & Society*, 20(2), 259–281. <https://doi.org/10.1177/0891243205285212>
- Craig, M. L. (2006). Race, beauty, and the Tangled Knot of a guilty pleasure. *Feminist Theory*, 7(2), 159–177. <https://doi.org/10.1177/1464700106064414>
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Czech, B., Devers, P. K., & Krausman, P. R. (2001). The relationship of gender to species conservation attitudes. *Wildlife Society Bulletin (1973-2006)*, 29(1), 187–194. <http://www.jstor.org/stable/3783997>

- Dagher, G. K., Itani, O., & Kassab, A. N. (2015). The impact of environment concern and attitude on green purchasing behavior: Gender as the moderator. *Contemporary Management Research*, 11(2), 179–206. <https://doi.org/10.7903/cmr.13625>
- Dalton, R. J. (2015). Waxing or waning? The changing patterns of environmental activism. *Environmental Politics*, 24(4), 530–552. <https://doi.org/10.1080/09644016.2015.1023576>
- Değirmenci, B. (2022). Perceived environmental responsibility and green product purchasing behavior examination of the relationship in the context of demographics. *Türkiye Sosyal Araştırmalar Dergisi*, 26(3), 681–694.
- Demarque, C., & Girandola, F. (2016). Commitment and pro-environmental behaviors: Favoring positive human-environment interactions to improve quality of life. *Handbook of Environmental Psychology and Quality of Life Research*, 197–210. https://doi.org/10.1007/978-3-319-31416-7_11
- Demirbağ, B. C. & Güngörmüş, Z. (2012). Bireylerin evsel katı atık yönetimine ilişkin bilgi ve davranışları. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 1 (3), 127-137. <https://dergipark.org.tr/tr/pub/gumussagbil/issue/7507/98958>
- Demirci Güler, M. P., & Afacan, Ö. (2012). A study on developing a behaviour scale towards sustainable environmental education. *Journal of Baltic Science Education*, 11(3), 224–235. <https://doi.org/10.33225/jbse/12.11.224>
- Demirgöl, F. (2018). Çadırdan Saraya Türk Mutfağı. *Uluslararası Türk Dünyası Turizm Araştırmaları Dergisi*, 3 (1), 105-125 . Retrieved from <https://dergipark.org.tr/en/pub/tdtad/issue/38069/368568>
- Desrochers, J. E., & Zelenski, J. M. (2022). Why are males not doing these environmental behaviors?: Exploring males' psychological barriers to environmental action. *Current Psychology*. <https://doi.org/10.1007/s12144-022-03587-w>
- Dewulf, J., Mancini, L., Blengini, G. A., Sala, S., Latunussa, C., & Pennington, D. (2015). Toward an overall analytical framework for the integrated sustainability assessment of the production and supply of raw materials and primary energy carriers. *Journal of Industrial Ecology*, 19(6), 963–977. <https://doi.org/10.1111/jiec.12289>

- Doğan, S., Yücel Güngör, M., & Ömüriş, E. (2022). Çevresel Bilgi, Çevresel Farkındalık ve Çevresel Kaygının Çevre Dostu Otelde Kalma Niyeti Üzerindeki Etkisi: Su ve Atık Yönetimi Teknolojilerinin Rolü. *Türk Turizm Araştırmaları Dergisi*, 6(1), 73–86. <https://doi.org/10.26677/TR1010.2022.941>
- Dolisca, F., McDaniel, J., Shannon, D., & Jolly, C. (2009). A multilevel analysis of the determinants of forest conservation behavior among farmers in Haiti. *Society & Natural Resources*, 22(5), 433–447. <https://doi.org/10.1080/08941920802064448>
- Dolnicar, S., & Hurlimann, A. (2010). Australians' water conservation behaviours and attitudes. *Australasian Journal of Water Resources*, 14(1), 43–53. <https://doi.org/10.1080/13241583.2010.11465373>
- Dolnicar, S., Hurlimann, A., & Grün, B. (2012). Water conservation behavior in Australia. *Journal of Environmental Management*, 105, 44–52. <https://doi.org/10.1016/j.jenvman.2012.03.042>
- Doran, J. W., & Parkin, T. B. (2015). Defining and assessing soil quality. *SSSA Special Publications*, 1–21. <https://doi.org/10.2136/sssaspecpub35.c1>
- Droz, L. (2021). Challenging harmony to save nature? Environmental activism and ethics in Taiwan and Japan. *International Journal for Crime, Justice and Social Democracy*, 10(1). <https://doi.org/10.5204/ijcjsd.1969>
- Dunlap, R. E., & Van Liere, K. D. (1978). The “new environmental paradigm.” *The Journal of Environmental Education*, 9(4), 10–19. <https://doi.org/10.1080/00958964.1978.10801875>
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). New trends in measuring environmental attitudes: Measuring endorsement of the New Ecological Paradigm: A revised NEP scale. *Journal of Social Issues*, 56(3), 425–442. <https://doi.org/10.1111/0022-4537.00176>
- Đurišić, M., & Bunijevac, M. (2017). Parental involvement as a important factor for successful education. *Center for Educational Policy Studies Journal*, 7(3), 137–153. <https://doi.org/10.26529/cepsj.291>
- Dursun, İ., Tümer Kabadayı, E., & Tuğer, A. T. (2019). Overcoming the psychological barriers to energy conservation behaviour: The influence of

objective and subjective environmental knowledge. *International Journal of Consumer Studies*, 43(4), 402–416. <https://doi.org/10.1111/ijcs.12519>

Dworkin, S. L. (2012). Sample size policy for qualitative studies using in-depth interviews. *Archives of Sexual Behavior*, 41(6), 1319–1320. <https://doi.org/10.1007/s10508-012-0016-6>

Ebreo, A., & Vining, J. (2001). How similar are recycling and waste reduction? Future orientation and reasons for reducing waste as predictors of self-reported behavior. *Environment and Behavior*, 33(3), 424–448. <https://doi.org/10.1177/00139160121973061>

Edgell, B. (1929). The child's conception of the world. by Jean Piaget. *Philosophy*, 4(15), 422–424. <https://doi.org/10.1017/s0031819100032058>

Edgell, M. C., & Nowell, D. E. (1989). The New Environmental Paradigm Scale: Wildlife and environmental beliefs in British Columbia. *Society & Natural Resources*, 2(1), 285–296. <https://doi.org/10.1080/08941928909380692>

Ekholm, S. (2019). Swedish mothers' and fathers' worries about climate change: A gendered story. *Journal of Risk Research*, 23(3), 288–296. <https://doi.org/10.1080/13669877.2019.1569091>

Ekholm, S., & Olofsson, A. (2016). Parenthood and worrying about climate change: The limitations of previous approaches. *Risk Analysis*, 37(2), 305–314. <https://doi.org/10.1111/risa.12626>

Ellis, R., & Waterton, C. (2004). Environmental citizenship in the making: The participation of volunteer naturalists in UK biological recording and biodiversity policy. *Science and Public Policy*, 31(2), 95–105. <https://doi.org/10.3152/147154304781780055>

Eom, K., Kim, H. S., & Sherman, D. K. (2018). Social class, control, and action: Socioeconomic status differences in antecedents of support for pro-environmental action. *Journal of Experimental Social Psychology*, 77, 60–75. <https://doi.org/10.1016/j.jesp.2018.03.009>

EPA. (2022). Waste Management Hierarchy and Homeland Security Incidents. EPA. Retrieved August 27, 2022, from <https://www.epa.gov/homeland-security-waste/waste-management-hierarchy-and-homeland-security-incidents>

- Erdaş Kartal, E., & Ada, E. (2020). Recycling from the perspective of pre-school children. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, 33(3), 778–801. <https://doi.org/10.19171/uefad.635508>
- Erdogan, M., Ok, A., & Marcinkowski, T. J. (2012). Development and validation of Children's Responsible Environmental Behavior Scale. *Environmental Education Research*, 18(4), 507–540. <https://doi.org/10.1080/13504622.2011.627421>
- Ergazaki, M. & Zogza, V. & Grekou, A. (2009). From preschoolers' ideas about decomposition, domestic garbage fate and recycling to the objectives of a constructivist learning environment in this contex. *Review of Science, Mathematics and ICT Education*, 3.
- Erten, S. (2008). Insights to ecocentric, anthropocentric and antipathetic attitudes towards environment in diverse cultures. *Eurasian Journal of Educational Research*. 33, 141-156.
- Erten, S., & Aydoğdu, C. (2011). The Ecocentric, Anthropocentric and Antipathetic Attitudes Towards Environment in Turkish and Azerbaijani Students. *Hacettepe University Journal of Education* , 41, 158–169.
- Ertz, M., Karakas, F., & Sarigöllü, E. (2016). Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research*, 69(10), 3971–3980. <https://doi.org/10.1016/j.jbusres.2016.06.010>
- Escario, J.-J., Rodriguez-Sanchez, C., & Casaló, L. V. (2020). The influence of environmental attitudes and perceived effectiveness on recycling, reducing, and reusing packaging materials in Spain. *Waste Management*, 113, 251–260. <https://doi.org/10.1016/j.wasman.2020.05.043>
- Essiz, O., & Mandrik, C. (2021). Intergenerational influence on sustainable consumer attitudes and behaviors: Roles of family communication and peer influence in environmental consumer socialization. *Psychology & Marketing*. <https://doi.org/10.1002/mar.21540>
- Evans, G. W., Otto, S., & Kaiser, F. G. (2018). Childhood origins of young adult environmental behavior. *Psychological Science*, 29(5), 679–687. <https://doi.org/10.1177/0956797617741894>

- Ewert, A., Place, G., & Sibthorp, J. (2005). Early-life outdoor experiences and an individual's environmental attitudes. *Leisure Sciences*, 27(3), 225–239. <https://doi.org/10.1080/01490400590930853>
- Ezeah, C., & Roberts, C. L. (2012). Analysis of barriers and success factors affecting the adoption of sustainable management of municipal solid waste in Nigeria. *Journal of Environmental Management*, 103, 9–14. <https://doi.org/10.1016/j.jenvman.2012.02.027>
- Farber, N. K. (2006). Conducting Qualitative Research: A Practical Guide for School Counselors. *Professional School Counseling*, 9(4). <https://doi.org/10.1177/2156759X0500900401>
- Faridy, F., & Rohendi, A. (2021). The role of parents in engaging early childhood to implement 3R (reduce, reuse, recycle). *Advances in Social Science, Education and Humanities Research*. <https://doi.org/10.2991/assehr.k.210421.070>
- Faridy, F., & Rohendi, A. (2021). The role of parents in engaging early childhood to implement 3R (reduce, reuse, recycle). *Advances in Social Science, Education and Humanities Research*. <https://doi.org/10.2991/assehr.k.210421.070>
- Fielding, K. S., Russell, S., Spinks, A., & Mankad, A. (2012). Determinants of household water conservation: The role of demographic, infrastructure, behavior, and psychosocial variables. *Water Resources Research*, 48(10). <https://doi.org/10.1029/2012wr012398>
- Fine, M. J. (1980). *Handbook of Parent Education*. Academic Press.
- Fontes, E., Moreira, A. C., & Carlos, V. (2021). The influence of ecological concern on green purchase behavior. *Management & Marketing. Challenges for the Knowledge Society*, 16(3), 246–267. <https://doi.org/10.2478/mmcks-2021-0015>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How To Design and Evaluate Research In Education* (8th ed.). New York: Mc Graw Hill.
- Franke, M., Hindle, P., White, P., White, P., & White, P. (1995). *Integrated Solid Waste Management: A lifecycle inventory*. Blackie Academic & Professional.

- Frick, J., Kaiser, F. G., & Wilson, M. (2004). Environmental knowledge and conservation behavior: Exploring prevalence and structure in a representative sample. *Personality and Individual Differences*, 37(8), 1597–1613. <https://doi.org/10.1016/j.paid.2004.02.015>
- Futer, M. (2005). *Evaluating the effectiveness of environmental education essential elements in school field trip programming* (thesis). McGill University.
- Galarpe, V. R., & Heyasa, B. B. (2017). Solid waste management response of selected Public Secondary School Science Teachers. *International Journal of Advanced and Applied Sciences*, 4(7), 110–115. <https://doi.org/10.21833/ijaas.2017.07.016>
- Gallagher, R. V., Allen, S., Mackenzie, B. D., Yates, C. J., Gosper, C. R., Keith, D. A., Merow, C., White, M. D., Wenk, E., Maitner, B. S., He, K., Adams, V. M., & Auld, T. D. (2021). High fire frequency and the impact of the 2019–2020 megafires on Australian Plant Diversity. *Diversity and Distributions*, 27(7), 1166–1179. <https://doi.org/10.1111/ddi.13265>
- Garcesa, R. D., & Limjuco, R. P. (2016). Environmental literacy and integration of environment issues among science teachers in region XI: Basis for training design. *UIC Research Journal*, 20(1). <https://doi.org/10.17158/554>
- Garcia-Cuerva, L., Berglund, E. Z., & Binder, A. R. (2016). Public perceptions of water shortages, conservation behaviors, and support for water reuse in the U.S. *Resources, Conservation and Recycling*, 113, 106–115. <https://doi.org/10.1016/j.resconrec.2016.06.006>
- Gay, L.R, Miles, G. E. and Airasian, P. (2011) *Educational Research: Competencies for Analysis and Applications*. 10th Edition, Pearson Education International, Boston.
- Gedik, T. , Kurutkan, M. N. & Çil, M. (2014). Yeşil pazarlama algısı ve yeşil satın alma davranışı: Düzce Üniversitesi örneği . *Düzce Üniversitesi Orman Fakültesi Ormancılık Dergisi* , 10(1) , 1-13 . <https://dergipark.org.tr/en/pub/duzceod/issue/27445/288646>
- Geiger, S. M., Geiger, M., & Wilhelm, O. (2019). Environment-specific vs. general knowledge and their role in pro-environmental behavior. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00718>

- Gifford R. (2011). The dragons of inaction: Psychological barriers that limit climate change mitigation and adaptation. *American Psychologist*, 66, 290-302.
- Gifford, R., & Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A Review. *International Journal of Psychology*. <https://doi.org/10.1002/ijop.12034>
- Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2018). A multi-dimensional measure of environmental behavior: Exploring the predictive power of connectedness to nature, ecological worldview and environmental concern. *Social Indicators Research*, 143(2), 859–879. <https://doi.org/10.1007/s11205-018-1999-8>
- Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). Environmental behavior in a private-sphere context: Integrating theories of planned behavior and value belief norm, self-identity and habit. *Resources, Conservation and Recycling*, 148, 145–156. <https://doi.org/10.1016/j.resconrec.2019.01.039>
- Gkargkavouzi, A., Paraskevopoulos, S., & Matsiori, S. (2018). Assessing the structure and correlations of connectedness to nature, environmental concerns and environmental behavior in a Greek context. *Current Psychology*, 40(1), 154–171. <https://doi.org/10.1007/s12144-018-9912-9>
- Gleim, M. R., Smith, J. S., Andrews, D., & Cronin, J. J. (2013). Against the green: A multi-method examination of the barriers to green consumption. *Journal of Retailing*, 89(1), 44–61. <https://doi.org/10.1016/j.jretai.2012.10.001>
- Gökmen Köksal, C. (2023). Bireysel geri dönüşüm davranışı önündeki engeller üzerine sistematik literatür taraması1. *International Journal Of Eurasia Social Sciences*. <https://doi.org/10.35826/ijoess.3262>
- Goldman, D., Yavetz, B., & Pe'er, S. (2006). Environmental literacy in teacher training in israel: Environmental behavior of new students. *The Journal of Environmental Education*, 38(1), 3–22. <https://doi.org/10.3200/joee.38.1.3-22>
- Gooch, G. D. (1995). Environmental beliefs and attitudes in Sweden and the Baltic States. *Environment and Behavior*, 27(4), 513–539. <https://doi.org/10.1177/0013916595274004>
- Görgün Baran, A. (2019). Türkiye’de gençlerin gönüllülük faaliyetlerine katılım durumu. *Gençlik Araştırmaları Dergisi*, Yıl:2019 Cilt:7 Sayı:191, 5-26. <https://dergipark.org.tr/pub/genclikarastirmalari/issue/66471/1040650>

- Graebner, M. E., Martin, J. A., & Roundy, P. T. (2012). Qualitative data: Cooking without a recipe. *Strategic Organization*, 10(3), 276–284. <https://doi.org/10.1177/1476127012452821>
- Grappe, C. G., Lombart, C., Louis, D., & Durif, F. (2021). “not tested on animals”: How consumers react to cruelty-free cosmetics proposed by manufacturers and retailers? *International Journal of Retail & Distribution Management*, 49(11), 1532–1553. <https://doi.org/10.1108/ijrdm-12-2020-0489>
- Green, C. L., Walker, J. M., Hoover-Dempsey, K. V., & Sandler, H. M. (2007). Parents' motivations for involvement in children's education: An empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology*, 99(3), 532–544. <https://doi.org/10.1037/0022-0663.99.3.532>
- Grodzińska-Jurczak, M., Stepska, A., Nieszporek, K., & Bryda, G. (2006). Perception of environmental problems among pre-school children in Poland. *International Research in Geographical and Environmental Education*, 15(1), 62–76. <https://doi.org/10.2167/irgee187.0>
- Grodzinska-Jurczak, M., Bartosiewicz, A., Twardowska, A., & Ballantyne, R. (2003). Evaluating the impact of a school waste education programme upon students', parents' and teachers' environmental knowledge, attitudes and behaviour. *International Research in Geographical and Environmental Education*, 12(2), 106–122. <https://doi.org/10.1080/10382040308667521>
- Grolnick, W. S. (2014). Mothers' motivation for involvement in their children's schooling: Mechanisms and outcomes. *Motivation and Emotion*, 39(1), 63–73. <https://doi.org/10.1007/s11031-014-9423-4>
- Grønhøj, A., & Thøgersen, J. (2009). Like father, like son? intergenerational transmission of values, attitudes, and behaviours in the environmental domain. *Journal of Environmental Psychology*, 29(4), 414–421. <https://doi.org/10.1016/j.jenvp.2009.05.002>
- Grønhøj, A., & Thøgersen, J. (2012). Action speaks louder than words: The effect of personal attitudes and family norms on adolescents' pro-environmental behaviour. *Journal of Economic Psychology*, 33(1), 292–302. <https://doi.org/10.1016/j.joep.2011.10.001>
- Grønhøj, A., & Thøgersen, J. (2017). Why young people do things for the environment: The role of parenting for adolescents' motivation to engage in

pro-environmental behaviour. *Journal of Environmental Psychology*, 54, 11–19. <https://doi.org/10.1016/j.jenvp.2017.09.005>

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *ECTJ*, 29(2). <https://doi.org/10.1007/bf02766777>

Günel, N., Yücel Işıldar, G. & Atik, A. D. (2018). Üniversite Öğrencilerinin Ekolojik Ayak İzi Azaltılması Konusundaki Eğilimlerinin İncelenmesi. *Tübav Bilim Dergisi*, 11 (4), 34-46. <https://dergipark.org.tr/tr/pub/tubav/issue/42160/507066>

Güneş-Ayata, A. (1996). Solidarity in urban Turkish family. In G. Rasuly-Paleczek (Ed.), *Turkish families in transition* (pp. 98–113). Frankfurt: Peter Lang.

Gupta, S., & Agrawal, R. (2017). Environmentally responsible consumption: Construct definition, scale development, and validation. *Corporate Social Responsibility and Environmental Management*, 25(4), 523–536. <https://doi.org/10.1002/csr.1476>

Guryan, J., Hurst, E., & Kearney, M. (2008). Parental education and parental time with children. *Journal of Economic Perspectives*, 22(3), 23–46. <https://doi.org/10.1257/jep.22.3.23>

Güven, E. & Aydoğdu, M. (2012). Çevre Sorunlarına Yönelik Davranış Ölçeğinin Geliştirilmesi ve Öğretmen Adaylarının Davranış Düzeylerinin Belirlenmesi. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, 25 (2), 573-590. <https://dergipark.org.tr/tr/pub/uefad/issue/16696/173566>

Hacısalıhoğlu, S. (2021). Okullarda Atık Yönetimi Yaklaşımı: Balıkesir İli Örneği. *Uluslararası Biyosistem Mühendisliği Dergisi*, 2 (1), 70-85. <https://dergipark.org.tr/tr/pub/biyosistemmuhendisligi/issue/63443/949033>

Hadler, M., & Haller, M. (2011). Global activism and nationally driven recycling: The influence of world society and national contexts on public and private environmental behavior. *International Sociology*, 26(3), 315–345. <https://doi.org/10.1177/0268580910392258>

Halgunseth, L. (2009). Family Engagement, Diverse Families, and Early Childhood Education Programs: An Integrated Review of the Literature. *Young Children*, 64(5), 56–58.

- Halmatov, M., & Ekin, S. (2017). An Assessment of The Contribution of Parents to Environmental Awareness for Children in The Preschool Age Of 5-6 Years. *International Journal of Education, Science and Technology*, 3(2), 78–87.
- Hamann, K. R., & Reese, G. (2020). My influence on the world (of others): Goal efficacy beliefs and efficacy affect predict private, public, and activist pro-environmental behavior. *Journal of Social Issues*, 76(1), 35–53. <https://doi.org/10.1111/josi.12369>
- Hansmann, R., & Binder, C. R. (2020). Determinants of different types of positive environmental behaviors: An analysis of public and private sphere actions. *Sustainability*, 12(20), 8547. <https://doi.org/10.3390/su12208547>
- Haque, M. K., Azad, M. A., Hossain, M. Y., Ahmed, T., Uddin, M., & Hossain, M. M. (2021). Wildfire in Australia during 2019-2020, its impact on health, Biodiversity and environment with some proposals for Risk Management: A Review. *Journal of Environmental Protection*, 12(06), 391–414. <https://doi.org/10.4236/jep.2021.126024>
- Hart, S. L. (1995a). A natural-resource-based view of the firm. *The Academy of Management Review*, 20(4), 986. <https://doi.org/10.2307/258963>
- Hasan, A., Irfan, R., Shaari, Z. H., & Sharif, Md. A. (2018). Consumers' perception of barriers effecting green purchase behavior: Instrument assessment. *SHS Web of Conferences*, 56, 02008. <https://doi.org/10.1051/shsconf/20185602008>
- Hasan, A., Irfan, R., Shaari, Z. H., & Sharif, Md. A. (2018). Consumers' perception of barriers effecting green purchase behavior: Instrument assessment. *SHS Web of Conferences*, 56, 02008. <https://doi.org/10.1051/shsconf/20185602008>
- Hasenfratz, L., & Knafo, A. (2015). Prosocial behavior, effects of parenting and family structure on. *International Encyclopedia of the Social & Behavioral Sciences*, 244–249. <https://doi.org/10.1016/b978-0-08-097086-8.23217-0>
- Heidbreder, L. M., Tröger, J., & Schmitt, M. (2022). Exploring the psychological antecedents of private and public sphere behaviours to reduce household plastic consumption. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-022-02186-w>
- Hickel, J. (2020). *Less is more: How degrowth Will Save the world*. Heinemann.

- Higgins, O., & Shackleton, C. M. (2015). The benefits from and barriers to participation in civic environmental organisations in South Africa. *Biodiversity and Conservation*, 24(8), 2031–2046. <https://doi.org/10.1007/s10531-015-0924-6>
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on Responsible Environmental Behavior: A meta-analysis. *The Journal of Environmental Education*, 18(2), 1–8. <https://doi.org/10.1080/00958964.1987.9943482>
- Hojnik, J., Ruzzier, M., & Konečnik Ruzzier, M. (2019). Transition towards sustainability: Adoption of eco-products among consumers. *Sustainability*, 11(16), 4308. <https://doi.org/10.3390/su11164308>
- Hollweg, K. S., Taylor, J. R., Bybee, R. W., Marcinkowski, T. J., McBeth, W. C., & Zoido, P. (2011). *Developing a framework for assessing environmental literacy*. Washington, DC: North American Association for Environmental Education. Available at <http://www.naaee.net>.
- Hori, S., Kondo, K., Nogata, D., & Ben, H. (2013). The determinants of household energy-saving behavior: Survey and comparison in five major Asian cities. *Energy Policy*, 52, 354–362. <https://doi.org/10.1016/j.enpol.2012.09.043>
- Hota, M., & Bartsch, F. (2019). Consumer socialization in childhood and adolescence: Impact of psychological development and family structure. *Journal of Business Research*, 105, 11–20. <https://doi.org/10.1016/j.jbusres.2019.07.035>
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. New York: McGraw-Hill.
- Houser, R. (2009). *Counseling and educational research: Evaluation and application*. SAGE Publications, Inc.
- Huang, H. (2016). Media use, environmental beliefs, self-efficacy, and pro-environmental behavior. *Journal of Business Research*, 69(6), 2206–2212. <https://doi.org/10.1016/j.jbusres.2015.12.031>
- Hughner, R. S., McDonagh, P., Prothero, A., Shultz, C. J., & Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour*, 6(2–3), 94–110. <https://doi.org/10.1002/cb.210>

- Hunter, L. M., Hatch, A., & Johnson, A. (2004). Cross-national gender variation in environmental behaviors. *Social Science Quarterly*, 85(3), 677–694. <https://doi.org/10.1111/j.0038-4941.2004.00239.x>
- IEA (2021), Global Energy Review 2021, IEA, Paris <https://www.iea.org/reports/global-energy-review-2021>, License: CC BY 4.0
- Ifegbesan, A. (2011). Waste management awareness, knowledge, and practices of secondary school teachers in Ogun State, Nigeria—implications for teacher education. *The Journal of Solid Waste Technology and Management*, 37(3), 221–234. <https://doi.org/10.5276/jswtm.2011.221>
- Ihmeideh, F. M. (2013). Giving fathers a voice: Towards father involvement in early years settings. *Early Child Development and Care*, 184(7), 1048–1062. <https://doi.org/10.1080/03004430.2013.842562>
- İnci, E. İ. (2019). *Antalya il merkezinin ekolojik ayak izinin ve halkın çevresel farkındalık düzeylerinin değerlendirilmesi (thesis)*. Antalya University.
- Indriani, I. A., Rahayu, M., & Hadiwidjojo, D. (2019). The influence of environmental knowledge on green purchase intention the role of attitude as mediating variable. *International Journal of Multicultural and Multireligious Understanding*, 6(2), 627. <https://doi.org/10.18415/ijmmu.v6i2.706>
- Inoue, Y., & Alfaro-Barrantes, P. (2015). Pro-environmental behavior in the workplace: A review of empirical studies and directions for future research. *Business and Society Review*, 120(1), 137–160. <https://doi.org/10.1111/basr.12051>
- Isnin, N. S., Zakaria, Z., Yasin, Z. M., & Shariff, S. H. (2018). Analysis on gender differences in energy conservation behaviour. *2018 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE)*. <https://doi.org/10.1109/wiecon-ece.2018.8783020>
- Ivanova, O., Flores-Zamora, J., Khelladi, I., & Ivanaj, S. (2019). The generational cohort effect in the context of responsible consumption. *Management Decision*, 57(5), 1162–1183. <https://doi.org/10.1108/md-12-2016-0915>
- Iwaniec, J., & Curdt-Christiansen, X. L. (2020). Parents as agents: Engaging children in Environmental Literacy in China. *Sustainability*, 12(16), 6605. <https://doi.org/10.3390/su12166605>

- Iwińska, K., Bieliński, J., Calheiros, C. S., Koutsouris, A., Kraszewska, M., & Mikusiński, G. (2023). The primary drivers of private-sphere pro-environmental behaviour in five European countries during the COVID-19 pandemic. *Journal of Cleaner Production*, 393, 136330. <https://doi.org/10.1016/j.jclepro.2023.136330>
- Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, 41, 60–69. <https://doi.org/10.1016/j.jretconser.2017.11.008>
- Janmaimool, P., & Denpaiboon, C. (2016). Evaluating determinants of rural villagers' engagement in conservation and waste management behaviors based on integrated conceptual framework of pro-environmental behavior. *Life Sciences, Society and Policy*, 12(1). <https://doi.org/10.1186/s40504-016-0045-3>
- Jia, F., & Yu, H. (2021). Action, communication, and engagement: How parents “ACE” children's pro-environmental behaviors. *Journal of Environmental Psychology*, 74, 101575. <https://doi.org/10.1016/j.jenvp.2021.101575>
- Jia, F., Sorgente, A., & Yu, H. (2022). Parental participation in the environment: Scale validation across parental role, income, and region. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.788306>
- Johnson, C. Y., Bowker, J. M., & Cordell, H. K. (2004). Ethnic variation in environmental belief and behavior. *Environment and Behavior*, 36(2), 157–186. <https://doi.org/10.1177/0013916503251478>
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review*, 3(1–2), 128–143. <https://doi.org/10.1016/j.ism.2015.04.001>
- Jowsey, E. (2007). A new basis for assessing the sustainability of natural resources. *Energy*, 32(6), 906–911. <https://doi.org/10.1016/j.energy.2006.10.005>
- Jowsey, E., & Kellett, J. (1995). The comparative sustainability of resources. *International Journal of Sustainable Development & World Ecology*, 2(2), 77–85. <https://doi.org/10.1080/13504509509469891>
- Kağıtçıbaşı, C. (1970). Social norms and authoritarianism: A Turkish-American comparison. *Journal of Personality and Social Psychology*, 16 (3), 444–451.

- Kağıtçıbaşı, C. (1987). Alienation of the outsider: The plight of migrants. *International Migration*, 25, 195–210.
- Kahriman-Öztürk, D., Olgan, R., & Güler, T. (2012). Preschool Children's Ideas on Sustainable Development: How Preschool Children Perceive Three Pillars of Sustainability with the Regard to 7R. *Kuram ve Uygulamada Eğitim Bilimleri*, 12(4), 2987–2995. <http://files.eric.ed.gov/fulltext/EJ1002994.pdf>
- Kahriman-Ozturk, D., Olgan, R., & Tuncer, G. (2012). A qualitative study on Turkish preschool children's environmental attitudes through ecocentrism and anthropocentrism. *International Journal of Science Education*, 34(4), 629–650. <https://doi.org/10.1080/09500693.2011.596228>
- Kaiser, F. G. (1998). A general measure of ecological behavior. *Journal of Applied Social Psychology*, 28(5), 395–422. <https://doi.org/10.1111/j.1559-1816.1998.tb01712.x>
- Kaiser, F. G., & Scheuthle, H. (2003). Two challenges to a moral extension of the theory of planned behavior: Moral norms and just world beliefs in conservationism. *Personality and Individual Differences*, 35(5), 1033–1048. [https://doi.org/10.1016/s0191-8869\(02\)00316-1](https://doi.org/10.1016/s0191-8869(02)00316-1)
- Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production*, 66, 528–536. <https://doi.org/10.1016/j.jclepro.2013.10.062>
- Karadağ, S., Geçkil, T. & Aksu, S. (2023). Çevreye duyarlı ürün tüketim davranışı ölçeğinin Türkçe uyarlaması: Geçerlilik güvenilirlik çalışması. *Gümüşhane Üniversitesi Sosyal Bilimler Dergisi*, 14 (2), 540-553. <https://dergipark.org.tr/tr/pub/gumus/issue/77936/1224548>
- Karaman, D. (2021). Yeşil Pazarlama Bilgi Düzeyi ve Yaşam Tatmininin Yeşil Ürün Satın Alma Davranışına Etkisi: Kuşaklararası Bir Araştırma. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, (58), 155-176. 10.18070/erciyesiibd.755142
- Karp, D. G. (1996). Values and their effect on pro-environmental behavior. *Environment and Behavior*, 28(1), 111–133. <https://doi.org/10.1177/0013916596281006>

- Kasapoğlu, A., & Turan, F. (2008). Attitude-behaviour relationship in environmental education: A case study from Turkey. *International Journal of Environmental Studies*, 65(2), 219–231. <https://doi.org/10.1080/00207230701502316>
- Kattoua, M. G., Al-Khatib, I. A., & Kontogianni, S. (2019). Barriers on the propagation of household solid waste recycling practices in developing countries: State of Palestine example. *Journal of Material Cycles and Waste Management*, 21(4), 774–785. <https://doi.org/10.1007/s10163-019-00833-5>
- Katz-Gerro, T., Greenspan, I., Handy, F., & Vered, Y. (2020). Environmental behavior in three countries: The role of intergenerational transmission and domains of socialization. *Journal of Environmental Psychology*, 71, 101343. <https://doi.org/10.1016/j.jenvp.2019.101343>
- Kaveri, G. (2021). Household waste generation: Understanding family practices and challenges in Singapore. *International Research in Early Childhood Education*, 11(1). https://bridges.monash.edu/articles/journal_contribution/03_Household_Waste_Generation_Understanding_Family_Practices_and_Challenges_in_Singapore/16935016/1
- Kavsıracı, O., Demirbaş, M., & Tine, S. (2021). Social Campaign, traffic control, traffic penalties which is implemented for road traffic safety and effects of individuals. *İdealkent*, 12(34), 1285–1309. <https://doi.org/10.31198/idealkent.1013602>
- Kennedy, E. H., & Kmec, J. (2018). Reinterpreting the gender gap in household pro-environmental behaviour. *Environmental Sociology*, 4(3), 299–310. <https://doi.org/10.1080/23251042.2018.1436891>
- Kesicioğlu, O. S. & Alisinanoğlu, F. (2009). Ebeveynlerin Okul Öncesi Dönemdeki Çocuklarına (60-72 Ay) Yaşattıkları Doğal Çevre Deneyimlerinin İncelenmesi. *Elektronik Sosyal Bilimler Dergisi*, 8 (29), 1-14. Retrieved from <https://dergipark.org.tr/en/pub/esosder/issue/6143/82441>
- Kılıç, O. & Aydın Eryılmaz, G. (2022). Evsel Ambalaj Atıklarının Geri Dönüşümü Konusunda Tüketicilerin Tutum ve Davranışları: Samsun İli Örneği, Türkiye. *Türkiye Tarımsal Araştırmalar Dergisi*, 9 (3), 378-384. [10.19159/tutad.1172745](https://doi.org/10.19159/tutad.1172745)
- Kim, C., Lee, H., & Tomiuk, M. A. (2009). Adolescents' perceptions of family communication patterns and some aspects of their consumer socialization.

- Kim, S.-Y., Yeo, J., Sohn, S. H., Rha, J.-Y., Choi, S., Choi, A.-young, & Shin, S. (2012). Toward a composite measure of green consumption: An exploratory study using a Korean sample. *Journal of Family and Economic Issues*, 33(2), 199–214. <https://doi.org/10.1007/s10834-012-9318-z>
- Kim, Y. (2010). The pilot study in Qualitative Inquiry. *Qualitative Social Work*, 10(2), 190–206. <https://doi.org/10.1177/1473325010362001>
- Kimbrough, A. M., Guadagno, R. E., Muscanell, N. L., & Dill, J. (2013). Gender differences in mediated communication: Women connect more than do men. *Computers in Human Behavior*, 29(3), 896–900. <https://doi.org/10.1016/j.chb.2012.12.005>
- Klas, A., Zinkiewicz, L., Zhou, J., & Clarke, E. J. (2018). “Not all environmentalists are like that ...”: Unpacking the negative and positive beliefs and perceptions of environmentalists. *Environmental Communication*, 13(7), 879–893. <https://doi.org/10.1080/17524032.2018.1488755>
- Koçak, E., & Özkan Tektaş, Ö. (2022). Examination of the factors affecting individual consumers’ in-house energy conservation behaviors. *Hacettepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 40(1), 121–143. <https://doi.org/10.17065/huniibf.888951>
- Kohn, A. (2018). *Punished by rewards: The trouble with gold stars, incentive plans, A’s, praise, and other bribes*. Houghton Mifflin Company.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Kopnina, H. (2012). Evaluating Education for Sustainable Development (ESD): Using ecocentric and anthropocentric attitudes toward the Sustainable Development (EAATSD) scale. *Environment, Development and Sustainability*, 15(3), 607–623. <https://doi.org/10.1007/s10668-012-9395-z>
- Kopnina, H., Washington, H., Taylor, B., & J Piccolo, J. (2018). Anthropocentrism: More than just a misunderstood problem. *Journal of Agricultural and*

Environmental Ethics, 31(1), 109–127. <https://doi.org/10.1007/s10806-018-9711-1>

Köse, Ş. G. (2021). *Tüketicilerin Organik Gıda Satın Alma Niyetiyle İlişkili Faktörler* (thesis). Yıldız Teknik University.

Kurisu, K. (2016). *Pro-environmental behaviors*. Springer Tokyo.

Kurisu, K. H., & Bortoleto, A. P. (2011). Comparison of waste prevention behaviors among three Japanese megacity regions in the context of local measures and socio-demographics. *Waste Management*, 31(7), 1441–1449. <https://doi.org/10.1016/j.wasman.2011.03.008>

Lange, F., & Dewitte, S. (2019). Measuring pro-environmental behavior: Review and recommendations. *Journal of Environmental Psychology*, 63, 92–100. <https://doi.org/10.1016/j.jenvp.2019.04.009>

Laor, P., Suma, Y., Keawdoungek, V., Hongtong, A., Apidechkul, T., & Pasukphun, N. (2018). Knowledge, attitude and practice of municipal solid waste management among Highland residents in Northern Thailand. *Journal of Health Research*, 32(2), 123–131. <https://doi.org/10.1108/jhr-01-2018-013>

Larson, L. R., Stedman, R. C., Cooper, C. B., & Decker, D. J. (2015). Understanding the multi-dimensional structure of pro-environmental behavior. *Journal of Environmental Psychology*, 43, 112–124. <https://doi.org/10.1016/j.jenvp.2015.06.004>

Latkin, C., Dayton, L., Bonneau, H., Bhaktaram, A., Ross, J., Pugel, J., & Latshaw, M. W. (2022). Perceived barriers to climate change activism behaviors in the United States among individuals highly concerned about climate change. *Journal of Prevention*, 44(4), 389–407. <https://doi.org/10.1007/s10935-022-00704-0>

Lavelle, M. J., Rau, H., & Fahy, F. (2015). Different shades of green? unpacking habitual and occasional pro-environmental behavior. *Global Environmental Change*, 35, 368–378. <https://doi.org/10.1016/j.gloenvcha.2015.09.021>

Lee, K. (2009). Gender differences in hong kong adolescent consumers' green purchasing behavior. *Journal of Consumer Marketing*, 26(2), 87–96. <https://doi.org/10.1108/07363760910940456>

- Lee, K. (2010). The green purchase behavior of Hong Kong young consumers: The role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of International Consumer Marketing*, 23(1), 21–44. <https://doi.org/10.1080/08961530.2011.524575>
- Lee, K. (2010). The Green Purchase Behavior of hong kong young consumers: The role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of International Consumer Marketing*, 23(1), 21–44. <https://doi.org/10.1080/08961530.2011.524575>
- Lee, K. (2014). Predictors of sustainable consumption among young educated consumers in Hong Kong. *Journal of International Consumer Marketing*, 26(3), 217–238. <https://doi.org/10.1080/08961530.2014.900249>
- Lee, M., & Schuele, C. (2010). Demographics. In N. J. Salkind (Ed.), *Encyclopedia of research design* (pp. 347-347). SAGE Publications, Inc., <https://dx.doi.org/10.4135/9781412961288.n108>
- Lee, Y.-F., Nguyen, H. B., & Sung, H.-T. (2022). Energy literacy of high school students in Vietnam and determinants of their energy-saving behavior. *Environmental Education Research*, 28(6), 907–924. <https://doi.org/10.1080/13504622.2022.2034752>
- Leppänen, J. M., Haahla, A. E., Lensu, A. M., & Kuitunen, M. T. (2012). Parent-child similarity in environmental attitudes: A pairwise comparison. *The Journal of Environmental Education*, 43(3), 162–176. <https://doi.org/10.1080/00958964.2011.634449>
- Li, Y., Li, Z., Liu, Y., & Teng, Y. (2015). The impact of women consumers' psychology and behavior on marketing strategies. *Proceedings of the 1st International Symposium on Social Science (Isss-15)*. <https://doi.org/10.2991/iss-15.2015.75>
- Li, Y., Wang, B., & Saechang, O. (2022). Is female a more pro-environmental gender? evidence from China. *International Journal of Environmental Research and Public Health*, 19(13), 8002. <https://doi.org/10.3390/ijerph19138002>
- Liang, M., Chen, Q., & Zhou, Y. (2022). The influence of various role models on children's pro-environmental behaviours. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.873078>

- Liao, Y., & Yang, W. (2021). The determinants of different types of private-sphere pro-environmental behaviour: An integrating framework. *Environment, Development and Sustainability*, 24(6), 8566–8592. <https://doi.org/10.1007/s10668-021-01800-7>
- Lin, S.-T., & Niu, H.-J. (2018). Green consumption: Environmental knowledge, environmental consciousness, social norms, and purchasing behavior. *Business Strategy and the Environment*, 27(8), 1679–1688. <https://doi.org/10.1002/bse.2233>
- Lindsey, R., & Dahlman, L. (2021) Climate Change: Global Temperature. News & Features. <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>
- Ling-Yee, L. (1997). Effect of collectivist orientation and ecological attitude on actual environmental commitment. *Journal of International Consumer Marketing*, 9(4), 31–53. https://doi.org/10.1300/j046v09n04_03
- Liobikienė, G., & Poškus, M. S. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: Modifying the value-belief-norm theory. *Sustainability*, 11(12), 3324. <https://doi.org/10.3390/su11123324>
- Liobikienė, G., Mandravickaitė, J., & Bernatoniene, J. (2016). Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study. *Ecological Economics*, 125, 38–46. <https://doi.org/10.1016/j.ecolecon.2016.02.008>
- Lipscomb, R. C. (2011). Strategies to Improve Fathers' Involvement with their Children's Development and Academic Achievement. *Race, Gender & Class*, 18(3/4), 253–267. <http://www.jstor.org/stable/43496847>
- Lister, B. C., & Garcia, A. (2018). Climate-driven declines in arthropod abundance restructure a rainforest food web. *Proceedings of the National Academy of Sciences*, 115(44). <https://doi.org/10.1073/pnas.1722477115>
- Liu, X., Zou, Y., & Wu, J. (2018). Factors influencing public-sphere pro-environmental behavior among Mongolian college students: A test of value-belief-norm theory. *Sustainability*, 10(5), 1384. <https://doi.org/10.3390/su10051384>

- Liu, Y., Haslam, D. M., Dittman, C. K., Guo, M., & Morawska, A. (2022). Predicting Chinese father involvement: Parental role beliefs, fathering self-efficacy and maternal gatekeeping. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.1066876>
- Lu, H., Liu, X., Chen, H., Long, R., & Yue, T. (2017). Who contributed to “corporation green” in China? A view of public- and private-sphere pro-environmental behavior among employees. *Resources, Conservation and Recycling, 120*, 166–175. <https://doi.org/10.1016/j.resconrec.2016.12.008>
- Lynch, K. (2006, July 18). *The waste of place*. Places. <https://escholarship.org/uc/item/1st419rj>
- MacDonald, E. F., & She, J. (2015). Seven cognitive concepts for successful eco-design. *Journal of Cleaner Production, 92*, 23–36. <https://doi.org/10.1016/j.jclepro.2014.12.096>
- Maldaye, M., Haftu, D., Sako, S., Jebero, Z., Moga, F., & Alemu, A. (2022). Solid waste management practice and its associated factors among households in Gessa Town, Dawuro Zone, southwest Ethiopia. *Advances in Public Health, 2022*, 1–8. <https://doi.org/10.1155/2022/6134161>
- Margai, F. L. (1997). Analyzing changes in waste reduction behavior in a low-income urban community following a public outreach program. *Environment and Behavior, 29*(6), 769–792. <https://doi.org/10.1177/0013916597296003>
- Markle, G. L. (2013). Pro-Environmental Behavior: Does It Matter How It’s Measured? Development and Validation of the Pro-Environmental Behavior Scale (PEBS). *Human Ecology, 41*, 905-914. <http://dx.doi.org/10.1007/s10745-013-9614-8>
- Marquart-Pyatt, S. T. (2012). Explaining environmental activism across countries. *Society & Natural Resources, 25*(7), 683–699. <https://doi.org/10.1080/08941920.2011.625073>
- Martin, L., White, M. P., Hunt, A., Richardson, M., Pahl, S., & Burt, J. (2020). Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours. *Journal of Environmental Psychology, 68*, 101389. <https://doi.org/10.1016/j.jenvp.2020.101389>
- Martínez-Borreguero, G., Maestre-Jiménez, J., Mateos-Núñez, M., & Naranjo-Correa, F. L. (2019). Knowledge analysis of the prospective secondary school

teacher on a key concept in sustainability: Waste. *Sustainability*, 11(4), 1173. <https://doi.org/10.3390/su11041173>

Mateer, T. J., Melton, T. N., Miller, Z. D., Lawhon, B., Agans, J. P., & Taff, B. D. (2022). A multi-dimensional measure of pro-environmental behavior for use across populations with varying levels of environmental involvement in the United States. *PLOS ONE*, 17(10). <https://doi.org/10.1371/journal.pone.0274083>

Matthies, E., Selge, S., & Klöckner, C. A. (2012). The role of parental behaviour for the development of behaviour specific environmental norms – the example of recycling and re-use behaviour. *Journal of Environmental Psychology*, 32(3), 277–284. <https://doi.org/10.1016/j.jenvp.2012.04.003>

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach*. SAGE Publications.

Meeusen, C. (2014). The intergenerational transmission of environmental concern: The influence of parents and communication patterns within the family. *The Journal of Environmental Education*, 45(2), 77–90. <https://doi.org/10.1080/00958964.2013.846290>

Menardo, E., Brondino, M., & Pasini, M. (2019). Adaptation and psychometric properties of the Italian version of the pro-environmental behaviours scale (PEBS). *Environment, Development and Sustainability*, 22(7), 6907–6930. <https://doi.org/10.1007/s10668-019-00520-3>

Mercan, Z. & Şahin, F. T. (2017). Babalık Rolü ve Babalık Rolü Algısı. *Uluslararası Erken Çocukluk Eğitimi Çalışmaları Dergisi*, 2 (2), 1-10. <http://ijeces.hku.edu.tr/en/pub/issue/31378/305704>

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Mi, L., Qiao, L., Xu, T., Gan, X., Yang, H., Zhao, J., Qiao, Y., & Hou, J. (2020). Promoting sustainable development: The impact of differences in cultural values on residents' pro-environmental behaviors. *Sustainable Development*, 28(6), 1539–1553. <https://doi.org/10.1002/sd.2103>

Migheli, M. (2020). Green purchasing: The Effect of Parenthood and gender. *Environment, Development and Sustainability*, 23(7), 10576–10600. <https://doi.org/10.1007/s10668-020-01073-6>

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage Publications.
- Miles, M.B., Huberman, A.M. and Saldana, J. (2014) *Qualitative Data Analysis: A Methods Sourcebook*. Sage, London.
- Milfont, T. L., & Sibley, C. G. (2011). Exploring The Concept of Environmental Generativity. *International Journal of Hispanic Psychology*, 4(1), 21-30. Retrieved from <https://www.proquest.com/scholarly-journals/exploring-concept-environmental-generativity/docview/1720961182/se-2>
- Miller, E., & Buys, L. (2008). The impact of social capital on residential water-affecting behaviors in a drought-prone Australian community. *Society & Natural Resources*, 21(3), 244–257. <https://doi.org/10.1080/08941920701818258>
- Mills, B., & Schleich, J. (2012). Residential energy-efficient technology adoption, energy conservation, knowledge, and attitudes: An analysis of European countries. *Energy Policy*, 49, 616–628. <https://doi.org/10.1016/j.enpol.2012.07.008>
- Minelgaitė, A., & Liobikienė, G. (2019). Waste problem in European Union and its influence on waste management behaviours. *Science of The Total Environment*, 667, 86–93. <https://doi.org/10.1016/j.scitotenv.2019.02.313>
- Moore, S., Murphy, M., & Watson, R. (1994). A longitudinal study of domestic water conservation behavior. *Population and Environment*, 16(2), 175–189. <https://doi.org/10.1007/bf02208782>
- Morgan, M. (2019). Women, gender and protest: contesting oil palm plantation expansion in Indonesia. In *Routledge eBooks* (pp. 75–94). <https://doi.org/10.4324/9781351037181-5>
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167–175. <https://doi.org/10.1108/jcm-10-2014-1179>
- Moser, A. K. (2016). Consumers' purchasing decisions regarding environmentally friendly products: An empirical analysis of German consumers. *Journal of Retailing and Consumer Services*, 31, 389–397. <https://doi.org/10.1016/j.jretconser.2016.05.006>

- Moser, S., & Kleinhüchelkotten, S. (2017). Good intents, but low impacts: Diverging importance of motivational and socioeconomic determinants explaining pro-environmental behavior, energy use, and carbon footprint. *Environment and Behavior*, 50(6), 626–656. <https://doi.org/10.1177/0013916517710685>
- Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31(3), 220–229. <https://doi.org/10.1111/j.1470-6431.2006.00523.x>
- Muiruri, J. M., Wahome, R., & Karatu, K. (2020). Study of residents' attitude and knowledge on management of solid waste in Eastleigh, Nairobi, Kenya. *Journal of Environmental Protection*, 11(10), 779–792. <https://doi.org/10.4236/jep.2020.1110048>
- Nageotte, N. L., & Buck, G. A. (2022). Barriers and motivations to conservation behaviors in zoo visitors. *Environmental Education Research*, 29(2), 179–193. <https://doi.org/10.1080/13504622.2022.2059066>
- National Conference of State Legislatures (2022, March 21). *Summary states with littering penalties*. <https://www.ncsl.org/environment-and-natural-resources/states-with-littering-penalties#:~:text=For%20relatively%20minor%20cases%2C%20courts,to%20six%20years%20in%20Tennessee>
- Ngatia, L., M. Grace I., J., Moriasi, D., & Taylor, R. (2019). Nitrogen and phosphorus eutrophication in marine ecosystems. *Monitoring of Marine Pollution*. <https://doi.org/10.5772/intechopen.81869>
- Ngo, A.-T., West, G. E., & Calkins, P. H. (2009). Determinants of environmentally responsible behaviours for greenhouse gas reduction. *International Journal of Consumer Studies*, 33(2), 151–161. <https://doi.org/10.1111/j.1470-6431.2009.00763.x>
- Nguyen, H. V., Nguyen, C. H., & Hoang, T. T. (2018). Green consumption: Closing the intention-behavior gap. *Sustainable Development*, 27(1), 118–129. <https://doi.org/10.1002/sd.1875>
- Nguyen, T. N., Phan, T. T., Cao, T. K., & Nguyen, H. V. (2017). Green purchase behavior: Mitigating barriers in developing countries. *Strategic Direction*, 33(8), 4–6. <https://doi.org/10.1108/sd-04-2017-0064>

- Niu, L., Lu, C., & Fan, L. (2023). Social class and private-sphere green behavior in China: The mediating effects of perceived status and environmental concern. *International Journal of Environmental Research and Public Health*, 20(5), 4329. <https://doi.org/10.3390/ijerph20054329>
- Nojarov, P., & Nikolova, M. (2022). Heat waves and forest fires in Bulgaria. *Natural Hazards*, 114(2), 1879–1899. <https://doi.org/10.1007/s11069-022-05451-3>
- Noonan, M. C. (2001). The impact of domestic work on men's and women's wages. *Journal of Marriage and Family*, 63(4), 1134–1145. <https://doi.org/10.1111/j.1741-3737.2001.01134.x>
- North American Association for Environmental Education (NAAEE). (2010). Guidelines for excellence: Early childhood environmental education programs. Retrieved from https://www.plt.org/wp-content/uploads/2016/07/gl_early_childhood_complete.pdf
- Nunez, C. (2022). *Sea level rise, facts and information*. Sea level rise, explained. Retrieved March 20, 2023, from <https://www.nationalgeographic.com/environment/article/sea-level-rise-1>
- O'Brien, L., Townsend, M., & Ebdon, M. (2010). 'doing something positive': Volunteers' experiences of the well-being benefits derived from practical conservation activities in nature. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 21(4), 525–545. <https://doi.org/10.1007/s11266-010-9149-1>
- O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, 19, 160940691989922. <https://doi.org/10.1177/1609406919899220>
- Oflaç, B. S. & Göçer, A. (2015). Genç Tüketicilerin Algılanan Çevresel Bilgi Düzeyleri Ve Eko-Etiketli Ürünlere Karşı Yaklaşımları Üzerine Bir Çalışma. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 17 (2), 216-228, Retrieved from <https://dergipark.org.tr/en/pub/gaziuiibfd/issue/28307/300806>
- O'Leary, Z. (2004). *The Essential Guide to doing research*. SAGE.
- Olgan, R., & Cengizoğlu, S. (2020). Erken Çocukluk Dönemi Çevre Eğitimi Etkinliklerinin Planlanması ve Değerlendirme. In R. Olgan (Ed.), *Erken Çocukluk Döneminde Çevre Eğitimi* (pp. 196–221). Pegem Akademi.

- Olson, E. L. (2012). It's not easy being green: The effects of attribute tradeoffs on green product preference and choice. *Journal of the Academy of Marketing Science*, 41(2), 171–184. <https://doi.org/10.1007/s11747-012-0305-6>
- Oluk, S., Kaya Şengören, S. & Babadağ, G. (2019). Öğretmen Adaylarının Enerji Tasarrufuna Yönelik Tutum ve Davranışlarının Bazı Değişkenler Açısından Değerlendirilmesi. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, (47), 1-13. <https://dergipark.org.tr/tr/pub/deubefd/issue/46964/405698>
- Onyenankeya, K., Onyenankeya, O. M., & Osunkunle, O. (2021). Barriers to water use efficiency in rural and peri-urban areas of South Africa. *Water and Environment Journal*, 35(4), 1164–1173. <https://doi.org/10.1111/wej.12707>
- Ottman, J. A., Stafford, E. R., & Hartman, C. L. (2006). Avoiding green marketing myopia: Ways to improve consumer appeal for environmentally preferable products. *Environment: Science and Policy for Sustainable Development*, 48(5), 22–36. <https://doi.org/10.3200/envt.48.5.22-36>
- Ottman, J.A (1998) *Green Marketing: Opportunity for Innovation*. BookSurge.
- Otto, S., Evans, G. W., Moon, M. J., & Kaiser, F. G. (2019). The development of children's environmental attitude and behavior. *Global Environmental Change*, 58, 101947. <https://doi.org/10.1016/j.gloenvcha.2019.101947>
- Övüç, S. (2015). *Tüketicilerin Sürdürülebilir Ambalaja Sahip Ürün Satın Alma Niyeti* (thesis). İstanbul Technical University.
- Özgen, E., Aydoğdu, İ., & Yıldız, E. (2020). Toplumsal Güven ve Sivil Toplum Kuruluşları: Eğitim, Sağlık, Çevre Kuruluşları Üzerine Bir Araştırma. *Karadeniz İletişim Araştırmaları Dergisi*.
- Özgen, U., & Demirci Aksoy A. (2017). Tüketicilerin Ekolojik Ayak İzi Farkındalık Düzeyleri (Ankara İli Örneği). *Üçüncü Sektör Sosyal Ekonomi*, 52(3), 46-65. [10.15659/3.sektor-sosyal-ekonomi.17.11.790](https://doi.org/10.15659/3.sektor-sosyal-ekonomi.17.11.790)
- Oztekin, C., Teksöz, G., Pamuk, S., Sahin, E., & Kilic, D. S. (2017). Gender perspective on the factors predicting recycling behavior: Implications from the theory of planned behavior. *Waste Management*, 62, 290–302. <https://doi.org/10.1016/j.wasman.2016.12.036>

- Paavola, J. (2001). Towards sustainable consumption: Economics and ethical concerns for the environment in consumer choices. *Review of Social Economy*, 59(2), 227–248. <https://doi.org/10.1080/00346760110036175>
- Paço, A., & Gouveia Rodrigues, R. (2016). Environmental activism and consumers' perceived responsibility. *International Journal of Consumer Studies*, 40(4), 466–474. <https://doi.org/10.1111/ijcs.12272>
- Palmer J. A., Suggate, J., Robottom, I., & Hart, P. (1999). Significant life experiences and formative influences on the development of adults' environmental awareness in the UK, Australia and Canada. *Environmental Education Research*, 5(2), 181–200. <https://doi.org/10.1080/1350462990050205>
- Palmer, J. A. (1998). *Environmental education in the 21st Century: Theory, practice, progress and promise*. Routledge.
- Palmer, J. A., & Suggate, J. (1996). Influences and experiences affecting the Pro-environmental behaviour of educators. *Environmental Education Research*, 2(1), 109–121. <https://doi.org/10.1080/1350462960020110>
- Palmer, J. A., Grodzinska-Jurczak, M., & Suggate, J. (2003). Thinking about waste: Development of English and Polish children's understanding of concepts related to waste management. *European Early Childhood Education Research Journal*, 11(2), 117–139. <https://doi.org/10.1080/13502930385209201>
- Palupi, T., & Sawitri, D. R. (2018). The importance of pro-environmental behavior in adolescent. *E3S Web of Conferences*, 31, 09031. <https://doi.org/10.1051/e3sconf/20183109031>
- Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*, 47(4), 193–219. <https://doi.org/10.1159/000078723>
- Park, J., & Ha, S. (2012). Understanding pro-environmental behavior. *International Journal of Retail & Distribution Management*, 40(5), 388–403. <https://doi.org/10.1108/09590551211222367>
- Patton, M. (2014) *Qualitative Research and Evaluation Methods*. 4th Edition, Sage, Thousand Oaks.

- Patwary, A. K., Rasoolimanesh, S. M., Rabiul, M. K., Aziz, R. C., & Hanafiah, M. H. (2022). Linking environmental knowledge, environmental responsibility, altruism, and intention toward Green Hotels through ecocentric and anthropocentric attitudes. *International Journal of Contemporary Hospitality Management*, 34(12), 4653–4673. <https://doi.org/10.1108/ijchm-01-2022-0039>
- Peattie, K. (2010). Green consumption: Behavior and norms. *Annual Review of Environment and Resources*, 35(1), 195–228. <https://doi.org/10.1146/annurev-environ-032609-094328>
- Pedro Pereira Luzio, J., & Lemke, F. (2013). Exploring green consumers' product demands and consumption processes. *European Business Review*, 25(3), 281–300. <https://doi.org/10.1108/09555341311314825>
- Peña-Vinces, J., Solakis, K., & Guillen, J. (2020). Environmental knowledge, the collaborative economy and responsible consumption in the context of second-hand perinatal and infant clothes in Spain. *Resources, Conservation and Recycling*, 159, 104840. <https://doi.org/10.1016/j.resconrec.2020.104840>
- Phenice, L. A., & Griffore, R. J. (2003). Young Children and the natural world. *Contemporary Issues in Early Childhood*, 4(2), 167–171. <https://doi.org/10.2304/ciec.2003.4.2.6>
- Pickett-Baker, J., & Ozaki, R. (2008). Pro-Environmental Products: Marketing Influence on Consumer Purchase Decision. *Journal of Consumer Marketing*, 25(5), 281–293. <https://doi.org/10.1108/07363760810890516>
- Pinto, D. C., Nique, W. M., Añaña, E. da, & Herter, M. M. (2011). Green consumer values: How do personal values influence environmentally responsible water consumption? *International Journal of Consumer Studies*, 35(2), 122–131. <https://doi.org/10.1111/j.1470-6431.2010.00962.x>
- Piyapong, J. (2019). Factors affecting environmental activism, nonactivist behaviors, and the private sphere green behaviors of Thai University students. *Education and Urban Society*, 52(4), 619–648. <https://doi.org/10.1177/0013124519877149>
- Pongracz, E. (2002). Re-Defining the Concepts of Waste and Waste Management. *Acta Universitatis Ouluensis*, 32(173), 1–166.

- Poortinga, W., Steg, L., & Vlek, C. (2004). Values, environmental concern, and environmental behavior. *Environment and Behavior*, 36(1), 70–93. <https://doi.org/10.1177/0013916503251466>
- Poithou, M., Hanna, R. F., & Chalvatzis, K. J. (2016). Environmental knowledge, pro-environmental behaviour and energy savings in households: An empirical study. *Applied Energy*, 184, 1217–1229. <https://doi.org/10.1016/j.apenergy.2016.06.017>
- Poulos, H. M., & Haddad, M. A. (2016). Violent repression of environmental protests. *SpringerPlus*, 5(1). <https://doi.org/10.1186/s40064-016-1816-2>
- Quadir Ersoy, S., Temiz, G. (2017). Öğretmenlerin ve ebeveynlerin okul öncesi çağı çocuklarla çevre dostu uygulamalarının incelenmesi. *Üçüncü Sektör Sosyal Ekonomi*, 52, 2, 71-89.
- Quimby, C. C., & Angelique, H. (2011). Identifying barriers and catalysts to Fostering Pro-environmental behavior: Opportunities and challenges for community psychology. *American Journal of Community Psychology*, 47(3-4), 388–396. <https://doi.org/10.1007/s10464-010-9389-7>
- Quinn, F., Castéra, J., & Clément, P. (2015). Teachers’ conceptions of the environment: Anthropocentrism, non-anthropocentrism, anthropomorphism and the place of nature. *Environmental Education Research*, 22(6), 893–917. <https://doi.org/10.1080/13504622.2015.1076767>
- Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British Food Journal*, 107(4), 263–273. <https://doi.org/10.1108/00070700510589530>
- Rathje, W. L., & Murphy, C. (2003). *Rubbish!: The Archaeology of Garbage*. University of Arizona Press.
- Rayon-Viña, F., Miralles, L., Gómez-Agenjo, M., Dopico, E., & Garcia-Vazquez, E. (2018). Marine litter in South Bay of Biscay: Local differences in beach littering are associated with citizen perception and awareness. *Marine Pollution Bulletin*, 131, 727–735. <https://doi.org/10.1016/j.marpolbul.2018.04.066>
- Reames, T. G. (2016). A community-based approach to low-income residential energy efficiency participation barriers. *Local Environment*, 21(12), 1449–1466. <https://doi.org/10.1080/13549839.2015.1136995>

- Reed, M. G. (2019). The contributions of UNESCO Man and Biosphere Programme and biosphere reserves to the practice of Sustainability Science. *Sustainability Science*, 14(3), 809–821. <https://doi.org/10.1007/s11625-018-0603-0>
- Reilly, J. R., Artz, D. R., Biddinger, D., Bobiwash, K., Boyle, N. K., Brittain, C., Brokaw, J., Campbell, J. W., Daniels, J., Elle, E., Ellis, J. D., Fleischer, S. J., Gibbs, J., Gillespie, R. L., Gundersen, K. B., Gut, L., Hoffman, G., Joshi, N., Lundin, O., ... Winfree, R. (2020). Crop production in the USA is frequently limited by a lack of pollinators. *Proceedings of the Royal Society B: Biological Sciences*, 287(1931), 20200922. <https://doi.org/10.1098/rspb.2020.0922>
- Rhodes, C. J. (2018). Pollinator decline – an ecological calamity in the making? *Science Progress*, 101(2), 121–160. <https://doi.org/10.3184/003685018x15202512854527>
- Roberts, J. A., & Bacon, D. R. (1997). Exploring the subtle relationships between environmental concern and ecologically conscious consumer behavior. *Journal of Business Research*, 40(1), 79–89. [https://doi.org/10.1016/s0148-2963\(96\)00280-9](https://doi.org/10.1016/s0148-2963(96)00280-9)
- Robertson, G., & Harwood, R. R. (2013). Agriculture, sustainable. *Encyclopedia of Biodiversity*, 111–118. <https://doi.org/10.1016/b978-0-12-384719-5.00287-2>
- Rosa, C. D., Profice, C. C., & Collado, S. (2018). Nature experiences and adults' self-reported pro-environmental behaviors: The role of connectedness to nature and childhood nature experiences. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01055>
- Roser-Renouf, C., Maibach, E. W., Leiserowitz, A., & Zhao, X. (2014). The genesis of climate change activism: From key beliefs to political action. *Climatic Change*, 125(2), 163–178. <https://doi.org/10.1007/s10584-014-1173-5>
- Sachs, C. E., & Mohai, P. (1997). Men, Women, and the Environment: An Examination of the Gender Gap in Environmental Concern and Activism. *Women working in the environment* (pp. 1–25). essay, Taylor & Francis.
- Sağır, Ş.U., Aslan, O., & Cansaran, A. (2008). The examination of elementary school students' environmental knowledge and environmental attitudes with respect to the different variables. *Elementary Education Online*, 7(2).

- Saklani, N., & Khurana, A. (2019). Global warming: Effect on living organisms, causes and its solutions. *International Journal of Engineering and Management Research*, 09(05), 24–26. <https://doi.org/10.31033/ijemr.9.5.4>
- Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.
- Sánchez-Bayo, F., & Wyckhuys, K. A. G. (2019). Worldwide decline of the entomofauna: A review of its drivers. *Biological Conservation*, 232, 8–27. <https://doi.org/10.1016/j.biocon.2019.01.020>
- Santrock, J. W. (2011). *Educational Psychology* (5th ed.). McGraw-Hill.
- Sapmaz Veral, E. (2023). Yeşil dönüşümde tüketicilerin güçlendirilmesi: Ab’de son gelişmelere ilişkin bir inceleme. *İktisadi İdari ve Siyasal Araştırmalar Dergisi*, 8(21), 630–649. <https://doi.org/10.25204/iktisad.1232084>
- Savin-Baden, M. and Major, C. (2013) *Qualitative research: The essential guide to theory and practice*. Routledge, London.
- Schellens, M. K., & Gisladdottir, J. (2018). Critical Natural Resources: Challenging the current discourse and proposal for a holistic definition. *Resources*, 7(4), 79. <https://doi.org/10.3390/resources7040079>
- Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*, 30(5), 35–55. <https://doi.org/10.1108/03090569610118740>
- Schmitt, M. T., Mackay, C. M. L., Droogendyk, L. M., & Payne, D. (2019). What predicts environmental activism? the roles of identification with nature and politicized environmental identity. *Journal of Environmental Psychology*, 61, 20–29. <https://doi.org/10.1016/j.jenvp.2018.11.003>
- Schober, M. F., & Conrad, F. G. (2002). A collaborative view of standardized survey interviews. In D. Maynard, H. Houtkoop-Steenstra, N. C. Schaeffer, & J. van der Zouwen (Eds.), *Standardization and tacit knowledge: Interaction and practice in the survey interview* (pp. 67– 94). New York: Wiley.
- Schober, M. F., Conrad, F. G., & Fricker, S. S. (2004). Misunderstanding standardized language in research interviews. *Applied Cognitive Psychology*, 18(2), 169–188. <https://doi.org/10.1002/acp.955>

- Schultz, P. W., Gouveia, V. V., Cameron, L. D., Tankha, G., Schmuck, P., & Franek, M. (2005). Values and their relationship to environmental concern and conservation behavior. *Journal of Cross-Cultural Psychology*, 36 (4), 457-475.
- Schwartz, S. H. (1973). Normative explanations of helping behavior: A Critique, proposal, and empirical test. *Journal of Experimental Social Psychology*, 9(4), 349–364. [https://doi.org/10.1016/0022-1031\(73\)90071-1](https://doi.org/10.1016/0022-1031(73)90071-1)
- Schwartz, S. H. (1977). Normative influences on altruism. *Advances in Experimental Social Psychology*, 221–279. [https://doi.org/10.1016/s0065-2601\(08\)60358-5](https://doi.org/10.1016/s0065-2601(08)60358-5)
- Scopelliti, M., Barni, D., & Rinallo, E. (2022). My parents taught...green was my growth! the role of intergenerational transmission of ecological values in young adults' pro-environmental behaviors and their psychosocial mechanisms. *International Journal of Environmental Research and Public Health*, 19(3), 1670. <https://doi.org/10.3390/ijerph19031670>
- Şen, H.H., Yavuz-Muren, H.M., & Yağmurlu, B. (2014). Parenting: The Turkish Context.
- Şenyurt, E. (2018). *Predicting Recycling Behaviors of Preschool Teachers by Incorporating Additional Variables into the Theory of Planned Behavior* (thesis). Middle East Technical University.
- SGuin, C., Pelletier, L. G., & Hunsley, J. (1998). Toward a model of environmental activism. *Environment and Behavior*, 30(5), 628–652. <https://doi.org/10.1177/001391659803000503>
- Sheng, G., Xie, F., Gong, S., & Pan, H. (2019). The role of cultural values in green purchasing intention: Empirical evidence from Chinese consumers. *International Journal of Consumer Studies*, 43(3), 315–326. <https://doi.org/10.1111/ijcs.12513>
- Sheoran, M., & Kumar, D. (2020). Benchmarking the barriers of sustainable consumer behaviour. *Social Responsibility Journal*, 18(1), 19–42. <https://doi.org/10.1108/srj-05-2020-0203>
- Shonkoff, J. P., & Richter, L. (2013). The powerful reach of early childhood development. *Handbook of Early Childhood Development Research and Its Impact on Global Policy*, 24–34. <https://doi.org/10.1093/acprof:oso/9780199922994.003.0002>

- Sia, A. P., Hungerford, H. R., & Tomera, A. N. (1986). Selected predictors of Responsible Environmental Behavior: An analysis. *The Journal of Environmental Education*, 17(2), 31–40. <https://doi.org/10.1080/00958964.1986.9941408>
- Sia, A. P., Hungerford, H. R., & Tomera, A. N. (1986). Selected predictors of Responsible Environmental Behavior: An analysis. *The Journal of Environmental Education*, 17(2), 31–40. <https://doi.org/10.1080/00958964.1986.9941408>
- Simmons, S., Clark, S., Bennett, B., Burnett, D., Carter, J., Khalil, K., Martinez, K., McKeown, R., Oshry, A., Raze, R., Russell, C., Stallard, J., & Steffen, P. (2019). *Guidelines for Excellence K–12 Environmental Education For educators, administrators, policy makers, and the public* Washington, DC: North American Association for Environmental Education. Available at • https://eepro.naaee.org/sites/default/files/eepro-post-files/k-12_ee_guidelines_for_excellence_2019_2.pdf.
- Simsar, A., Doğan, Y., & Sezer, G. (2021). The Ecocentric and anthropocentric attitudes towards different environmental phenomena: A sample of Syrian refugee children. *Studies in Educational Evaluation*, 70, 101005. <https://doi.org/10.1016/j.stueduc.2021.101005>
- Şimşek, T. (2020). Bazı demografik özelliklere göre liseli gençlerin ekolojik ayak izi farkındalıkları ve çevre dostu davranışları. *Sosyal Bilimler Akademi Dergisi*, 3(2), 139–169. <https://doi.org/10.38004/sobad.765328>
- Singha, B., Eljamal, O., Karmaker, S. C., Maamoun, I., & Sugihara, Y. (2022). Water conservation behavior: Exploring the role of social, psychological, and behavioral determinants. *Journal of Environmental Management*, 317, 115484. <https://doi.org/10.1016/j.jenvman.2022.115484>
- Sivek, D. J., & Hungerford, H. (1990). Predictors of responsible behavior in members of three wisconsin conservation organizations. *The Journal of Environmental Education*, 21(2), 35–40. <https://doi.org/10.1080/00958964.1990.9941929>
- Skjott-Linneberg, M., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259–270. <https://doi.org/10.1108/qj-12-2018-0012>
- Smith-Sebasto, N. J., & D'Costa, A. (1995). Designing a likert-type scale to predict environmentally responsible behavior in undergraduate students: A multistep

process. *The Journal of Environmental Education*, 27(1), 14–20.
<https://doi.org/10.1080/00958964.1995.9941967>

- Smyth, J. (1987). UNESCO–UNEP International Congress on Environmental Education and Training, held at the International Centre in Moscow, USSR, during 17–21 August 1987. *Environmental Conservation*, 14(4), 371–371.
[doi:10.1017/S037689290001701X](https://doi.org/10.1017/S037689290001701X)
- Soga, M., Yamanoi, T., Tsuchiya, K., Koyanagi, T. F., & Kanai, T. (2018). What are the drivers of and barriers to children’s direct experiences of nature? *Landscape and Urban Planning*, 180, 114–120.
<https://doi.org/10.1016/j.landurbplan.2018.08.015>
- Soliman, M., Alisat, S., Bashir, N. Y., & Wilson, A. E. (2018). Wrinkles in time and drops in the bucket: Circumventing temporal and social barriers to pro-environmental behavior. *SAGE Open*, 8(2), 215824401877482.
<https://doi.org/10.1177/2158244018774826>
- Song, Z., Daryanto, A., & Soopramanien, D. (2019). Place attachment, trust and mobility: Three-way interaction effect on urban residents’ environmental citizenship behaviour. *Journal of Business Research*, 105, 168–177.
<https://doi.org/10.1016/j.jbusres.2019.08.001>
- Spektor-Levy, O., & Abramovich, A. (2016). From “hesitant” to “environmental leader”: The influence of a professional development program on the environmental citizenship of preschool teachers. *EURASIA Journal of Mathematics, Science and Technology Education*, 13(3).
<https://doi.org/10.12973/eurasia.2017.00637a>
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3), 309–317. <https://doi.org/10.1016/j.jenvp.2008.10.004>.
- Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, 56(3), 407–424.
- Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. *Human Ecology Review*, 6(2), 81–97.
- Stevenson, K. T., Peterson, M. N., Carrier, S. J., Strnad, R. L., Bondell, H. D., Kirby-Hathaway, T., & Moore, S. E. (2014). Role of significant life experiences in

- building environmental knowledge and behavior among middle school students. *The Journal of Environmental Education*, 45(3), 163–177. <https://doi.org/10.1080/00958964.2014.901935>
- Stokes, L. C., Mildenerger, M., Savan, B., & Kolenda, B. (2012). Analyzing barriers to energy conservation in residences and offices: The rewire program at the University of Toronto. *Applied Environmental Education & Communication*, 11(2), 88–98. <https://doi.org/10.1080/1533015x.2012.751282>
- Straub, C. L., & Leahy, J. E. (2017). Intergenerational Environmental Communication: Child influence on parent environmental knowledge and behavior. *Natural Sciences Education*, 46(1). <https://doi.org/10.4195/nse2016.06.0018>
- Suárez-Álvarez, J., Pedrosa, I., García-Cueto, E., & Muñiz, J. (2016). Locus of Control Revisited: Development of a new bi-dimensional measure. *Anales de Psicología*, 32(2), 578. <https://doi.org/10.6018/analesps.32.2.200781>
- Sudbury-Riley, L., & Kohlbacher, F. (2016). Ethically minded consumer behavior: Scale review, development, and validation. *Journal of Business Research*, 69(8), 2697–2710. <https://doi.org/10.1016/j.jbusres.2015.11.005>
- Sui, L., Shao, H., & Wang, Y. (2019). Study on green enterprise quality management based on sustainable development. *International Journal of Natural Resource Ecology and Management*, 4(5), 129. <https://doi.org/10.11648/j.ijnrem.20190405.14>
- Sun, X., Tian, Z., Wang, J., & Su, W. (2022). The impact of environmental commitment on green purchase behavior in China. *International Journal of Environmental Research and Public Health*, 19(14), 8644. <https://doi.org/10.3390/ijerph19148644>
- Swami, V., Chamorro-Premuzic, T., Snelgar, R., & Furnham, A. (2011). Personality, individual differences, and demographic antecedents of self-reported household waste management behaviours. *Journal of Environmental Psychology*, 31(1), 21–26. <https://doi.org/10.1016/j.jenvp.2010.08.001>
- Swim, J. K., & Geiger, N. (2018). The gendered nature of stereotypes about climate change opinion groups. *Group Processes & Intergroup Relations*, 21(3), 438–456. <https://doi.org/10.1177/1368430217747406>

- Takahashi, B., & Selfa, T. (2014). Predictors of pro-environmental behavior in rural American communities. *Environment and Behavior*, 47(8), 856–876. <https://doi.org/10.1177/0013916514521208>
- Tan, L. P., Johnstone, M.-L., & Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. *Australasian Marketing Journal*, 24(4), 288–299. <https://doi.org/10.1016/j.ausmj.2016.08.001>
- Tanner, T. (1980). Significant life experiences: A new research area in environmental education. *The Journal of Environmental Education*, 11(4), 20–24. <https://doi.org/10.1080/00958964.1980.9941386>
- Taştepe, T. (2020). Erken Çocukluk Dönemi Çevre Eğitiminde Kullanılan Yöntem ve Teknikler. In R. Olgan (Ed.), *Erken Çocukluk Döneminde Çevre Eğitimi* (pp. 150–171). Pegem Akademi.
- Tatic, K., & Cinjarevic, M. (1970). *Relationship between environmental concern and green purchasing behavior*. *Interdisciplinary Management Research*. <https://ideas.repec.org/a/osi/journal/v6y2010p801-810.html>
- Tchobanoglous, G., Theisen, H. and Eliassen, R. (1977) *Solid Wastes: Engineering Principles and Management Issues*. McGraw-Hill Book Co., New York.
- Teksöz, G. (2023). Çevre Eğitiminden Sürdürülebilir Kalkınma için Eğitime: Tarihçe ve Gündüm. In R. Olgan (Ed.), *Erken Çocukluk Döneminde Çevre Eğitimi* (pp. 1–18). Pegem Akademi. (2nd ed.)
- Tessaro, D. (2021). *Examining the Role that Families Play in Shaping Children's Attitudes toward Reading* (thesis). Toronto Metropolitan University.
- Thomas, G. O., Fisher, R., Whitmarsh, L., Milfont, T. L., & Poortinga, W. (2017). The impact of parenthood on environmental attitudes and behaviour: A longitudinal investigation of the legacy hypothesis. *Population and Environment*, 39(3), 261–276. <https://doi.org/10.1007/s11111-017-0291-1>
- Thomas, G. O., Fisher, R., Whitmarsh, L., Milfont, T. L., & Poortinga, W. (2017). The impact of parenthood on environmental attitudes and behaviour: A longitudinal investigation of the legacy hypothesis. *Population and Environment*, 39(3), 261–276. <https://doi.org/10.1007/s11111-017-0291-1>

- Thomas, R.M. (2000). *Comparing Theories of Child Development*. Belmont, USA: Thomson/Wadsworth
- Thompson, S. C., & Barton, M. A. (1994). Ecocentric and anthropocentric attitudes toward the environment. *Journal of Environmental Psychology, 14*(2), 149–157. [https://doi.org/10.1016/s0272-4944\(05\)80168-9](https://doi.org/10.1016/s0272-4944(05)80168-9)
- Thürer, M., Tomašević, I., & Stevenson, M. (2016). On the meaning of ‘waste’: Review and definition. *Production Planning & Control, 28*(3), 244–255. <https://doi.org/10.1080/09537287.2016.1264640>
- Tilbury, D. (2003). The World Summit, Sustainable Development and Environmental Education. *Australian Journal of Environmental Education, 19*, 109–113. <http://www.jstor.org/stable/44656369>
- Timur, S. & Yılmaz, M. (2011). Fen Bilgisi Öğretmen Adaylarının Çevre Bilgi Düzeylerinin Belirlenmesi ve Bazı Değişkenlere Göre İncelenmesi. *Gazi Eğitim Fakültesi Dergisi, 31* (1) , 303-320 . Retrieved from <https://dergipark.org.tr/en/pub/gefad/issue/6739/90603>
- Timur, S. & Yılmaz, M. (2013). Çevre davranış ölçeğinin Türkçe'ye uyarlanması . *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 33* (2), 317-333. <https://dergipark.org.tr/en/pub/gefad/issue/6732/90502>
- Tindall, D. B., Davies, S., & Mauboules, C. (2003). Activism and conservation behavior in an environmental movement: The contradictory effects of gender. *Society & Natural Resources, 16*(10), 909–932. <https://doi.org/10.1080/716100620>
- Tiwari, P. (2022). Influence of Millennials’ Eco-literacy and Biospheric Values on green purchases: The mediating effect of attitude. *Public Organization Review, 23*(3), 1195–1212. <https://doi.org/10.1007/s11115-022-00645-6>
- Tong, Y., Fan, L., & Niu, H. (2017). Water conservation awareness and practices in households receiving improved water supply: A gender-based analysis. *Journal of Cleaner Production, 141*, 947–955. <https://doi.org/10.1016/j.jclepro.2016.09.169>
- Torres–Antonini, M., & Vatrulova, Z. (2012). Greener Child Care: Parents’ pro–environmental values, beliefs, behaviors, and knowledge and their child care preferences. *Journal of Interior Design, 37*(2), 1–18. <https://doi.org/10.1111/j.1939-1668.2012.01072.x>

- Trelohan, M. (2021). Do women engage in pro-environmental behaviours in the public sphere due to social expectations? The effects of social norm-based persuasive messages. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 33(1), 134–148. <https://doi.org/10.1007/s11266-020-00303-9>
- Tripathi, A., & Singh, M. P. (2016). Determinants of sustainable/green consumption: A Review. *International Journal of Environmental Technology and Management*, 19(3/4), 316. <https://doi.org/10.1504/ijetm.2016.082258>
- Trueblood, A. B., Rincon, R., Perales, R., Hollingsworth, R., Miller, C., McDonald, T. J., & Cizmas, L. (2014). A pilot study of changes in environmental knowledge and behaviors among head start employees and parents following environmental health training in Webb County, TX. *Journal of Immigrant and Minority Health*, 18(1), 135–142. <https://doi.org/10.1007/s10903-014-0150-4>
- Truelove, H. B., & Gillis, A. J. (2018). Perception of pro-environmental behavior. *Global Environmental Change*, 49, 175–185. <https://doi.org/10.1016/j.gloenvcha.2018.02.009>
- Tsai, C., Li, X. (Dale), & Wu, W. (2021). Explaining citizens' Pro-environmental behaviours in public and private spheres: The mediating role of willingness to sacrifice for the environment. *Australian Journal of Public Administration*, 80(3), 510–538. <https://doi.org/10.1111/1467-8500.12504>
- Tuncer, G., Ertepinar, H., Tekkaya, C., & Sungur, S. (2005). Environmental attitudes of young people in Turkey: Effects of school type and gender. *Environmental Education Research*, 11(2), 215–233. <https://doi.org/10.1080/1350462042000338379>
- Ture, R. S., & Ganesh, M. P. (2014). Understanding pro-environmental behaviours at workplace: Proposal of a model. *Asia-Pacific Journal of Management Research and Innovation*, 10(2), 137–145. <https://doi.org/10.1177/2319510x14536219>
- Tyers, R. (2020). Barriers to enduring pro-environmental behaviour change among Chinese students returning home from the UK: A social practice perspective. *Environmental Sociology*, 7(3), 254–265. <https://doi.org/10.1080/23251042.2020.1855885>

Uddin, S. M., & Khan, M. N. (2016). Exploring green purchasing behaviour of young urban consumers. *South Asian Journal of Global Business Research*, 5(1), 85–103. <https://doi.org/10.1108/sajgbr-12-2014-0083>

UN Decade of ESD. UNESCO. (2014, September 3). Retrieved March 21, 2023, from <https://en.unesco.org/themes/education-sustainable-development/what-is-esd/un-decade-of-esd#:~:text=The%20United%20Nations%20Decade%20of,create%20a%20more%20sustainable%20future.>

Ünal Kestane, S. (2020). Bilinçli tüketim ve annelerin bilinçli tüketime yönelik tutum ve davranışları. *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, 19(39), 803–827. <https://doi.org/10.46928/iticusbe.729138>

UNESCO, (1977). Final Report, Intergovernmental Conference on Environmental Education organized by UNESCO in co-operation with UNEP, Tbilisi (USSR).

United Nations Environment Programme (1972). Stockholm Declaration: Declaration on the Human Environment. <https://wedocs.unep.org/20.500.11822/29567>.

United Nations Environment Programme. (1977). (rep.). *Intergovernmental Conference on Environmental Education, Tbilisi, USSR, 14-26 October 1977: Final Report* (pp. 1–101). Tbilisi, USSR: UNESCO.

United Nations. (2015). *The 17 goals | sustainable development*. United Nations. Retrieved March 21, 2023, from <https://sdgs.un.org/goals>

Ünlü-Çetin, Ş., & Olgan, R. (2016). He said, she said, but what do they say?: Young Children's perceptions of father involvement. *Early Child Development and Care*, 188(3), 251–263. <https://doi.org/10.1080/03004430.2016.1212190>

Ünver, Ş., & Demirli, C. (2022). Çalışan Evli Kadın ve Erkeklerin Toplumsal Cinsiyet Rol Algısı bağlamında aile içi Rol Dağılımı: Bir Nitel Araştırma. *International Journal of Social Inquiry*, 15(1), 143–156. <https://doi.org/10.37093/ijsi.944705>

Ureña, F., Bernabéu, R., & Olmeda, M. (2007). Women, men and organic food: Differences in their attitudes and willingness to pay. A Spanish case study. *International Journal of Consumer Studies*, 0(0). <https://doi.org/10.1111/j.1470-6431.2007.00637.x>

- Uyar, A. (2019). Yeşil Satın Alma Davranışı Belirleyen Unsurların Yapısal Eşitlik Modellemesi İle İncelenmesi. *EKEV Akademi Dergisi*, 0 (77), 15-34. <https://dergipark.org.tr/en/pub/sosekev/issue/71512/1150326>
- Uyar, M., Kasapoğlu, E., & Demir, G. S. (2023). Konya’da aile sağlığı merkezlerine başvuran yetişkinlerin su tasarrufu ile ilgili bilgi, tutum ve davranışları. *Afet ve Risk Dergisi*, 6(1), 294–304. <https://doi.org/10.35341/afet.1159031>
- V. Padilla, J. J., Felicidad R. Dy, M., & Saguiguit, S. L. (2022). Do children do as parents do?: Parents’ and pre-school children’s knowledge, attitudes and practices on waste segregation. *Pacific Early Childhood Education Research Association*, 16(3), 123–149. <https://doi.org/10.17206/apjrece.2022.16.3.123>
- Vicente-Molina, M. A., Fernández-Sainz, A., & Izagirre-Olaizola, J. (2018). Does gender make a difference in pro-environmental behavior? the case of the Basque Country University Students. *Journal of Cleaner Production*, 176, 89–98. <https://doi.org/10.1016/j.jclepro.2017.12.079>
- Vicente-Molina, M. A., Fernández-Sáinz, A., & Izagirre-Olaizola, J. (2013). Environmental knowledge and other variables affecting pro-environmental behaviour: Comparison of university students from emerging and advanced countries. *Journal of Cleaner Production*, 61, 130–138. <https://doi.org/10.1016/j.jclepro.2013.05.015>
- Viljoen, J. M., Schenck, C. J., Volschenk, L., Blaauw, P. F., & Grobler, L. (2021). Household waste management practices and challenges in a rural remote town in the Hantam Municipality in the Northern Cape, South Africa. *Sustainability*, 13(11), 5903. <https://doi.org/10.3390/su13115903>
- Vural, H., Yılmaz, S. (2016). Ortaokul öğrencilerinin çevre ve doğa ile ilgili konularda bilgi ve davranış düzeylerinin belirlenmesi; Erzurum ili örneği. *Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 6(1), 107- 115.
- Wahl, V. (1970, January 1). Why people help: Motivations and barriers for stewardship volunteering. *Open Collections*. <https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0070914>
- Wallace-Wells, D. (2018). *Summary & analysis of the Uninhabitable Earth: Life after warming; a guide to the book by David Wallace-Wells*. ZIP Reads.
- Wallis, H., & Klöckner, C. (2018). The transmission of energy-saving behaviors in the family: A multilevel approach to the assessment of aggregated and single

- energy-saving actions of parents and adolescents. *Environment and Behavior*, 52(3), 275–304. <https://doi.org/10.1177/0013916518802342>
- Wan, Q., & Du, W. (2022). Social Capital, environmental knowledge, and pro-environmental behavior. *International Journal of Environmental Research and Public Health*, 19(3), 1443. <https://doi.org/10.3390/ijerph19031443>
- Ward, M., Tulloch, A. I., Radford, J. Q., Williams, B. A., Reside, A. E., Macdonald, S. L., Mayfield, H. J., Maron, M., Possingham, H. P., Vine, S. J., O'Connor, J. L., Massingham, E. J., Greenville, A. C., Woinarski, J. C., Garnett, S. T., Lintermans, M., Scheele, B. C., Carwardine, J., Nimmo, D. G., ... Watson, J. E. (2020). Impact of 2019–2020 Mega-fires on Australian Fauna Habitat. *Nature Ecology & Evolution*, 4(10), 1321–1326. <https://doi.org/10.1038/s41559-020-1251-1>
- Webster, P. J., Holland, G. J., Curry, J. A., & Chang, H.-R. (2005). Changes in tropical cyclone number, duration, and intensity in a warming environment. *Science*, 309(5742), 1844–1846. <https://doi.org/10.1126/science.1116448>
- Welsch, H., & Kühling, J. (2011). Are pro-environmental consumption choices utility-maximizing? evidence from subjective well-being data. *Ecological Economics*, 72, 75–87. <https://doi.org/10.1016/j.ecolecon.2011.04.015>
- Whitmarsh, L. E., Haggard, P., & Thomas, M. (2018). Waste reduction behaviors at home, at work, and on holiday: What influences behavioral consistency across contexts? *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.02447>
- Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviours. *Journal of Environmental Psychology*, 30(3), 305–314. <http://doi.org/10.1016/j.jenvp.2010.01.003>
- Whitmarsh, L., Capstick, S., & Nash, N. (2017). Who is reducing their material consumption and why? A cross-cultural analysis of dematerialization behaviours. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 375(2095), 20160376. <https://doi.org/10.1098/rsta.2016.0376>
- Wiener, S. S., Álvarez-Berrios, N. L., & Lindsey, A. B. (2020). Opportunities and challenges for hurricane resilience on agricultural and forest land in the U.S. Southeast and Caribbean. *Sustainability*, 12(4), 1364. <https://doi.org/10.3390/su12041364>

- Wilson, K. R., & Prior, M. R. (2010). Father involvement and child well-being. *Journal of Paediatrics and Child Health*, 47(7), 405–407. <https://doi.org/10.1111/j.1440-1754.2010.01770.x>
- Witek, L., & Kuźniar, W. (2020). Green purchase behavior: The effectiveness of sociodemographic variables for explaining green purchases in emerging market. *Sustainability*, 13(1), 209. <https://doi.org/10.3390/su13010209>
- Wu, S.-I., & Chen, J.-Y. (2014). A model of green consumption behavior constructed by the theory of planned behavior. *International Journal of Marketing Studies*, 6(5). <https://doi.org/10.5539/ijms.v6n5p119>
- Xia, W., & Li, L. M. (2022). Multilevel evidence for the parent-adolescent dyadic effect of familiarity with climate change on pro-environmental behaviors in 14 societies: Moderating effects of societal power distance and individualism. *Environment and Behavior*, 54(7-8), 1097–1132. <https://doi.org/10.1177/00139165221129550>
- Xiao, C., & Hong, D. (2010). Gender differences in environmental behaviors in China. *Population and Environment*, 32(1), 88–104. <https://doi.org/10.1007/s11111-010-0115-z>
- Xing, Y., Li, M., & Liao, Y. (2022). Trust, identity, and public-sphere pro-environmental behavior in China: An extended attitude-behavior-context theory. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.919578>
- Xu, J., & Han, R. (2019). The influence of place attachment on pro-environmental behaviors: The moderating effect of social media. *International Journal of Environmental Research and Public Health*, 16(24), 5100. <https://doi.org/10.3390/ijerph16245100>
- Yılmaz, H. (2020). Türkiye’de Helikopter Ebeveynlik Eğilimi ve Helikopter Ebeveynlerin Demografik Özellikleri. *Sosyal Politika Çalışmaları Dergisi*, 20 (46), 133-160. DOI: 10.21560/spcd.v20i54504.540233
- Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2009). Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Development*. <https://doi.org/10.1002/sd.394>
- Yue, B., Sheng, G., She, S., & Xu, J. (2020). Impact of consumer environmental responsibility on green consumption behavior in China: The role of

- environmental concern and price sensitivity. *Sustainability*, 12(5), 2074. <https://doi.org/10.3390/su12052074>
- Yue, T., Long, R., & Chen, H. (2013). Factors influencing energy-saving behavior of urban households in Jiangsu Province. *Energy Policy*, 62, 665–675. <https://doi.org/10.1016/j.enpol.2013.07.051>
- Yukalang, N., Clarke, B., & Ross, K. (2017). Barriers to effective municipal solid waste management in a rapidly urbanizing area in Thailand. *International Journal of Environmental Research and Public Health*, 14(9), 1013. <https://doi.org/10.3390/ijerph14091013>
- Yuriev, A., Boiral, O., Francoeur, V., & Paillé, P. (2018). Overcoming the barriers to pro-environmental behaviors in the workplace: A systematic review. *Journal of Cleaner Production*, 182, 379–394. <https://doi.org/10.1016/j.jclepro.2018.02.041>
- Zafeiroudi, A., & Hatzigeorgiadis, A. (2014). Validation of the Greek version of the responsible environmental behavior scale and relationships with participation in outdoor activities. *International Journal of Sport Management, Recreation and Tourism*, 13, 20–37. <https://doi.org/10.5199/ijsmart-1791-874x-13b>
- Zani, B., & Barrett, M. (2012). Engaged citizens? political participation and social engagement among youth, women, minorities, and migrants. *Human Affairs*, 22(3), 273–282. <https://doi.org/10.2478/s13374-012-0023-2>
- Zavali, M., & Theodoropoulou, H. (2018). Investigating determinants of green consumption: Evidence from Greece. *Social Responsibility Journal*, 14(4), 719–736. <https://doi.org/10.1108/srj-03-2017-0042>
- Zhao, Y., Bao, Y., & Lee, W. (2019). Barriers to adoption of water-saving habits in residential buildings in Hong Kong. *Sustainability*, 11(7), 2036. <https://doi.org/10.3390/su11072036>
- Zhou, H. (2018). Green sensitive consumer demand and government subsidy as drivers of product green innovation. *Proceedings of the 2018 3rd International Conference on Communications, Information Management and Network Security (CIMNS 2018)*. <https://doi.org/10.2991/cimns-18.2018.47>

APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

ETİKLAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DİJİTAL İZLENİM DÜZENLİCİSİ
C4360004 ANKARA, TÜRKİYE
T: +90 312 210 2210
F: +90 312 210 79 08
www.metu.edu.tr

Konu: Değerlendirme Sonucu **28 ŞUBAT 2023**

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgili: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Prof. Dr. Refika OLGAN

Danışmanlığınızı yürüttüğünüz Güneş Ezgi DEMİRCİ'nin "Ailelerin Okul Öncesi Dönem Çocukları ile Birlikte Gerçekleştirdikleri Çevre Dostu Davranışların Belirlenmesi" başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek 0125-ODTÜİAEK-2023 protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım

Prof. Dr. Sibel KAZAK BERUMENT
Başkan

Prof. Dr. İ. Semih AKÇOMAK
Üye

Doç. Dr. Ali Emre Turgut
Üye

Dr. Öğretim Üyesi Şerife SEVİNÇ
Üye

Dr. Öğretim Üyesi Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

B. INVITATION FORM

ARAŞTIRMAYA DAVET METNİ

Değerli Veliler,

Bu metin, ODTÜ Temel Eğitim Bölümü Öğretim Üyelerinden Prof. Dr. Refika OLGAN danışmanlığında Araştırmacı Güneş Ezgi Demirci tarafından yürütülen yüksek lisans tez çalışmasına, sizleri davet etmek amacıyla hazırlanmıştır.

Bildiğiniz gibi, doğanın dengesinin bozulmasına bağlı olarak meydana gelen olaylar, her geçen gün dünya gündeminde daha fazla yer almaya başlamıştır. Sıcaklık artışı ve iklim değişikliğinin getirdiği sel, kasırga ve orman yangınları gibi felaketler, farklı kirlilik türleri, habitat tahribatı ve biyoçeşitlilik kaybı gibi birçok önemli çevre sorunu tüm canlıların gelecek nesilleri için yaşanılabilir bir dünya bulma noktasında ciddi tehditler oluşturmaktadır.

Bu senaryoya katkı sağlayan temel faktörlerden biri olan insanların, çevre sorunlarının niteliğini anlaması, çözüm önerileri getirebilmesi ve çevre ile ilgili davranışlarında değişiklikler meydana getirebilmesi için erken çocukluk döneminden itibaren başlayan çevre eğitimi uygulamaları büyük önem taşımaktadır. Erken çocukluk döneminde çevre eğitimi, çocukları doğaya yakınlaştırmayı, onlara merak duygusu aşılmasını, doğal dünyanın güzelliği ve gizemini keşfetmelerini sağlayacak deneyimler sunmayı ve tüm canlılara sevgi ve saygı duymayı öğretmeyi hedeflemektedir. Çocuklarımızın ilk yıllarında çevre eğitiminin tamamen okullara ve resmi müfredatlara ait bir sorumluluk olduğunu düşünmek yeterli olmayacaktır. Erken çocukluk döneminde çevre eğitiminin kalitesine ve verimliliğine katkıda bulunan en önemli paydaşlardan biri de ailelerdir. Aileler, çocuklarının inançlarını, değerlerini ve davranışlarını etkileyebilecek en önemli sosyal gruplardır.

Sizden katılımcısı olmanızı rica ettiğimiz bu araştırmanın bulguları, çocuklarımıza verimli, kapsamlı ve aileleri de kapsayan çevre eğitimi uygulamaları sunulmasına katkı sağlamak amacıyla kullanılacaktır. Çalışmada, erken çocuklukta çevre eğitiminin oldukça önemli bir paydaşı olan sizlerin, bireysel olarak ve çocuklarınızla birlikte gerçekleştirdiğiniz çevre dostu davranışların saptanması amaçlanmaktadır. Bu noktada, sizden herhangi bir ön bilgi sahibi olmanız beklenmemektedir.

Aşağıdaki bilgilendirmeler size araştırmanın içeriğini açıklamak için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Bu çalışmanın beş farklı amacı bulunmaktadır. Çalışmanın ilk amacı, ailelerin farklı çevre dostu davranış türlerini nasıl tanımladıklarının araştırılmasıdır. Bunun yanı sıra bu çalışma; ailelerin bireysel olarak gerçekleştirdikleri farklı türdeki

çevre dostu davranışları ve ailelerin çocuklarının farklı türdeki çevre dostu davranışların farkında olmaları ve sergilemelerinin önemi hakkındaki inançlarını incelemeyi de hedeflemektedir. Anne ve babaların çocukları ile birlikte gerçekleştirdikleri farklı türdeki çevre dostu davranışların saptanması ve ilgili davranışları gerçekleştirmelerinde ailelerin karşılaştıkları olası engellerin incelenmesi de araştırma amaçları arasındadır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırmaya katılmayı kabul ederseniz, sizden araştırmacı ile baş başa gerçekleşecek bir görüşme seansına katılmanız beklenecektir. Yaklaşık olarak 30-40 dakika sürmesi beklenen bu görüşmede sizlere farklı çevre dostu davranış türlerini nasıl tanımladığınız, günlük hayatınızda gerçekleştirdiğiniz farklı türdeki çevre dostu davranışlar (çevreye duyarlı tüketim, atık yönetimi, kaynak korunumu, çevresel aktivizm, vb.), çocuğunuzun bu davranışların farkında olması ve sergilemesinin önemi hakkındaki inançlarınız, çocuğunuzla birlikte gerçekleştirdiğiniz çevre dostu davranışlar ve çevre dostu davranışlar göstermeniz konusunda varsa karşınıza çıkan engeller hakkında sorular yöneltilecektir. Verdiğiniz cevapların bilimsel amaçlarla kullanılabilmesi için görüşme boyunca ses kaydı alınacaktır. Görüşme yeri ve zamanı sizin için en uygun olacak şekilde belirlenecektir.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük esasına dayanmaktadır. Görüşme esnasında sizden kişisel hiçbir bilgi istenmeyecektir. Cevaplarınız tamamıyla gizli tutulacak, sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır.

Katılımla ilgili bilmeniz gerekenler:

Çalışma, genel olarak kişisel rahatsızlık verecek sorular içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz görüşmeyi yarıda bırakabilirsiniz. Böyle bir durumda araştırmacıya çalışmaya devam etmek istemediğinizi söylemeniz yeterli olacaktır.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Araştırmayla ilgili sorularınızı aşağıdaki iletişim bilgilerini kullanarak yöneltebilirsiniz.

ARAŞTIRMACI
Güneş Ezgi DEMİRCİ

C. TURKISH SUMMARY / TÜRKE ÖZET

1. GİRİŞ

İçinde yaşanan Antroposen çağında, tüm canlıların vazgeçilmez bir parçası olduğu, birbirine bağlı sistemlerin çöküşüne tanıklık edilmektedir. Zamanın başlangıcından bu yana geçen 4,5 milyar yılda Dünya bugüne benzer alarmlar verdiğinde hep benzer bir son izlenmiştir; kitlesel yok oluşlar (Hickel, 2020). Kitlesel yok oluşlar daha önce de gerçekleşmiş olsa da şu anda deneyimlenen olayların dinamikleri geçmiş senaryolardan biraz daha farklı gözükmektedir. Bunun en önemli sebebi, tarihte ilk defa sistemlerin insanlar tarafından çökertiliyor olmasıdır. Her geçen gün sera gazı birikimine daha da katkıda bulunan insan faaliyetleri nedeniyle (Saklani ve Khurana, 2019), karada, suda ve havada yaşayan her canlı sistemlerin çökmesi tehdidi ile karşı karşıya kalmış durumdadır.

Tüm bu var olan çevre sorunlarının çözümü insan davranışlarıyla yakından ilgili olduğundan, bireylerin davranışlarını daha çevre dostu bir şekilde değiştirmelerini sağlamak için hazırlanan bir eğitim programı hazırlamak ve mümkün olan en erken yaşta uygulamak kritiktir. Erken çocukluk çevre eğitimi en genel anlamı ile, doğaya yakın olmanın hazzını deneyimleme, merak duygusunu geliştirme, doğal dünyanın güzelliğini ve gizemini takdir etme ve diğer canlılara saygı duyma fırsatları sunan bir program olarak nitelendirilmekte ve kapsayıcı bir program olarak aileleri de içerisine almaktadır (NAAEE, 2010).

Aileler, çevre eğitiminin önemli bir bileşeni olmanın yanı sıra, Bronfenbrenner (1979) ve Bandura (1977) gibi önemli gelişim teorisyenlerinin de erken çocukluk yıllarında en önemli olarak gördüğü faktörlerden biri olarak değerlendirilmektedir. Bronfenbrenner (1979), ekolojik sistemler perspektifinden bakıldığında, ebeveyn normlarının, inançlarının, tutumlarının ve uygulamalarının bir çocuğun gelişimini

etkileme olasılığının güçlü olduğunu belirtirken, Bandura (1977) da çocukların gözlem, modelleme ve taklit yoluyla birbirlerinden öğrendiklerini ve ebeveynlerin çocukları için güçlü, yüksek olasılıklı rol modelleri olarak hizmet ettiklerini vurgulamıştır. Bu teoriler, çevre eğitimi alanındaki bir dizi araştırma bulgusu tarafından da desteklenmiştir. Örneğin, farklı araştırmalar doğaya bağlılık (Soga vd., 2018), çevresel değerler (Grønhøj ve Thøgersen, 2009; Scopelliti vd., 2021) ve çevre dostu davranışların (Grønhøj ve Thøgersen, 2009; Katz-Gerro vd., 2020; Matthies vd., 2012) ebeveynlerden çocuklarına aktarıldığını göstermektedir. Buna rağmen, ebeveynler ve çocukların çevresel bilgi, değer ve davranışları arasındaki olumlu ilişkilerin altında yatan detaylar bilinmemektedir. Jia ve Yu'ya (2021) göre, yeterince çalışılmamış faktörlerden biri, ebeveynlerin çocuklarıyla birlikte çevre dostu davranışlara aktif katılımlarıdır. Çalışmalarında, çocuklar ebeveynlerinin davranışlarına tanık olmadıkça ve onlarla birlikte çevre dostu davranışlarda bulunmadıkça, ebeveynlerin çevre dostu davranışlarının çocuklarının davranışları üzerinde bir etkisi olmayabileceğini belirtmişlerdir.

Ebeveynlerin davranışlarını analiz etmek için "çevre dostu davranış" yapısını tanımlamak önemlidir. Bu çalışma boyunca ebeveynlerin çevre dostu davranışları araştırılırken, Stern (2000) tarafından sunulan teorideki sınıflandırmadan yararlanılmıştır. Stern (2000) çevresel açıdan anlamlı davranışları dört kategoriye ayırmaktadır. Çevresel açıdan anlamlı davranışların ilk türü çevresel aktivizmdir. Bu kategori, insanların aktivist bakış açıları ve davranışlarıyla son derece ilgilidir; başka bir deyişle, genellikle çevresel protestolarda aktif rol almayı ifade eder. İkinci kategori olan kamusal alandaki aktivist olmayan davranışlar, çevresel vatandaşlığın daha ilgili bir düzeyini temsil etmektedir. Çevresel dilekçeleri imzalamak, çevre sorunları hakkında ilgili makamlarla iletişime geçmek ve çevre örgütlerine katılmak kamusal alandaki aktivist olmayan davranışlara birkaç örnektir. Stern'in (2000) üçüncü kategorisi olan özel alan çevreci davranışlar, çevreye duyarlı tüketim, kaynakların korunması ve atık yönetimi olarak da belirtilebilecek, biyosfer üzerinde etkisi olan kişisel ve evsel ürünlerin satın alınması, kullanılması ve ortadan kaldırılması aşamasındaki çevre üzerindeki olumsuz etkilerini azaltmak olarak tanımlanmıştır. Son kategori ise diğer çevreci davranışlardır. Bu davranışlar, kişilerin ünvanlarını çevre dostu bir şekilde kullanması ve kurumsal bağlamda çevreci

kararlar vererek büyük ölçekli bir etkiye sebep olması olarak tanımlanmaktadır (Stern, 2000).

Yukarıda belirtilen bilgiler ışığında, mevcut çalışmanın odak noktası çocuklarının birincil rol modelleri olan ebeveynler olarak belirlenmiştir. Alan yazını doğrultusunda (Jia ve Yu, 2021) ve Stern'in (2000) teorisine dayanarak, bu çalışmada ebeveynlerin hem bireysel olarak hem de çocuklarıyla birlikte gerçekleştirdikleri çevre dostu davranışlara odaklanılmaktadır. Çalışma, ebeveynlerin bu davranışlara ilişkin tanımları, ebeveynlerin bireysel veya çocuklarıyla birlikte gerçekleştirdikleri çevre dostu davranışlar, davranışları bireysel olarak veya çocuklarıyla birlikte gerçekleştirdiklerinde gösterdikleri farklılıklar, ebeveynlerin karşılaştıkları zorluklar ve anneler ile babalar arasındaki olası farklılıklar da dahil olmak üzere bir dizi faktörün kapsamlı bir analizini sunmaktadır. Bu çalışma kapsamında ele alınan araştırma soruları aşağıdaki gibi belirlenmiştir:

1. Anne ve babalar özel ve kamusal alanda çevreci davranışların çeşitli biçimlerini nasıl tanımlamaktadır?
2. Anne ve babaların gerçekleştirdiği özel ve kamusal alanda çevreci davranışlar nelerdir?
 - 2.1. Anne ve babaların bireysel olarak gerçekleştirdikleri özel ve kamusal alanda çevreci davranışlar nelerdir?
 - 2.2. Anne ve babaların çocuklarıyla birlikte gerçekleştirdikleri özel ve kamusal alanda çevreci davranışlar nelerdir?
 - 2.3. Anne ve babaların özel ve kamusal alanda gerçekleştirdikleri çevreci davranışlar, bireysel olarak veya çocuklarıyla birlikte gerçekleştirdiklerinde nasıl farklılık göstermektedir?
3. Anne ve babaların çocuklarıyla birlikte farklı türde özel ve kamusal alan çevreci davranışlar sergilemelerinin önünde hangi engeller vardır?

1.1. Araştırmanın Önemi

Bu araştırma, her biri kendi içinde önemli olan beş farklı amaç etrafında düzenlenmiştir. Mevcut çalışmanın ilk amacı, ebeveynlerin farklı türdeki özel ve

kamusal alan çevreci davranışları nasıl tanımladıklarını belirlemektir. Çevresel sorunların veya potansiyel çözümlerin farkında olunmaması halinde, çevreci davranışlar gerçekleştirmek pek olası değildir (Gifford ve Nilsson, 2014). Çok sayıda araştırma bulgusu, çevresel bilginin çevre dostu davranışın güçlü bir yordayıcısı olduğunu göstermektedir (Amoah ve Addoah, 2020; Geier vd., 2019). Bu çalışmaların bulgularına dayanarak, kişilerin bir kaynağın ne olduğunu bilmezlerse kaynakları etkili bir şekilde koruyamayacaklarını ya da çevreye duyarlı bir tüketici hakkında bilgi sahibi olmazlarsa, böyle tüketiciler olmakta zorlanacaklarını söylemek mümkündür. Bu nedenle, ebeveynler tarafından farklı çevresel açıdan anlamlı davranış türleri için verilen tanımların araştırılması birkaç nedenden dolayı önemlidir. İlk olarak, bu tür bir çevre bilgisi çevre dostu davranışların gerçekleştirilmesine güçlü bir katkı sağlamaktadır (Amoah ve Addoah, 2021; Geier vd., 2019). Sundukları tanımlar incelenerek, ebeveynlerin bilgi düzeyleri değerlendirilebilir. İkinci olarak, ebeveynlerin çocuklarının çevresel bilgi edinmesinde önemli bir rol oynadığı bilindiğinden (Grønhøj ve Thøgersen, 2009), ebeveynlerin farklı türdeki çevre dostu davranışları nasıl tanımladıklarını öğrenmek, çocuklara aktarılan bilgi hakkında ipuçları sunabileceği için önemlidir. Konu ile ilgili alan yazını küçük çocukların ebeveynlerini hedef alan çok az sayıda çalışma bulunduğu ve bulunan çalışmaların da nicel yapıya sahip olduğu düşünüldüğünde, çalışmanın bu amacıyla alan yazınındaki bir boşluğu dolduracağı umulmaktadır.

Ebeveynlerin bireysel olarak gerçekleştirdikleri özel ve kamusal çevreci davranışlarını belirlemek bu çalışmanın ikinci amacıdır. Birçok ciddi çevre sorunu insan davranışları tarafından tetiklendiğinden (Saklani ve Khurana, 2019), anne ve babaların çevre dostu davranışlarının araştırılması önemlidir. Bu çalışma ile gerçekleştirilecek olan kapsamlı bir analizin, hangi tür davranışların daha sık veya daha seyrek gerçekleştirildiğini tespit etmesi ve bu bilginin erken çocukluk çevre eğitimi paydaşlarına ışık tutması hedeflenmektedir. Anne ve babaların çevre dostu davranışlarını tespit etmek sadece kendi bireysel çevre etkileri için değil aynı zamanda çocuklarının çevre dostu davranışları üzerinde etkili olduğu için önemlidir (Grønhøj ve Thøgersen, 2009; Katz-Gerro vd., 2020). Uluslararası alan yazınında benzer çalışmalar yer alsa da ulusal alan yazınında konu ile ilgili eksik göze

çarpmaktadır. Bu sebeple, nitel doğası ile ön plana çıkan bu çalışmanın özellikle ulusal alan yazınındaki boşluğu doldurması umulmaktadır.

Ebeveynlerin ve çocuklarının çevre dostu davranışları arasındaki bağlantıyı vurgulayan çeşitli araştırmalarda çelişkili ve belirsiz bulgulara rastlamak mümkündür. Örneğin, ebeveynlerin geri dönüşüm davranışı ile çocuklarındaki arasında olumlu bir ilişki belirlenmiş olsa da atığı yeniden kullanma davranışı arasında kayda değer bir ilişki raporlanmamıştır (Matthies vd., 2012). Bu çelişkili bulguların bir açıklaması olarak Jia ve Yun (2021) araştırmalarında gözlemlenebilir, iletişimsel ve birlikte gerçekleştirilen ebeveyn-çocuk davranışlarının, çevre dostu davranışların anne-babadan çocuğa aktarılmasında etkili olduğunu ortaya çıkarmışlardır fakat benzer araştırmalar oldukça sınırlıdır. Bu sebeple bu araştırmanın üçüncü amacı, anne ve babaların çocukları ile birlikte gerçekleştirdikleri çevre dostu davranışların belirlenmesidir. Birlikte gerçekleştirilen çevre dostu davranışların mevcut durumunu analiz edilmesiyle, erken çocukluk çevre eğitimi alanının pratik yönüne yararlı önerilerde bulunulması hedeflenmektedir. Bunun yanı sıra, anne ve babaların çocuklarıyla birlikte gerçekleştirdikleri çevre dostu davranışları ölçen geçerli ve güvenilir bir ölçüm aracının olmaması, ebeveynler ve çocukları arasındaki çevresel konulardaki dinamik ve aktif ilişkinin alan yazınında kapsamlı bir şekilde araştırılmamasının nedeni olabilir (Jia vd., 2022). Bu çalışma, geçerli ve güvenilir bir ölçüm aracının geliştirilmesini hedefleyen daha sonraki çalışmalar için konuyla ilgili ayrıntılı nitel veriler sağlaması açısından da önemlidir.

Araştırmanın bir diğer amacı ise, ebeveynlerin çocuklarıyla birlikte çevre dostu davranışlarda bulunurken karşılaştıkları olası engellere ışık tutmaktır. Bireylerin çevre dostu davranışları önündeki engelleri belirlemeye yönelik bazı araştırmalar yapılmıştır (Desrochers ve Zelenski, 2022; Kolmuss ve Agyeman, 2010) ancak bu çalışmaların hiçbiri özellikle küçük çocukların ebeveynlerini hedef almamaktadır ve eğitimsel bir bakış açısından ziyade psikolojik bir bakış açısı benimsemektedirler. Bu çalışma, alan yazındaki belirtilen boşluğu doldurmasının yanı sıra, engellerin belirlenmesi ve çevre eğitimcilerine ailelerin sahip oldukları ihtiyaçlar ile ilgili done sağlaması adına önemlidir.

Son olarak, bu çalışma, çevre dostu davranış tanımları, bireysel davranışları, çocuklarıyla birlikte katıldıkları davranışlar ve algıladıkları engeller de dahil olmak üzere yukarıda belirtilen tüm faktörler açısından anneler ve babalar arasındaki potansiyel farklılıkları araştırmayı amaçlamaktadır. Yürütülen çalışmalardan elde edilen farklı sonuçlar, kadınların daha çevre dostu davranma eğiliminde olduğunu gösterirken (Kennedy ve Kmec, 2017), erkeklerin çevre bilgisinin kadınlardan daha yüksek olduğunu gösteren araştırmalar da bulunmaktadır (Arachchi ve Managi, 2021). Bu nedenle, cinsiyet ve çevre dostu davranışlar arasındaki ilişkiyi etkileyebilecek ek değişkenleri tespit edebilmek için benzer nitelikteki çalışmaların farklı tarihsel dönemler ve kültürel bağlamlarda tekrarlanması önemlidir. Bunun yanı sıra, anneler ve babalar arasındaki farklılıklar belirlendiğinde, erken çocukluk eğitimcileri, anne ve babaların farklı ihtiyaçları doğrultusunda daha özelleştirilmiş çevre eğitimi programları hazırlayabileceğinden, bu çalışmanın önemli olduğu düşünülmektedir.

2. YÖNTEM

2.1. Araştırma Deseni

Mevcut araştırma, belirli bir olayla ilgili önemli soruları ve fikirleri belirlemeye odaklanarak bir olguyu olduğu gibi açıklamaya çalışılan nitel araştırma desenlerinden fenomenolojik bir çalışma olarak tasarlanmıştır (Houser, 2009).

2.2. Örneklem

Bu çalışmanın katılımcıları amaçlı örnekleme tekniği kullanılarak seçilmiştir. Örneklem seçimindeki kriterler (1) tüm katılımcıların çalışmaya gönüllü olarak katılmayı kabul etmesi; (2) tüm katılımcıların Ankara'nın merkez ve ilçelerinde yaşıyor olması; (3) tüm katılımcıların 36 ila 72 ay arasında en az bir çocuğun ebeveyni olması; (4) tüm katılımcıların erken çocukluk eğitim programına kayıtlı en az bir çocuğa sahip olması olarak belirlenmiştir. Mevcut çalışma için veriler, önceden belirlenmiş dört kriteri karşılayan 13 anne ve 10 baba tarafından sağlanmıştır.

2.3. Veri Toplama Araçları

Bu çalışmada, veri toplama araçları olarak Demografik Bilgi Formu (Ek B) ve anne-babalarla görüşmeleri gerçekleştirmek için yarı yapılandırılmış görüşme soruları kullanılmıştır.

Bu çalışmanın amaçları doğrultusunda hazırlanan demografik bilgi formunda ebeveynlerin anne ya da baba olma durumları, yaşları, çocuklarının yaşları, çocuklarının cinsiyetleri, çocuklarının okul öncesi eğitime devam etme süreleri, eğitim durumları ve sosyo-ekonomik düzeylerine ilişkin bazı sorular yer almaktadır.

Bu çalışmada kullanılan yarı yapılandırılmış görüşme protokolü ilgili alan yazını temel alınarak hazırlanmıştır. Bireylerin gerçekleştirdiği çevre dostu davranış türlerini ve bu davranışların kategorize edilmesi için geliştirilen teorik çerçeveleri tespit etmek için bir dizi teori incelenmiştir. Kullanılacak sınıflandırmanın 36-72 ay arasındaki çocukların da yapabileceği ya da katılabileceği geniş bir davranış yelpazesini içermesine dikkat edilmiştir. Bu nedenle, mevcut çalışmanın yarı yapılandırılmış görüşme protokolü hazırlanırken Stern (2000) tarafından önerilen sınıflandırmaların kullanılmasına karar verilmiştir; kamusal alan çevreci davranışlar, çevresel aktivizm, özel alan çevreci davranışlar ve diğer çevreci davranışlar. Stern (2000) tarafından önerilen kamu-özel ayrımı, kültürel farklılıklar tarafından kısıtlanmadan geniş bir çevre dostu davranış yelpazesini kapsadığından, bu sınıflandırma alan yazında da sıklıkla tercih edilmektedir (Liu vd., 2018). Bu nedenle, bu çalışmada da yarı yapılandırılmış görüşme sorularının teorik çerçevesini oluşturmak için kamusal-özel alan çevre dostu davranışlar ana sınıflandırma olarak kullanılmıştır. Kamusal alan çevreci davranışlar boyutu altında, çevresel aktivizm ve toplum içinde aktivist olmayan çevreci davranışlara ilişkin sorular yer almaktadır (Stern, 2000). Buna karşılık, özel alan çevreci davranışlar boyutu altında katılımcıların çevreye duyarlı tüketim uygulamaları, atık yönetimi stratejileri ve kaynak koruma davranışları sorgulanmaktadır (Stern, 2000). Stern (2000) tarafından önerilen "diğer çevre dostu davranışlar" boyutu, bireylerin iş yerlerindeki konumlarıyla ilişkili olduğundan ve 36-72 aylık çocukların ebeveynlerine iş yerinde eşlik etmeleri, özellikle de ebeveynlerin organizasyona dayalı kararlarında aktif rol almaları imkânsız olduğundan dahil edilmemiştir.

Veri toplama araçları hazırlandıktan sonra, araçların anlaşılabilirliği ve uygunluğunu ölçmek adına altı farklı uzmandan fikir alınmıştır. Uzman görüşleri doğrultusunda yenilenen veri toplama araçları ile üç farklı annenin katılımcı olduğu bir pilot çalışma yapılmıştır. Pilot çalışma sonucunda demografik bilgi formu ve yarı yapılandırılmış görüşme protokolünde anlaşılabilirliği arttıracak revizeler yapılmış ve araçlar son haline getirilmiştir.

2.4. Veri Analiz Süreci

Mevcut çalışmada görüşme dökümleri içerik analizi kullanılarak analiz edilmiştir. Veri toplama sürecinin tamamlanmasının ardından, çalışmanın verileri Creswell'in (2009) nitel araştırma için veri analizi kılavuzuna göre analiz edilmiştir. Creswell'e (2009) göre, ilk adım verileri düzenlemek ve çalışma için hazırlamaktır; bu da bu çalışma için görüşmelerin yazıya dökülmesidir. Veri analizinin ikinci adımı, genel anlam hakkında genel bir fikir sahibi olmak için tüm verilerin okunmasıdır. Önerildiği gibi, deşifre işlemi bittikten sonra, verilere aşina olmak için tüm transkriptler bir kez daha okunmuştur. Üçüncü adımda kodlama sürecinin başlatılması gerekmektedir (Creswell, 2009). Saldana (2011) çok sayıda kodlama yöntemi olduğunu ve araştırmacıların çalışmanın amaçlarına, araştırma sorularına ve konusuna en uygun olanı seçebileceğini vurgulamaktadır. Dahası, farklı kodlama stratejilerinin bir arada kullanılması, diğer bir deyişle karma bir yaklaşımın kullanılması, mevcut çalışmanın gereklilikleri için en iyi kombinasyonun işe yaraması halinde alan yazınında oldukça yaygındır (Graebner vd., 2012; Linneberg ve Korsgaard, 2019). Bu nedenle, mevcut çalışmada hem tümdengelim hem de tümevarım kodlama teknikleri sırayla kullanılmıştır. Başlangıçta, Stern'in (2000) Çevresel Açından Önemli Davranış Teorisi tümdengelimli kodlama için temel olarak kullanılmıştır. Teorik çerçeve ışığında, analiz öncesinde kategoriler oluşturulmuştur. Ardından, ham verilerden kodlar türetmek için tümevarımsal kodlama yöntemi kullanılmış ve bu kodlar ilgili kategorilere atanmıştır. Tümdengelimli kodlama da kullanıldığından Creswell'in (2009) dördüncü adımı zaten tamamlanmıştır. Beşinci adım, sonuçların nasıl raporlanacağı ile ilgilidir. Temaların, kategorilerin ve kodların nasıl belirlendiğini net bir şekilde açıklamak için katılımcıların söylediklerinden örnek pasajlarla verilmesine karar verilmiştir. Altıncı adım kapsamında, verilere

ilişkin yorumların nasıl aktarılabileceğine karar verilmesi önerilmektedir. Yorumlar aktarılırken farklı kuram ve araştırmalardan yararlanılması ve yorumlara ilişkin detayların tartışma bölümünde paylaşılması kararlaştırılmıştır.

3. BULGULAR VE TARTIŞMA

3.1. Anne ve Babaların Farklı Türde Özel ve Kamusal Alanda Çevreci Davranışlara İlişkin Tanımları

Katılımcılara çevreye duyarlı tüketicinin tanımı sorulduğunda, terim için doğru tanım veremeyen iki katılımcı dışında, terimi ya yeşil ürün satın alma süreçleri ya da ürünü kullandıktan sonra çöpe atmamak veya geri dönüşüm yapmak gibi ürün imha süreçleri ile tanımlamışlardır; bu da ilgili alan yazınında önerilen tanımlarla uyumludur. Örneğin, Gupta ve Agrawal (2017) çevreye duyarlı tüketimi satın alma, kullanma ve imha etme gibi tüketimle ilgili her türlü davranışın çevre üzerindeki etkisini azaltacak şekilde gerçekleştirilmesi olarak tanımlamıştır. Bu nedenle, çoğu anne ve babanın çevreye duyarlı tüketime uygun tanımlar yükledikleri ve konuya ilişkin yüksek düzeyde bilgi sahibi oldukları söylenebilir. Anne ve babalar arasındaki farklar incelendiğinde, annelerin kavramı hayvanlar üzerinde deney yapılmayan ürünler satın almakla ve ihtiyaca yönelik alışveriş yapmakla ilişkilendirirken babaların tanımlarında bu iki unsura yer vermediği, fakat babaların da enerji tasarruflu ürün satın almayı ön plana koyduğu görülmüştür. Hayvanlar üzerinde deney yapılmayan ürünlerin anneler tarafından, enerji tasarruflu ürünlerin de babalar tarafından vurgulanması cinsiyet rolleri temeliyle açıklanabilirken (Amberg ve Fogarassy, 2019; Craig, 2006; Ünver ve Demirli, 2022), ihtiyaca dayalı tüketimdeki farklılıklar son zamanlarda popüler olan ve kadınları daha çok etkileyen “minimalist tüketim” konsepti ile açıklanabilir (Li vd., 2015).

Kaynak korunumu tanımları incelendiğinde, anne ve babalar kaynakların korunmasını çoğunlukla su ve elektrik enerjisinin korunması olarak tanımladığı görülmüştür. Kaynakların güneş enerjisi, rüzgâr enerjisi, jeotermal enerji, hava, madenler ve toprak gibi çeşitli diğer unsurları kapsamına rağmen, sadece bazıları tanımlarına doğayı ve fosil yakıtları dahil etmiştir (Jowsey, 2007; Schellens ve

Gisladottir, 2018). Bu durum, ebeveynlerin kaynaklar hakkında sınırlı bilgiye sahip olduğunu göstermektedir. Kaynakların korunmasının tanımlanmasında anne ve babalar arasındaki farklılıklara gelince, babaların fosil yakıtların korunmasını tanımlarına dahil etmeye daha eğilimli olmaları dışında, her iki ebeveyn grubu da genel olarak benzer tanımlara sahiptir. Genel olarak babalar fosil yakıtları tanımlarken benzin ve doğalgaza atıfta bulunmuşlardır, bu nedenle iki ebeveyn grubu arasında bu açıdan görülen farklılık, Türkiye vatandaşlarında halen uygulanmakta olan geleneksel toplumsal cinsiyet rolleri ile de açıklanabilir. Emniyet Genel Müdürlüğü'nün 2018 yılı verilerine göre, Türkiye'deki otomobil sürücülerinin yalnızca %24,1'ini kadınlar oluşturmaktadır. Benzin alımı ile araç kullanımı arasındaki bağlantı ve doğal gazın finansal boyutu ile fatura ödemelerinin hâlâ ağırlıklı olarak erkekler tarafından yapılması (Emniyet Genel Müdürlüğü, 2018; Ünver ve Demirli, 2022) bu farklılığın nedenleri olabilir.

Üçüncü kategori olan atık yönetimi kapsamında, katılımcılara “atık” tanımları da sorulmuş ve katılımcılar atığı “ihtiyaç duyulmayan/gereksiz”, “geri dönüştürülemeyen”, “artık” ve “doğada uzun bir süreçte biyolojik olarak parçalanabilen” malzemeler olarak tanımlamışlardır. Atık için yapılan tüm açıklamalar alan yazınında önerilen atık tanımlarıyla uyumludur; örneğin gereksiz/gereksiz olma (Basu, 2009; Lynch, 1990), geri dönüştürülebilir olma (White vd., 1995), artık olma (Bilitewski vd., 1994; Lynch, 1990) ve doğada uzun bir süreç sonunda biyolojik olarak parçalanabilir olma (Basu, 2009) çeşitli çalışmalarda atığın tanımları arasında verilmiştir. Atık yönetimi tanımları incelendiğinde ise, anne ve babaların çoğunluğu bu terimi atık ayrıştırma ve geri dönüşüm olarak tanımladığı görülmüştür. Ancak, atık yönetiminin atıkların yeniden kullanımı, işlenmesi ve izlenmesi gibi faaliyetleri de kapsadığını ve atıkların azaltılmasının da atık yönetiminin en temel parçalarından biri olduğunu belirtmek önemlidir (Pongracz, 2002). Anne ve babalar arasında atık yönetiminin atık ayrıştırma veya geri dönüşümle daha sık ilişkilendirilmesi, geri dönüşümün atık yönetimi için en sürdürülebilir yaklaşımı temsil ettiğine dair yaygın yanlış inanışa bağlanabilir; bu da geri dönüşüm önyargısını, azaltma ve yeniden kullanma ihmalini yansıtmaktadır (Barnett vd., 2023).

Kamusal alanda aktivist olmayan çevreci davranışlar, anne ve babalar tarafından çöp toplama, ağaç dikme ve çevre konusunda bilgilendirici etkinliklere katılım olarak tanımlanmıştır. Verdikleri tanım, aktivizmden kaynaklanmayan ancak yine de kamusal katılım yoluyla çevresel değişime katkıda bulunan davranışlar olarak tanımlandığı için ilgili alan yazın ile uyumludur (Liu vd., 2017). Fakat, anne ve babaların tanımlarına dahil etmediği bazı örnek davranışlar da bulunmaktadır; çevre sorunlarıyla ilgili dilekçeleri imzalamak, çevre örgütlerine üye olmak veya desteklemek vb. gibi. Anne ve babalar arasında kamusal alandaki aktivist olmayan çevreci davranışlara ilişkin bilginin sınırlı olması, bu tür davranışların özel alan çevreci davranışlara kıyasla bireyler tarafından daha az sıklıkla uygulandığı bulgusuna bağlanabilir (Liu vd., 2018). Ayrıca, babaların daha yüksek bir oranının bu kavramı bilgilendirici etkinliklerle tanımladığı bulunmuştur. İki ebeveyn grubu arasındaki bu farklılık, eğitim ve bilgi edinmenin erkeklere atfedildiği geleneksel toplumsal cinsiyet rollerine bağlanabilir (Sayılan, 2012).

Anne ve babalar çevre aktivistlerini, çevre bilgisi ve duyarlılığına sahip bireyler/kurumlar, çevre için savunuculuk yapan bireyler/kurumlar ve çevreyi korumak için güç kullanan kişiler olarak tanımlamışlardır ki bu da ilgili alan yazınında verilen farklı tanımlarla uyumludur (Paço ve Rodrigues, 2016; Piyapong, 2019). Ayrıca, annelerin %15'inin ve babaların %20'sinin çevre aktivistleri hakkında olumsuz tutumlara sahip olduğu görülmüştür. Benzer bulgular Klas ve diğerlerinin (2018) çalışmasında da rapor edilmiştir. Anne ve babaların çevresel aktivizmin farklı yönlerine odaklanarak tanımladığı görülse de her iki görüş de alan yazınında sunulan tanımlarla paralellik göstermektedir (Heyes ve King, 2018).

3.2. Anne ve Babaların Gerçekleştirdiği Özel ve Kamusal Alan Çevreci Davranışlar

Anneler ve babalar, çevreye duyarlı tüketim kapsamında gerçekleştirilen davranışlarını, kimyasal içermeyen, uzun ömürlü, hayvanlar üzerinde deney yapılmamış, sürdürülebilir ambalajlı, enerji tasarruflu, ikinci el, yerel ve geri dönüştürülmüş ürünler satın almak ve ihtiyaç temelli, minimal alışverişler yapmak olarak sıralamıştır. Rapor edilen çevreye duyarlı tüketim davranışları ise ilgili alan

yazını ile uyumludur. Anne ve babaların yarısından azının diğer yeşil ürünleri tercih etmesi, özellikle yeşil ürün satın alma konusunda çevreye duyarlı tüketim davranışlarına katılımın düşük olduğunu göstermektedir. Yeşil ürün satın alma konusundaki düşük katılım bu çalışmanın katılımcılarına özgü değildir. Farklı kültürlerde yapılan birçok çalışmada, örneğin Bosna Hersek (Tatic ve Cinjarevic, 2010), Birleşik Krallık (Hughner vd., 2007), Kanada (Peattie, 2010), Çin (Chan, 2001) ve Türkiye'de (Gedik vd., 2014; Yeniçeri, 2009) bireylerin yeşil ürünleri daha düşük oranlarda satın aldığı tespit edilmiştir. Yeşil ürünlerin genellikle diğer ürünlere kıyasla daha yüksek fiyatlı olması ve ulaşılabilirliğinin sınırlı olması bunun nedenlerinden biri olabilir (Olson, 2012). Son olarak, annelerin çevreye duyarlı tüketim davranışlarında daha sık buldukları ve bu tür davranışları daha fazla çeşitlilikte sergiledikleri görülmüştür. Bu bulgu, alan yazındaki diğer çalışmalar ile uyumludur (Çabuk vd., 2008; Lee, 2009; Radman, 2005; Uddin ve Khan, 2015).

Kaynak korunumu davranışları sorulduğunda, anne ve babalar su tasarrufu yaptıklarını, hayvanları ve bitkileri koruduklarını, çevre kirliliğini önlediklerini, fosil yakıt tasarrufu yaptıklarını ve elektrik enerjisi tasarrufu yaptıklarını belirtmişlerdir. Neredeyse tüm anne ve babalar kaynak koruma davranışlarının tüm türlerine katılmaktadır, bu da yüksek katılımı göstermektedir. Katılımcıların saydığı davranışlar ilgili alan yazınla paralel olsa da davranışların kapsamı katılımcıların paylaştıklarıyla sınırlı değildir. Aerosollerden kaçınmak veya aşırı uçak kullanımını azaltmak için davranışlarda bulunmak gibi havanın korunmasına yönelik davranışlar ilgili alan yazınındaki çalışmalar arasında yaygın olmasına rağmen (Bronfman vd., 2015), mevcut çalışmanın katılımcıları havanın korunmasına ilişkin herhangi bir davranış raporlamamışlardır. Neden herhangi bir hava koruma davranışında bulunmadıkları sorulduğunda, katılımcıların çoğunluğu havanın korunması için bireysel olarak yapabilecekleri bir şey olmadığı yorumunu yapmıştır. Mevcut çalışmanın dikkat çekici bir diğer bulgusu da kaynak koruma davranışlarının hem özel hem de kamusal alanda çevreci davranış türlerine kıyasla katılımcılar tarafından en sık gerçekleştirilen davranışlar olmasıdır. Benzer şekilde, Bronfman vd. (2015) tarafından ABD'de gerçekleştirilen bir çalışmada, kaynakların korunmasının en yaygın çevresel açıdan anlamlı davranış türü olduğu ve Janmaimool & Denpaiboon (2016) tarafından Tayland'da kaynakların korunmasının atık yönetiminden daha fazla

tercih edildiği tespit edilmiştir. Kaynak koruma davranışları açısından anneler ve babalar arasında kayda değer bir fark bulunmadığı da gözlemlenmiştir.

Atık yönetimi kapsamındaki davranışlar incelendiğinde, anne ve babaların tek kullanımlık malzeme kullanımını azalttıkları, malzemeleri uzun süre kullandıkları, porsiyonluk yemek pişirdikleri, atıkları azaltmak için teknolojiden yararlandıkları, bağış yaptıkları, atıklarını farklı/benzer amaçlarla yeniden kullandıkları, tamirat yaptıkları, depozito-iade sistemlerinden yararlandıkları, atıkları ayrıştırdıkları ve kompost yaptıkları görülmüştür. Ayrıca, anne ve babaların sıklıkla bir çeşit azaltma veya yeniden kullanma davranışında buldukları gözlemlenirken, geri dönüşüm davranışlarının en az tercih edilen atık yönetimi davranışları olduğu bulunmuştur. Katılımcıların geri dönüşümden ziyade azaltma ve yeniden kullanma faaliyetlerinde buldukları bulgusu alan yazınındaki farklı çalışmalar tarafından da desteklenmektedir (Barr, 2007; Ebreo ve Vining, 2001). Geri dönüşüm yapan annelerin oranının babalardan daha yüksek olması bir diğer bulgudur. Bu durum Çin'de (Kurusu ve Bortoleto, 2011; Li vd., 2022), Birleşik Krallık'ta (Barr vd., 2011) ve Türkiye'de (Aydın-Eryılmaz ve Kılıç, 2021) yapılan diğer çalışmalarla paralellik göstermektedir. Kadınların çevresel kaygılarının daha yüksek olması (Gifford ve Nilsson, 2014) ve empati becerilerinin daha yüksek olması (Christov-Moore, 2014) bu durumu açıklayabilir.

Anne ve babalar ağaç dikme veya çöp toplama gibi çevre gönüllülüğü faaliyetlerine katıldıklarını, çevre konusunda bilgilendirme faaliyetlerinde bulduklarını, çevre örgütlerine üye olduklarını, çevre sorunlarının çözümü için yetkililerle iletişime geçtiklerini ve çevre sorunlarının durdurulması için imza kampanyalarına katıldıklarını belirtmişlerdir. Çevre gönüllülüğü faaliyetlerine katılmanın dışında, kamusal alanda aktivist olmayan davranışların çoğunluğu ebeveynlerin yarısından azı tarafından gerçekleştirilmiştir ve bunların hepsi bir alışkanlıktan ziyade tek seferliktir, bu da bu tür davranışlara katılımın düşük olduğunu göstermektedir. Bu durum alan yazındaki diğer çalışmaların bulguları paraleldir (Balzekiene ve Telesiene, 2011; Liu vd., 2018). Çevreyle ilgili etkinliklere katılma, çevre örgütlerine üye olma ve imza kampanyalarına katılma konusunda anneler babalardan daha iyi performans göstermiştir. Bu eğilim, alan yazınında kadınların kamusal alanda

aktivist olmayan davranışlara erkeklerden daha fazla katıldığını ortaya koyan çalışmalarla da uyumludur (Heidbreder vd., 2022; Trelohan, 2021).

Çevresel aktivizm davranışları incelendiğinde, annelerin sadece %23'ünün ve babaların %10'unun çevre protestolarına katıldığı görülmüştür, bu da çevresel aktivizm kategorisini en az gerçekleştirilen davranış kategorisi olarak konumlandırmaktadır. Çevre protestolarına katılımın düşük olması sadece katılımcılara özgü değildir. Alan yazınında çevre protestolarına katılım oranlarının Avustralya'da %2,8 (Tranter, 2010), Litvanya'da %2,7 (Balzeikiene ve Telesiene, 2011), Amerika Birleşik Devletleri'nde %17 (Geiger, 2022) ve son olarak Türkiye'de %2 (Özek, 2016) olduğunu vurgulayan farklı bulgular da mevcuttur. Katılımın düşük olmasının olası bir nedeni çevre örgütlerine katılım oranının düşük olması olabilir çünkü Geiger (2022) çevre örgütlerine üye olan bireylerin çevre protestolarına katılma olasılığının daha yüksek olduğunu vurgulamıştır. Annelerin babalara kıyasla çevresel protestolara katılma olasılığı daha yüksek olduğu görülmüştür. Bu durum alan yazındaki farklı çalışmalar ile çatışma içerisindedir (Demir vd., 2022; Tindall vd., 2003). Bunun olası bir nedeni, kadınların çevre protestoları hakkında bilgi edinmek için etkili bir kanal olan ana akım medyaya (Kimbrough vd., 2013) daha fazla dahil olmaları olabilir.

Bulgulara göre, hem anneler hem de babalar, atık yönetimi kategorisindeki atıkların aynı/farklı amaçlarla yeniden kullanımı davranışları hariç, çevreye duyarlı tüketim, kaynakların korunması, atık yönetimi, kamusal alanda aktivist olmayan davranışlar ve çevresel aktivizm kategorilerindeki tüm davranışlara bireysel olarak katılmaya daha eğilimlidir. Bu düşük katılım düzeyi, özellikle çevreye duyarlı tüketim (Hota ve Bartsch, 2019), atık yönetimi (Ergazaki vd., 2009; Grodzinska-Jurczak vd., 2006; Padilla vd., 2022) ve kamusal alanda aktivist olmayan davranışlar (Halmatov ve Ata, 2017) davranış kategorilerinde önceki çeşitli çalışmalarda da gözlemlenmiştir. Ancak kaynakların korunması ve çevresel aktivizm üzerine yapılan araştırmaların sınırlı olması nedeniyle benzer çalışmalara rastlanmamıştır. Bununla birlikte, mevcut çalışma bu iki kategori için de benzer eğilimlerin gözlemlendiğini ortaya koymuştur. Küçük çocukların ebeveynlerinin çevresel açıdan önemli davranışlarına düşük katılımına çeşitli nedenler katkıda bulunabilir. İlk neden, ebeveynlerin çocuklarının

düşük yeteneklerine ilişkin inançları ve çevreci davranışlara ilişkin bilgi eksiklikleri olabilir. Ebeveynler, çocuklarının satın alma, çevresel etkinliklere katılma veya atıklarını ayrıştırma gibi belirli davranışlarda bulunmak için çok küçük olduklarına inanıyor olabilir. Engdahl (2015) tarafından yürütülen ve 28 katılımcı ülkeden verilerin elde edildiği, doğumdan 8 yaşına kadar 44.330'dan fazla çocuğu kapsayan bir çalışmada, yetişkinlerin genellikle küçük çocukların çevresel konulardaki yeterliliklerini hafife aldığı ortaya çıkmıştır. Ancak bu yanılgılar alan yazınındaki birçok farklı çalışma ile çürütülmüştür (Engdahl, 2015; Kahriman-Öztürk vd., 2012; Palmer vd., 2007). Çocuklar ve ebeveynler tarafından gerçekleştirilen ortak çevre dostu davranışların düşük seviyelerde olmasının ikinci nedeni, katılımcıların kendilerinin de önemli bir engel olarak tanımladığı zaman kısıtlamaları olabilir. Bilişsel gelişimlerinin işlem öncesi evresindeki çocuklar oldukça meraklı olduklarından ve gerçekleştirilen davranışlar ve çevrelerindeki uyaranlar hakkında çok sayıda soru sorma eğiliminde olduklarından, bir davranışı bireysel olarak gerçekleştirmek okul öncesi dönemdeki bir çocukla gerçekleştirmeye kıyasla daha az zaman gerektirir (Piaget, 1929). Dolayısıyla, ebeveynlerin yoğun programları, çocuklarıyla çevre dostu davranışlar gerçekleştirmelerini engelleyebilir. Çocukları ile birlikte çevre dostu davranış gerçekleştirme konusunda anne ve babaların tercihleri kıyaslandığında, babaların neredeyse her davranış kategorisindeki davranışlar için çocuklarını annelere oranla daha az dahil ettiği görülmüştür. Başka bir deyişle, annelerin babalara kıyasla çocukları ile birlikte daha çok çevre dostu davranış sergilediği mevcut çalışma tarafından ortaya konmuştur. Aksine, Jia ve diğerleri (2022) Çin'de hem annelerin hem de babaların çocuklarıyla birlikte çevre dostu davranışlar sergilediklerini ve bu konuda önemli bir fark olmadığını tespit etmiştir. Türkiye'de halen mevcut olan toplumsal cinsiyet normları (Ünver ve Demirli, 2022) ve yine Türk aile yapısında sıklıkla görülen “anne bekçiliği” (Akgöz-Aktaş, 2017) bu farkı açıklayan sebeplerden bazıları olabilir.

3.3. Ebeveynlerin Çocuklarıyla Birlikte Farklı Türde Özel ve Kamusal Alan Çevreci Davranışlar Gerçekleştirmesinin Önündeki Engeller

Anne ve babalar, tüketimi yönlendiren çevresel faktörler, çevre dostu ürünlerin maliyeti ve erişilebilirliği, kentsel yaşam tarzı, zaman kısıtlamaları ve

bilgi/farkındalık eksikliđinin çocuklarıyla birlikte çevreye duyarlı tüketim davranışları sergilemelerinin önündeki engeller olduğunu bildirmişlerdir. Benzer engeller daha önce yapılan farklı çalışmaların katılımcıları tarafından da bildirilmiştir (Barbarossa ve Pastore, 2012; Gleim vd, 2013). Babaların çevre dostu ürünlerin maliyeti ve erişilebilirliđi konusunda daha fazla endişe duyarken, annelerin bilgi/farkındalık eksikliđi konusunda daha fazla endişe duyduđu anlaşılmıştır. Babaların maliyet konusunda daha fazla endişe duyması, babaların ailenin geçimini sağlayan kişi olması cinsiyet rolüne bağlanabilir (Ünver ve Demirli, 2022). Bunun dışında, farklı çalışmalar kadınların çevreye çevresel konular veya çevresel etkiler hakkında bilgi aramaya daha meyilli olduklarını iddia etmiştir (Heidbreder vd., 2022), bu da annelerin bilgi eksikliđi konusundaki endişelerini açıklayabilir.

Kentsel yaşam tarzı, nitelikli ulaşım olanaklarının eksikliđi, güvenlik sorunları, zaman kısıtlamaları ve bilgi/farkındalık eksikliđi, hem anne hem de babalar tarafından, kayda değer bir fark olmaksızın, çocuklarıyla birlikte kaynak koruma davranışlarını gerçekleştirmelerinin önündeki önemli engeller olarak tanımlanmıştır. Zaman kısıtlamaları (Nageotte ve Buck, 2023) ve bilgi/farkındalık eksikliđi (Manolas, 2015) alan yazınındaki mevcut çalışmalarla paralellik göstermektedir.

Atık yönetimi için yetersiz altyapı, toplumsal bilinç eksikliđi, hükümet yaptırımlarının eksikliđi, kentsel yaşam tarzı, zaman kısıtlamaları, atık yönetiminin etkinliđi konusunda güvensizlik ve bilgi/farkındalık eksikliđi, ebeveynlerin çocuklarıyla birlikte atık yönetimi davranışlarını gerçekleştirmelerinin önündeki engeller olarak belirtilmiştir. Benzer bulgular hem ulusal hem de uluslararası alan yazınında yer alan önceki çalışmalarda da ortaya konmuştur (Ezeah ve Roberts, 2012; Kattoua vd., 2019; Kılıç-Aydın ve Eryılmaz). Anneler, babalara kıyasla atık yönetimi için yetersiz altyapı ve bilgi ve farkındalık eksikliđinin bir engel olduđu konusunda daha fazla endişe duymaktadır. Bu eğilimler, annelerin evlerinde atıkların bertaraf edilmesinden daha fazla sorumlu olmaları (Ünver ve Demirli, 2022) ve bu nedenle sağlanan atık yönetim sistemlerindeki eksiklikleri tespit etme olasılıklarının daha yüksek olması nedeniyle, anneler tarafından uygulanan toplumsal cinsiyet rollerine bağlanabilir.

Anne ve babalar, kolektif/gönüllü faaliyetlerin seyrekliğini, COVID-19'u, zaman kısıtlamalarını, çevre örgütlerine güvensizliği ve kamusal alanda aktivist olmayan çevreci davranışların etkililiğine dair güvensizliği çocuklarıyla birlikte kamusal alanda aktivist olmayan çevreci davranışlar gerçekleştirmelerinin önündeki önemli engeller olarak görmektedir. İlgili alan yazın incelendiğinde, benzer engellerin farklı çalışmalarda da katılımcılar tarafından rapor edildiği görülmektedir (Bushway vd., 2011; Higgins ve Shackleton, 2015; Kollmuss ve Agyeman, 2002; Wahl, 2010). Babalar, annelere kıyasla çevre örgütlerine güvensizlik ve kamusal alanda aktivist olmayan çevreci davranışların etkinliğine duyulan güvensizlik konusunda daha fazla endişe duymaktadır. Bu bulgular, erkeklerin çevresel konular da dahil olmak üzere çeşitli konularda kadınlara kıyasla dış kontrol odağında genellikle daha yüksek puan almalarına bağlanabilir (Suárez-Álvarez vd., 2016). Benzer bir şekilde, Stern ve diğerleri (1999) de teorilerinde sorumluluk atfının çevre dostu davranışlara katkıda bulunduğunu vurgulamıştır. Bu nedenle, babaların sorumluluk atfetmedikleri için çocuklarıyla birlikte çevresel dostu davranışlara daha az katıldıkları Stern ve diğerlerinin (1999) teorisiyle örtüşmektedir.

Anne ve babalar, güvenlik sorunları, protestoların amacına ulaşmaması, çevre protestolarının organize edilmemesi, çevre protestolarının çocukların yaşına uygun olmaması, çevre protestolarının etkinliğine güvensizlik ve zaman kısıtlamalarının çocuklarıyla birlikte çevre aktivizmi davranışlarını gerçekleştirmelerinin önündeki önemli engeller olduğunu belirtmişlerdir. Rapor edilen engellerden bazıları ilgili alan yazını ile uyumludur (Morgan, 2017; Quimby, 2011; Roser-Renouf vd., 2014). Babalar annelere kıyasla protestoların amacından sapmasını ve yaşa uygun olmamasını daha fazla engel olarak vurgularken, anneler babalara kıyasla çevre protestolarında organizasyon eksikliğini daha önemli bir engel olarak görmektedir. Bu bulgular, babalarının annelere kıyasla çevre protestolarına karşı daha olumsuz görüşlere sahip olduğunu ortaya koymaktadır. Bu eğilim, erkeklerin çatışmacı eylemleri içeren aktivizm türlerine daha fazla katılma eğiliminde olmalarının bir sonucu olabilir (Dodson, 2015).

Genel olarak, anne ve babaların bildirdiği engeller, mevcut araştırma için kullanılan temel teori olan Stern'in Çevresel Açısından Önemli Davranışlar Teorisi ile uyumludur.

Stern (2000), normlar, inançlar ve kişiler arası etkiler, bağlamsal güçler gibi tutumsal faktörlerin yanı sıra bilgi ve beceriler de dahil olmak üzere kişisel yetenekler ile alışkanlıkların veya rutinlerin, bireylerin çevre dostu davranışlarını etkileyen önemli faktörler olduğunu belirtmiştir. Teoride vurgulananlara benzer şekilde, anne ve babaların çoğunluğu tutumsal faktörlere örnek olarak çeşitli çevre dostu davranışların etkinliğine duydukları güvensizlikten bahsetmiştir. Ayrıca, bağlamsal güçlere örnek olarak belirli davranışları gerçekleştirmek için teşvik eksikliğini ve sosyal farkındalık eksikliğini vurgulamışlardır. Ayrıca, kişisel yeteneklere örnek olarak bilgi eksikliğini ve genel rutinlerle ilgili örnekler olarak da zaman kısıtlamaları veya kentsel yaşam tarzını göstermişlerdir. Teori ile uyum, teorinin kapsamlılığına bağlanabilir.

3.4. Gelecekteki Araştırmalar için Öneriler

Yarı yapılandırılmış görüşme protokolü aracılığıyla toplanan veriler, tüm öz bildirim araçlarında olduğu gibi sosyal arzu edilebilirlik yanlılığına (Chung ve Monroe, 2003) karşı savunmasız olduğundan, gelecekteki araştırmalarda gözlemler gibi ek yöntemlerin kullanılması önemlidir. Ayrıca, gelecekteki araştırmalar, ebeveynlerin çocuklarıyla birlikte gerçekleştirdikleri çevre dostu davranışların çocuklarının cinsiyetine, yaşına veya ebeveynlerin sosyoekonomik durumu ve ebeveynlik stillerine göre farklılık gösterip göstermediğini inceleyebilir. Bu çalışmada anne ve babalarının çevre dostu davranışları araştırılmıştır. Ancak, davranışlarının altında yatan nedenler ve motivasyonlar araştırılmamıştır. Bu konu, gelecekteki araştırmalarda mercek altına alınabilir. Anne ve babalarının bireysel ve ortak çevre dostu davranışlarındaki olası farklılıkları belirlemek için nicel bir yaklaşım kullan da ileriki araştırmalar için önerilebilir.

D. THESIS PERMISSION FORM / TEZ İZİN FORMU

(Please fill out this form on computer. Double click on the boxes to fill them)

ENSTİTÜ / INSTITUTE

- Fen Bilimleri Enstitüsü / Graduate School of Natural and Applied Sciences**
- Sosyal Bilimler Enstitüsü / Graduate School of Social Sciences**
- Uygulamalı Matematik Enstitüsü / Graduate School of Applied Mathematics**
- Enformatik Enstitüsü / Graduate School of Informatics**
- Deniz Bilimleri Enstitüsü / Graduate School of Marine Sciences**

YAZARIN / AUTHOR

Soyadı / Surname : Demirci
Adı / Name : Güneş Ezgi
Bölümü / Department : Temel Eğitim, Okul Öncesi Eğitimi / Early Childhood Education

TEZİN ADI / TITLE OF THE THESIS (İngilizce / English): EXPLORING PARENTAL ENVIRONMENTALLY SIGNIFICANT BEHAVIORS PERFORMED INDIVIDUALLY AND WITH CHILDREN

TEZİN TÜRÜ / DEGREE: **Yüksek Lisans / Master** **Doktora / PhD**

- 1. Tezin tamamı dünya çapında erişime açılacaktır. / Release the entire work immediately for access worldwide.**
- 2. Tez iki yıl süreyle erişime kapalı olacaktır. / Secure the entire work for patent and/or proprietary purposes for a period of two years. ***
- 3. Tez altı ay süreyle erişime kapalı olacaktır. / Secure the entire work for period of six months. ***

* Enstitü Yönetim Kurulu kararının basılı kopyası tezle birlikte kütüphaneye teslim edilecektir. / A copy of the decision of the Institute Administrative Committee will be delivered to the library together with the printed thesis.

Yazarın imzası / Signature

Tarih / Date

(Kütüphaneye teslim ettiğiniz tarih. Elle doldurulacaktır.)
(Library submission date. Please fill out by hand.)

Tezin son sayfasıdır. / This is the last page of the thesis/dissertation.