

THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND
PEDESTRIAN BEHAVIORS: MEDIATING ROLE OF INDIVIDUAL VALUES

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

BY

NESRİN BUDAK

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF PSYCHOLOGY

FEBRUARY 2021

Approval of the thesis:

**THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND
PEDESTRIAN BEHAVIORS: MEDIATING ROLE OF INDIVIDUAL
VALUES**

submitted by **NESRIN BUDAK** in partial fulfillment of the requirements for the degree of **Master of Science in Psychology, the Graduate School of Social Sciences of Middle East Technical University** by,

Prof. Dr. Yaşar KONDAKÇI
Dean
Graduate School of Social Sciences

Prof. Dr. Sibel KAZAK BERUMENT
Head of Department
Department of Psychology

Prof. Dr. Türker ÖZKAN
Supervisor
Department of Psychology

Examining Committee Members:

Assoc. Prof. Dr. Bahar ÖZ (Head of the Examining Committee)
Middle East Technical University
Department of Psychology

Prof. Dr. Türker ÖZKAN (Supervisor)
Middle East Technical University
Department of Psychology

Assist. Prof. Dr. Yeşim ÜZÜMCÜOĞLU ZİHNİ
TOBB University of Economics and Technology
Department of Psychology

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: Nesrin Budak

Signature:

ABSTRACT

THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND PEDESTRIAN BEHAVIORS: MEDIATING ROLE OF INDIVIDUAL VALUES

BUDAK, Nesrin

M.S., The Department of Psychology

Supervisor: Prof. Dr. Türker ÖZKAN

February 2021, 125 pages

The main objective of the current study is to investigate the relationship between personality traits, individual values, and pedestrian behaviors. Although personality traits and values are widely studied variables in different fields, there is limited research investigating the relationship of these variables with pedestrian behaviors in the literature. In the current study, the mediator role of individual values on the relationship between Big Five Personality Traits and pedestrian behaviors were examined. A total of 633 people (361 females and 272 males) participated in the study. Age range was between 18 and 56 ($M=26.1$; $SD= 6.51$). Demographic information form, Big Five Inventory, Portrait Values Questionnaire, and Pedestrian Behavior Scale were used as measurement tools. Bivariate Correlations and Mediation Analyses were conducted to investigate the relationship between study variables. Individual values mediated the relationship between personality traits and pedestrian behaviors. The findings were provided in detail. Discussion of findings, limitations, and contributions of the current study were presented in light of the relevant literature.

Keywords: pedestrian behaviors, personality traits, individual values

ÖZ

KİŞİLİK ÖZELLİKLERİ VE YAYA DAVRANIŞLARI ARASINDAKİ İLİŞKİ: DEĞERLERİN ARACI ROLÜ

BUDAK, Nesrin

Yüksek Lisans, Psikoloji Bölümü

Tez Yöneticisi: Prof. Dr. Türker ÖZKAN

Şubat 2021, 125 sayfa

Bu çalışmanın temel amacı kişilik özellikleri, değerler ve yaya davranışları arasındaki ilişkiyi incelemektir. Kişilik özellikleri ve değerler farklı alanlarda yaygın olarak kullanılan değişkenler olmakla birlikte, literatürde bu değişkenlerin yaya davranışları ile ilişkisini araştıran sınırlı sayıda araştırma bulunmaktadır. Bu çalışma, Beş Faktör kişilik özellikleri ile yaya davranışları arasındaki ilişkide değerlerin aracı rolünü incelemiştir. Çalışmaya toplam 633 kişi (361 kadın ve 272 erkek) katılmıştır. Katılımcıların ortalama yaşı 26.1 olup (SS = 6.51), 18 ve 56 arasında değişmektedir. Ölçüm araçları olarak demografik bilgi formu, Beş Faktör Envanteri, Portre Değerler Anketi ve Yaya Davranışları Ölçeği kullanılmıştır. Çalışılan değişkenler arasındaki ilişkiyi araştırmak için Korelasyon ve Aracı Değişken analizleri yapılmıştır. Bulgular, kişilik özelliklerinin yaya davranışları ile ilişkili olduğunu ve değerlerin bu ilişkiye aracılık ettiğini göstermiştir. Çalışmanın bulguları detaylı bir şekilde sunulmuştur. Mevcut çalışmanın sonuçları, sınırlılıkları ve katkıları da ilgili literatür ışığında sunulmuştur.

Anahtar Kelimeler: yaya davranışları, kişilik özellikleri, değerler

To my family...

ACKNOWLEDGMENTS

First and foremost, I would like to give special thanks to my supervisor Prof. Dr. Türker Özkan, for his insightful comments, suggestions, understanding, and tolerance throughout my graduate study. His broad perspective and extensive knowledge have shaped my way of thinking and brought my work to a higher level.

I also would like to appreciate my committee members, including Assoc. Prof. Dr. Bahar Öz and Assist. Prof. Dr. Yeşim Üzümcüoğlu Zihni for not just being a part of this committee and sharing their valuable comments and suggestions, but also their assistance during my graduate study.

Additionally, my sincere thanks go to İbrahim Öztürk for his guidance, encouragement, and support in my life over the past years. Also, I am thankful to Safety Research Unit members for their support whenever I have a question.

I want to express my gratitude to Emel Erdem for always being there for me with her beautiful heart at my good and bad times and spreading so many colors around my life. I have never been alone through this process with her encouragement, continued support, and valuable friendship.

I want to express my endless gratitude to my mother, father, sister, Mürvet, Cevdet, and Esin Belinay for their unconditional love, continuous support, understanding, and encouragement throughout my life and through the process of writing this thesis. You are always there for me, and you are the source of my achievements. I am the luckiest person for being a part of such a supportive and loving family.

I want to thank my personal supervisor and supporter Alper Urgan for always standing by my side and being a continuous source of encouragement and optimism throughout writing the thesis. He tried to soothe and make me laugh in my ups and downs at my nervous times. His emotional courage and love gave me the energy to continue and get my degree.

Finally, I would like to thank TÜBİTAK (The Scientific and Technological Council of Turkey) for the financial support it provided for me during my masters' degree studies within the scope of the 2210 Graduate Fellowship Program.

TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ	v
DEDICATION	vi
ACKNOWLEDGMENTS.....	vii
TABLE OF CONTENTS	ix
LIST OF TABLES	xii
LIST OF FIGURES.....	xiii
CHAPTERS	
1. INTRODUCTION.....	1
1.1. Pedestrian Behaviors	2
1.2. Big Five Personality Traits	5
1.2.1. Personality Traits and Behaviors.....	7
1.3. Schwartz Value Theory	8
1.3.1. Values and Behaviors	12
1.3.2. Values and Personality Traits	14
1.3.3. Combined Effects of Traits and Values.....	16
1.4. Aim of the Study.....	17
2. METHOD.....	19
2.1. Participants	19
2.2. Instruments	21
2.2.1. Demographic Information Form.....	21

2.2.2.	Pedestrian Behavior Scale	21
2.2.3.	Big Five Inventory	22
2.2.4.	Schwartz Portrait Values Questionnaire.....	22
2.4.	Procedure	23
3.	RESULTS.....	24
3.1.	Descriptive Statistics	24
3.2.	Bivariate Correlations of Study Variables.....	26
3.3.	Mediation Analysis.....	30
3.3.1.	Relationship Between Personality Traits and Values.....	34
3.3.2.	Mediation Analysis for Agreeableness and Violations	35
3.3.3.	Mediation Analysis for Neuroticism and Violations	40
3.3.4.	Mediation Analysis for Conscientiousness and Violations	41
3.3.5.	Mediation Analysis for Agreeableness and Lapses	47
3.3.6.	Mediation Analysis for Neuroticism and Lapses.....	51
3.3.7.	Mediation Analysis for Conscientiousness and Lapses.....	52
3.3.8.	Mediation Analysis for Agreeableness and Aggressive Behaviors	58
3.3.9.	Mediation Analysis for Neuroticism and Aggressive Behaviors ..	64
3.3.10.	Mediation Analysis for Agreeableness and Positive Behaviors...	67
3.3.11.	Mediation Analysis for Conscientiousness and Positive Behaviors	69
3.3.12.	Mediation Analysis for Openness and Positive Behaviors.....	72
4.	DISCUSSION	77
3.4.	General Discussion	77
3.5.	Discussion of Bivariate Correlation Analysis.....	78
3.6.	Discussion of Mediation Analysis	79

3.6.1. Trait-Value Relationship	80
3.6.2. Basic Human Values as Mediator Variable.....	81
3.7. Limitations and Suggestions for Future Studies.....	83
3.8. Contributions and Conclusions.....	85
REFERENCES.....	88

APPENDICES

APPENDIX A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE	98
APPENDIX B: INFORMED CONSENT FORM.....	99
APPENDIX C: DEMOGRAPHIC INFORMATION FORM.....	100
APPENDIX D: PEDESTRIAN BEHAVIOR SCALE	101
APPENDIX E: BIG FIVE INVENTORY	103
APPENDIX F: PORTRAIT VALUES QUESTIONNAIRE	105
APPENDIX G: DEBRIEFING FORM	108
APPENDIX H. TURKISH SUMMARY / TÜRKÇE ÖZET.....	109
APPENDIX I. THESIS PERMISSION FORM / TEZ İZİN FORMU	125

LIST OF TABLES

Table 1. Demographic Characteristics of Participants	20
Table 2. Descriptive Statistics for All Study Variables.....	25
Table 3. Bivariate Correlations of Study Variables	31
Table 4. Mediation of values on agreeableness and violations relationship	39
Table 5. Mediation of values on neuroticism and violations relationship.....	41
Table 6. Mediation of values on conscientiousness and violations relationship....	46
Table 7. Mediation of values on agreeableness and lapses relationship	50
Table 8. Mediation of values on neuroticism and lapses relationship.....	52
Table 9. Mediation of values on conscientiousness and lapses relationship.....	57
Table 10. Mediation of values on agreeableness and aggressive behaviors relationship	63
Table 11. Mediation of values on neuroticism and aggressive behaviors relationship	66
Table 12. Mediation of values on agreeableness and positive behaviors relationship	68
Table 13. Mediation of values on conscientiousness and positive behaviors relationship	71
Table 14. Mediation of values on openness and positive behaviors relationship ..	75

LIST OF FIGURES

Figure 1. Relationship between values and four higher-order values	11
Figure 2. The relationship between agreeableness and violations as mediated by values.....	38
Figure 3. The relationship between neuroticism and violations as mediated by values.....	40
Figure 4. The relationship between conscientiousness and violations as mediated by values.....	45
Figure 5. The relationship between agreeableness and lapses as mediated by values.....	50
Figure 6. The relationship between neuroticism and lapses as mediated by self-direction.....	52
Figure 7. The relationship between conscientiousness and lapses as mediated by values.....	56
Figure 8. The relationship between agreeableness and aggressive behaviours as mediated by values	62
Figure 9. The relationship between neuroticism and aggressive behaviours as mediated by values	66
Figure 10. The relationship between agreeableness and positive behaviours as mediated by values	68
Figure 11. The relationship between conscientiousness and positive behaviours as mediated by values	71
Figure 12. The relationship between openness and positive behaviours as mediated by values	74

CHAPTER 1

INTRODUCTION

Millions of people are injured, disabled, and killed each year because of injuries resulted from traffic accidents. This situation is getting worse, and the number of deaths resulting from traffic accidents has increased. This number has reached 1.35 million dead people every year in the world because of road traffic crashes. It means that almost 3 700 people lose their lives every day. There are many reasons for this dramatic situation, such as the behaviors of drivers, cyclists, pedestrians, or environmental conditions. Whatever the reason, road traffic injuries are one of the contributing causes of death. Besides, it is the first reason of deaths for people between 5-29 ages. Additionally, low and middle-income countries have the highest rate of deaths (World Health Organization, 2018).

Pedestrians, cyclists, and motorcyclists create a considerable risk group of vulnerable road users because of their unprotected state compared to drivers. Pedestrians lose their lives more likely in a traffic environment because they do not have any protective equipment, making them more vulnerable to accidents. This group represents 26% of all deaths globally (WHO, 2018).

Traffic mortalities are also a significant problem in Turkey, which is a middle-income country. In 2018, the number of deaths in traffic accidents was 5473 people; and the number of injured people was 283 234. The pedestrian mortality rate was 23% of all deaths in traffic accidents, and the pedestrian injury rate was 11,8% (Turkish Statistics Institute, 2020). According to those number of accidents, it is essential to understand the underlying psychological antecedents of pedestrian behaviors to develop effective interventions and provide a safer traffic environment for pedestrians and other road users.

Several studies have examined the influence of personality on pedestrian behaviors and the influence of values on pedestrian behaviors. In the present study, Big Five Personality Model (McCrae & Costa, 1987) and Schwartz's ten basic individual values (Schwartz, 1992) are chosen to study the combined effects of personality traits and individual values on pedestrian behaviors.

1.1. Pedestrian Behaviors

Pedestrian accidents are a severe health problem for low and middle-income countries (Hamed, 2001; WHO, 2018). The reason is that pedestrians are vulnerable road users who are those most at risk in traffic due to their unprotected state (Deb et al., 2017; WHO, 2018). Firth (1982), suggests that it is essential to pay special attention to pedestrian behaviors because it is the most vulnerable road user group with a higher accident rate than other groups (as cited in Yagil, 2000). Examining the behavior of pedestrians helps to determine the impact of their actions on accidents. However, pedestrian behaviors did not receive enough attention from road safety researchers as much as driver behaviors. Much of the literature deals with driver behaviors rather than pedestrian behaviors (Rosenbloom, Nemdorov & Barkan, 2004). This area has been studied since the early 2000s. Pedestrian behavior research has recently started to get more attention (Qu, Zhang, Zhao, Zhang, & Ge, 2016).

Thus far, several studies have revealed a correlation between human factors and pedestrian behaviors. In addition to the pedestrians' vulnerable state, many pedestrian-related accidents are not only because drivers do not see them while walking but also pedestrians get involved in hazardous and careless behaviors in traffic, which dramatically increases the risk of engaging in accidents (Mako & Szakonyi, 2016; McIlroy et al., 2019; Qu et al., 2016). By illustration, many pedestrians are inclined to use the gaps when crossing despite safe crosswalks (Hamed, 2001). Furthermore, Mako and Szakonyi (2016) showed how pedestrians' risky behaviors cause an increase in accidents. Pedestrians' unsafe behaviors

resulted in 44% of fatalities on crossings in Hungary. The common reason was not to take precautions when crossing, which accounted for 67%.

With the efforts to examine pedestrian behaviors, Granie, Pannetier and Gueho (2013) developed a Pedestrian Behavior Scale (PBS) to measure pedestrians' aberrant, aggressive and positive behaviors. It can be considered as the most comprehensive scale measuring pedestrians' intentional dangerous actions, which were categorized as transgressions (e.g., I cross at a red light), pedestrians' hazardous behaviors because of absent-mindedness, which were classified as lapses (e.g., I travel without looking at the road while walking with someone), their aggressive interactions with other road user groups named as aggressive behaviors (e.g., I get angry with the drivers and hit their cars) and their positive social interactions named as positive behaviors as pedestrians in traffic (e.g., I walk on the right side of the sidewalk not to disturb other pedestrians). It is a four-factor scale. The scale was adapted into Turkish, but it was composed of three factors (Nordfjærn & Şimşekoğlu, 2013). The scale was recently adapted into Turkish by Demir (2017) with four-factors: violations, lapses, aggressive behaviors, and positive behaviors.

Reported lapses and aggressive behaviors were associated with the severity of injuries in the USA. Additionally, self-reported violations and errors were related to accidents resulting in injuries (Deb et al., 2017). A similar point has also recently been made by McIlroy et al. (2019), who investigated previous accident history was linked to lapses and aggressive behaviors of pedestrians.

When the factors related to risky and safe pedestrian behaviors are examined in the relevant literature, various factors have been identified as the main factors, such as demographic factors (age, gender, marital status, having a driving license, etc.) (Diaz, 2002; Harrell, 1991; Qu et al., 2016; O'Hern, Estgfaeller, Moore & Koppel, 2020; Useche, Hezaveh, Llamazares & Cherry, 2021), environmental and situational factors (weather and road conditions, mood, etc.) (Hamed, 2001; Harrell, 1991; Yagil, 2000), attitudes (Diaz, 2002; Demir, Özkan & Demir, 2019; Evans & Norman, 2003; Serin, Öz, Öz & Lajunen, 2018; Zhou, Romero, & Qin, 2016), values

(Solmazer et al., 2020; Yıldırım, 2007), and personality traits (Şimşekoğlu, 2015; Qu et al., 2016). In the current study, the associations of age, gender, personality traits, and individual values with pedestrian behaviors will be investigated.

Gender and age as demographic factors are demonstrated as significant determinants of pedestrians' behaviors, and most studied. Up to now, several studies have explored the relationship between those factors and pedestrian behaviors. Harrell (1991) stated that older pedestrians and females are aware of hazardous situations in traffic and more cautious when crossing. Diaz (2002) reported that younger pedestrians and males show more violations, errors, and lapses than older ones and females. Younger pedestrians were found to have more positive attitudes toward illegal crossings. Males across the road in an unsafe way more than females (Elliott & Baughan, 2004). Several studies conducted with Turkish sample reported that as the pedestrians' age increases, they engage in fewer violations, and demonstrate less unsafe behaviors and more positive behaviors (Solmazer et al., 2020; Şimşekoğlu, 2015; Yıldırım, 2007). Moreover, female pedestrians show less risky behaviors compared to males. Along the same lines, Qu et al. (2016) found males are inclined to show aggressive pedestrian behaviors while females are inclined to show positive pedestrian behaviors in China. On the other hand, age was correlated negatively with violations (Deb et al., 2017; O'Hern et al., 2020; Useche et al., 2021). Lastly, the fatality rate of male pedestrians was 2.71, and it was 1.14 for female pedestrians. The injury rate of male pedestrians was also higher than females in 2018 (NHTSA, 2020). Overall, these studies clearly illustrate that younger pedestrians and males tend to show risky behaviors on the road compared to older ones and females. In addition to daily walking time, age and gender associated with pedestrian behaviors were included in the mediation analysis as control variables.

Individual values and personality traits were also investigated as determinants of pedestrian behaviors (Herrero-Fernández et al., 2016; Solmazer et al., 2020; Yıldırım, 2007; Zheng, Qu, Ge, Sun & Zhang, 2017). Still, few studies have been conducted to determine the possible effects of values on pedestrian behaviors. On the other hand, the associations of personality traits with pedestrian behaviors were

evidenced in the literature (Herrero-Fernández et al., 2016; Jiang et al., 2011; Zheng et al., 2017). Concerning these studies, the associations of personality traits with pedestrian behaviors through the mediation of values will be investigated in the present study.

Overall, these studies present that pedestrian behaviors are often an essential predictor of pedestrian-related accidents in traffic. As explained earlier, pedestrian accidents are a vital issue for traffic safety. Their vulnerable state and tendency to engage in risky behaviors increase the risk of being involved in an accident. Therefore, it is crucial to explore the underlying psychological mechanism by investigating individual differences and pedestrian-related risk factors that may cause traffic accidents to improve traffic safety by providing information for prevention strategies and intervention programs.

1.2. Big Five Personality Traits

Personality traits are used to examine individual differences in behaviors, cognitions, perceptions, and feelings. The Big Five Personality Model was chosen in this research because it is the most basic, commonly used, and dominant theory for studying personality (John, Naumann, & Soto, 2008; Roccas, Sagiv, Schwartz & Knafo, 2002).

In the 1920s, researchers started to pay attention personality research (Allport and Odbert, 1936; Klages, 1929). Allport and Odbert (1936) extracted 18 000 words from the dictionary, which differentiate behaviors of people from each other. Cattell (1945) conducted a series of studies on Allport and Odbert's list of personality-relevant terms to shorten the list and reduce them to 12 traits. Fiske (1949) produced its simple version known as Big Five based on Cattell's research.

Norman (1963) carried out some research to replicate Big Five's structure and defined the factors as extraversion or surgency, agreeableness, conscientiousness, emotional stability versus neuroticism, and culture. These factors were labeled as

“Big Five” by Goldberg (1981). This label emphasized the broadness of the categories (John & Srivastava, 1999). McCrae and Costa (1985a, b) conducted a series of factor analyses and stated that discriminative personality features were grouped under five main factors. Personality traits were defined as the tendency to demonstrate consistent patterns of thoughts and behaviors (McCrae & Costa, 2003). According to Big Five Personality Model, personality consists of five main dimensions, which are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience, which was described as following (Costa, McCrae, & Dye, 1991; John & Srivastava, 1999; McCrae & Costa, 1987).

Extraversion was described as an energetic approach to the world. It is related to the level of sociability and activity. Individuals who scored higher on this trait are considered assertive, active, excitement seeking, talkative, and friendly.

Agreeableness was described as a prosocial and altruistic approach to the world. Individuals who scored higher on this trait tend to show good-natured, modest, altruistic, and compliant behavior.

Conscientiousness was described as controlled impulses to enable the behavior to reach the task or target. Individuals who scored high on this trait tend to delay gratification, follow the rules, be organized, and self-disciplined.

Neuroticism was described as feeling anxious, irritable, worrying, depressed, and insecure. It was also noted that those individuals' thinking styles include cognitive distortions and develop unhealthy coping mechanisms to get rid of the negative emotional state.

Openness to experience was described as the individuals' original and depth life. Individuals who scored high on this trait tend to show originality, broad-mindedness, independence, and imaginativeness.

1.2.1. Personality Traits and Behaviors

Personality traits substantially affect how people think, feel, and act (McCrae and Costa, 1987). The role of personality traits in traffic context was studied widely (Fine, 1963; Arthur & Graziano, 1996; Clarke & Robertson, 2005; Sümer, Lajunen & Özkan, 2005; Lajunen, 2001). Fine (1963) found both extraversion and neuroticism relate to road accident involvement. On the other hand, conscientiousness had a negative relationship with accident involvement (Arthur & Graziano, 1996). Similarly, Clarke and Robertson (2005) suggested extraversion as a determinant of road accidents in their meta-analysis. In another study investigating the relationship between personality traits and driver behavior, Sümer, Lajunen, and Özkan (2005) reported that all three aberrant driving behaviors are inattention errors and lapses, and violations were associated negatively with agreeableness, conscientiousness, openness, and positively with neuroticism. Extraversion also associated negatively with inattention errors and lapses. Extraversion and traffic fatalities were associated positively in 34 nations (Lajunen, 2001).

Personality traits were also investigated as predictors of pedestrian behaviors. Sensation-seeking and crossing at a red light were associated with each other positively (Rosenbloom, 2006). Individuals with a higher level of sensation seeking and anger tend to show transgressions, lapses, and aggressive behaviors (Qu et al., 2016; Useche et al., 2021). Besides, altruistic individuals tend to demonstrate less unsafe behaviors and more positive behaviors in the traffic context (Qu et al., 2016). To investigate the relationship between pedestrians' personality traits and crossing behaviors, Jiang et al. (2011) carried out a study and found violations were negatively correlated with agreeableness and conscientiousness. Herrero-Fernández et al. (2016) stated that pedestrians' risk-taking tendency was associated positively with impulsiveness and negatively with conscientiousness. However, there was no significant association with openness to experience. Risky pedestrian behaviors were also associated negatively with empathy and positively with social conformity (Şimşekoğlu, 2015). Lastly, Zheng et al. (2017) indicated openness-to-experience

related to positive and aggressive behaviors and neuroticism related to violations and lapses.

Overall, personality traits play an essential role in behaviors. Therefore, they could be considered an antecedent in pedestrian behaviors. Big Five Personality Model is a widely used model, and it may provide a deeper understanding of individual differences among pedestrians.

1.3. Schwartz Value Theory

Schwartz and Bilsky (1987) suggested the theory of human values and defined values with five features which are; (1) Values are beliefs related to feelings that generate positive and negative emotions when activated; (2) Values motivate individuals to pursue desirable goals; (3) Values transcend specific actions, which differs values from social norms and attitudes that generally relate to specific actions; (4) Values refer to standards or criteria for guiding the selection of actions, people, or events for evaluations; (5) Values operates according to relative importance to other values by forming an ordered system.

It was proposed that these values are universal because they are built on one or more of three universal human existence requirements that offer individuals help to manage, which are requirements of people to maintain their biological existence, requirements to ensure the continuity of social interaction, and needs to ensure the survival and welfare of groups. All individuals and groups must be responsive to each of these three requirements (Schwartz & Bilsky, 1987). Based on this definition and requirements of values, Schwartz (1992) proposed a theory of human values and defined ten values according to their underlying motivation.

In the early version of the theory, Schwartz (1992) defined eleven motivationally distinct broad types of values rooted in three universal requirements and conducted studies on their detailed explanation and the dynamic relationships between those value types. Spirituality was proposed as a universalism value type, but it did not

predict consistent cross-cultural meaning and was not included in the theory. Finally, Schwartz (1992) supported the idea of ten types of values, which described as;

Self-direction is motivated by independent thought and action to choose, explore, and create. This value derives from organismic needs and interactional requirements. Stimulation is related to excitement, novelty, and challenge in life. This value derives from organismic needs. Hedonism is motivated by pleasure or satisfaction. This value derives from organismic needs.

Achievement is related to individual success by showing adequacy according to social criteria to get social approval. Therefore, achievement value derives from interactional and group requirements. Power is motivated by obtaining social status and control over others and sources. It is defined with the control or domination. Therefore, power value derives from interactional and group requirements.

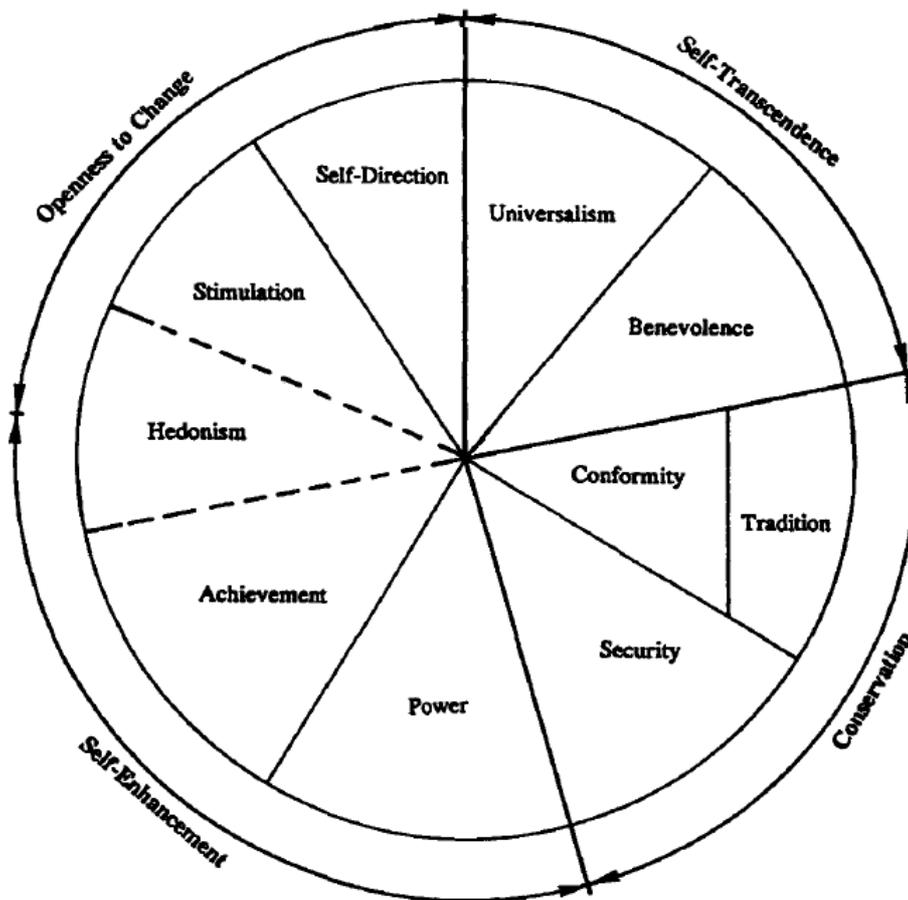
Security is defined by the safety, harmony, and stability of family and relationships. Security value derives from organismic, interaction, and group requirements. Conformity is related to restricting activities, tendencies, and drives to hurt people and violate social standards. The base for such behavior is to avoid negative results for self. This value derives from the group and interactional requirements. Tradition is related to respect, loyalty, and acceptance of traditional culture and religion's socially imposed expectations. Tradition value derives from group requirements.

Benevolence is related to protecting and improving the well-being of close others. This type of value derives from organismic, interactional, and group requirements. Universalism is related to understanding, respecting, tolerating, and preserving all human beings' well-being and nature. This value derives from the interactional and group requirements for survival.

The theory also indicated the presence of dynamic relations between these value types. The idea of consequences of some actions resulting from any value is incompatible with some values and compatible with other values led to the theory

of dynamic value structure. For example, trying to improve the well-being of others prevents actions from improving personal success. In this example, achievement and benevolence values are incompatible values. Contiguous value types imply compatibility, and distant value types mean conflict (see Figure 1). The proximity of the values on the circular arrangement indicates the similarity of underlying motivations of these adjacent values. Although tradition and conformity are placed on the same part because of their common motivational goal, tradition has a stronger incompatibility with opposing values. Therefore, values were classified into four higher-order value types (Schwartz, 1992; Schwartz, 2012).

These four higher-order value types were examined in a two-dimensional structure. The first essential dimension places openness to change (Stimulation, Self-direction) in contrast to conservation (Security, Tradition, Conformity). This dimension arrays values regarding how much they motivate individuals to pursue their intellectual and emotional interest, independent thought in unknown situations, and motivate people to pursue protecting the stability and traditional practices. The second essential dimension opposes Self-Transcendence (Universalism, Benevolence) to Self-Enhancement (Achievement, Power). This dimension arrays values regarding how they motivate individuals to accept others as equal and improve the welfare of all people and nature versus to the extent to which they encourage individuals to focus on enhancing personal success and control over others. Hedonism is linked with both Openness to Change and Self-Enhancement (Schwartz, 1992; Schwartz, 2012).



Note. This figure is directly taken from “Values and personality” article (Bilsky, & Schwartz, 1994, p.168)

Figure 1. Relationship between values and four higher-order values

When the factors related to value priorities are examined in the relevant literature, various factors have been identified, such as age and gender. Regarding the role of age in value priorities, Schwartz (2001) indicated that younger people give more importance to self-direction and stimulation values and less importance to conformity, tradition, and security values. Dirilen-Gümüş (2009) showed that age was negatively correlated with benevolence and tradition in the Turkish population. Kaçan et al. (2019) reported a positive correlation between drivers’ age and openness to change, self-enhancement, and conservation value dimensions. Lastly,

Solmazer et al. (2020) found a positive correlation between age and conformity, tradition, power, and conservation for the Turkish population.

Regarding the role of gender in value priorities, several studies have explored the relationship between gender and value priorities. In their research to understand the role of gender differences in value priorities, Ryckman and Houston (2003) found that women give more importance to benevolence, universalism, and security than men, and women and men give equal importance to power and success. Schwartz and Rubel-Lifschitz (2009) showed that both women and men attach more importance to benevolence, universalism, self-direction, hedonism, stimulation values, and less importance to power, achievement, and security values in 21 countries with gender equality. Some studies found that men attach more importance to power, while women attach more importance to hedonism, universalism, and security (Dirilen-Gümüş & Büyükşahin-Sunal, 2012). In contrast to these findings, Dilmaç, Bozgeyikli, and Çıkılı (2008) reported women attach more importance to power value, and men attach more importance to universalism and self-direction values. On the other hand, some studies (Demirutku & Sümer, 2010; Schwartz & Rubel-Lifschitz, 2009; Yılmaz, Avşaroglu, & Deniz, 2010) emphasized that the effect of gender on values is small. Overall, these studies provide a piece of mixed evidence for the interactions between gender and values.

1.3.1. Values and Behaviors

A considerable amount of research was conducted to examine the relationship between values and behaviors. Evidence from the literature supports the notion that value constructs may help examine people's actions (Roccas & Sagiv, 2017). The Value-behavior link is generally accepted in the literature. Schwartz's value theory defined values as motivational constructs and guiding principles in selecting actions (Schwartz, 1992). It seems values are relevant to people's actions from this definition. Bilsky and Schwartz (1994) pointed out the influence of higher-order values on everyday behaviors and reported that openness-to-change and

conservation predict daily activities more than another dimension. The influence of value priorities on the individuals' interpretations of events might guide people's actions (Schwartz, 2017). Lee et al. (2021) suggested value-behavior association depends on the importance level of values. Values at higher levels of importance have stronger relations with behaviors, while values at lower level of importance have weaker relations with behaviors. That is, value importance strengthens its relationship with behaviors. Skimina and Ciecuch (2020) reported the association of higher order values with everyday behaviors.

Some studies pointed out the activations of values. They effectively motivate people in interpreting events when activated (Bardi & Schwartz, 2003; Schwartz, 2017; Verplanken & Holland, 2002). The importance of values also leads to more accessibility and activation. On the other hand, Bardi and Schwartz (2003) defined the term of value-expressive behaviors. Some behaviors might be determined by more than one value, while some actions might be determined by one value and in conflict with opposing values on the circle, which were named as value-expressive behaviors.

The associations of individual values with the behaviors of road users were also investigated in the literature. In a recent study conducted in Turkey, Yıldırım (2007) reported conservation of values was associated negatively with aggressive violations of pedestrians and positively with positive pedestrian behaviors. A cross-cultural study examining individual values in a traffic context investigated the effect of value dimensions on driver behaviors (Kaçan et al., 2019). Self-transcendence and conservation were correlated negatively with errors and violations. Openness-to-change and self-enhancement were correlated negatively with errors. Also, positive behaviors were associated with all four value dimensions positively. Solmazer et al. (2020) recently conducted a cross-cultural study examining the relationship between pedestrian behaviors and individual values and found that self-transcendence was correlated negatively with lapses and aggressive behaviors (Russia and Turkey), and positively with transgressions and positive behaviors (Kosovo). Openness to change was associated positively with transgressions and

positive behaviors (Greece and Kosovo) and negatively with lapses (Kosovo). Self-enhancement was correlated positively with transgressions and aggressive behaviors (Russia) and negatively with transgressions (Estonia). Conservation was correlated positively with positive behaviors (Turkey) and negatively with transgressions and lapses (Greece).

The reason why investigating the effect of individual values on the relationship between personality traits and pedestrian behaviors in this study can be explained with the suggestion that behaviors could be affected and predicted by values (Roccas & Sagiv, 2010). Studies support the notion that values play a significant role in traffic context by affecting the behaviors of drivers and pedestrians. It seems worthwhile to examine individual values in the present study. The mediating role of values will be investigated to understand the extent to which values affect the relationship between personality traits and pedestrian behaviors.

1.3.2. Values and Personality Traits

Many researchers have studied two streams together: traits and values. Studies carried out in this field aimed to demonstrate how these constructs relate to each other. As stated, personality traits were defined as the tendency to reveal consistent patterns of thoughts and behaviors (McCrae & Costa, 2003). Values were described as the motivational constructs which guide behaviors. Their motivational content differentiates values from each other (Schwartz, 1992). Values differentiates according to the level of importance, and traits differentiates according to the frequency and intensity (Roccas et al., 2002). Some researchers made a distinction between traits and values. They considered personality as the product of biology, and values as learned concepts or beliefs affected by the environment in their studies (Grankvist & Kajonius, 2015; McCrae & Costa, 2008; Olver & Mooradian, 2003). Roccas et al. (2002) also suggested that values may be affected by personality traits. When people demonstrate consistently the characteristics of a trait, the motivations behind this trait are more likely to increase.

Regarding the relationship between personality traits and values, several studies have been conducted (Grankvist and Kajonius, 2015; Olver & Mooradian, 2003; Parks-Leduc et al., 2015; Roccas et al., 2002). To illustrate, in a meta-analysis by Roccas et al. (2002), the relationship between personality traits and values was examined. Extraversion associated positively with achievement, stimulation, hedonism, and negatively with tradition. Openness to experience associated positively with universalism, self-direction, stimulation, and negatively with power, conformity, tradition, and security. Agreeableness associated positively with benevolence, tradition, conformity, and negatively with power, achievement, hedonism, stimulation, and self-direction. Conscientiousness associated positively with achievement, conformity, security, and negatively with stimulation. Neuroticism was associated with values weakly.

Olver and Mooradian (2003) also carried out a study to show how these two constructs relate to each other and found a) openness to experience was negatively associated with power, conformity, tradition, and positively with universalism, stimulation, and self-direction, b) agreeableness positively associated with benevolence, conformity, tradition, universalism, and negatively with power and achievement, stimulation self-direction, c) conscientiousness positively associated with conformity, security, achievement, and negatively with stimulation, d) neuroticism did not show any significant association with values, e) extraversion associated positively with universalism and negatively with power and stimulation.

Grankvist and Kajonius (2015) investigated the relationship between personality traits, values, and higher-order values. Positive correlations between extraversion and the values stimulation, hedonism, achievement, self-direction, power, openness to change, and self-enhancement were found. Negative correlations were found with the values located at the opposite side of the value model: tradition, security, and conformity. Openness to experience correlated positively with universalism, self-direction, stimulation, openness to change, and self-transcendent and negatively with power, security, tradition, conformity, and achievement. Agreeableness correlated positively with benevolence, conformity, tradition, and self-transcendent

and negatively with power and achievement. Conscientiousness correlated positively with security, conformity, and conservation and negatively with hedonism and stimulation. Neuroticism was correlated positively with conformity and negatively with self-direction and stimulation.

Overall, relevant studies indicate a relationship between personality and values but show mixed evidence for how those two constructs are related. If these two constructs are related, the relationship between personality traits and pedestrian behaviors may be mediated by values.

1.3.3. Combined Effects of Traits and Values

As stated, the trait-value relationship is a widely studied issue in the literature. Their strong associations with each other were evidenced by many researchers (Grankvist & Kajonius, 2015; Olver & Mooradian, 2003; Roccas et al., 2002). Skimina, Ciecuch, and Strus (2018) reported that traits and values contribute to each other, and they are significant determinants of some outcome variables such as behaviors.

Some studies investigated the joint contribution of these two widely studied constructs. To illustrate, a study aiming to investigate the mediational role of values on the relationship between Big Five personality traits and political preferences revealed that openness, conscientiousness, and agreeableness predicted voters' political orientations through the mediation of universalism and security values (Caprara, Vecchione & Schwartz, 2009). On the other hand, Vecchione et al. (2012) examined the effect of values on the relationship between personality traits and perceptions of the consequences of immigration and reported that agreeableness predicted perceptions through the mediation of universalism value and openness predicted perceptions through the universalism and security values.

Although the associations of traits and values with pedestrian behaviors were examined separately, previous studies did not investigate their combined effects on pedestrian behaviors. These studies provide evidence for the mediational role of

values between Big Five personality traits and behaviors. Within this scope, the current study will address and investigate the mediating role of individual values on the relationship of Big Five personality traits with pedestrian behaviors.

1.4. Aim of the Study

As compared to driver behaviors, pedestrian behaviors are a relatively less studied topic in the literature, even though pedestrian-related accidents constitute the highest percentage among other vulnerable road user groups (Rosenbloom, Nemdorov & Barkan, 2004; WHO, 2018). Furthermore, pedestrians constitute a vulnerable road user group due to their unprotected state compared to drivers (WHO, 2018). Examining pedestrian behaviors would provide new theoretical and practical contributions for improving safety on roads.

In the current study, the main objective is to investigate the relationship between personality traits (extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism) and pedestrian behaviors (violations, lapses, aggressive behaviors, and positive behaviors) through the mediation of individual values and value dimensions (hedonism, stimulation, self-direction, achievement, power, conformity, tradition, security, universalism, benevolence, and openness-to-change, conservation, self-transcendence, self-enhancement) for the first time in the literature. Furthermore, to my best knowledge, there are relatively limited studies examining the associations of these variables with pedestrian behaviors.

The central assumption in this study is that personality traits may affect pedestrian behaviors indirectly. Personality traits associate with values (Olver & Mooradian, 2003; Parks-Leduc, Feldman & Bardi, 2015; Roccas et al., 2002), which might affect pedestrian behaviors. Values are of particular interest because they are motivational constructs guiding the selection and interpretation of actions. As a result, they have associations with traits and behaviors (Schwartz, 1992; Schwartz, 2012; Schwartz & Bilsky, 1987;).

Many studies indicated the relationship of values and traits in the relevant literature. However, no studies examining values as a mediator variable on the relationship between personality traits and pedestrian behaviors were found in the literature. For this reason, this will be the first study, aiming to contribute to the literature by examining the relationship between personality traits and pedestrian behaviors comprehensively by examining the mediation of individual values.

CHAPTER 2

METHOD

This section provides information regarding the methods and procedures used when analyzing the relationship between values, personality traits, and pedestrian behaviors. Information regarding the characteristics of the participants, the instruments used in the current and the procedure will be provided, respectively.

2.1. Participants

Prior to analyses, the data were checked for the accuracy of the data entry, outliers, and missing values. In sum, all the statistical analyses were conducted with 633 participants. The sample includes 361 female (57%) and 272 male (43%) participants. The age range was between 18 and 56, and the mean age was 26.07 years ($SD = 6.50$).

50.7% of participants were aged between 18-25 years representing the highest percentage, 39.2% were between 25-35, 8.4% were between 36-45, and only 1.7% were between 46-56. The majority of participants were university graduates (60%), followed by postgraduates (32.2%), high school graduates (7.3%), secondary school (0.3%), and elementary school graduates (0.2%), respectively. 57.7% of participants were from middle income level, followed by middle-to-high (21%), low-to-middle (15%), low (5.2%) and high (1.1%) income levels. 92.4% of participants reported no accidents, while approximately 7.4% reported accidents between 1-10 times, and one participant reported 15 accidents (0.2%) within the previous three years. 57% of participants reported 60 minutes as daily walking time, 34% reported between 60-119 minutes, and a minority of them (9%) reported between 120-180 minutes.

Most of them were reported no tickets (99.2%), and the rest reported one ticket. Sample characteristics were presented in detail in Table 1.

Table 1. Demographic Characteristics of Participants

<i>Characteristic</i>	<i>Category</i>	<i>Frequency</i>	<i>Percentage</i>
Age	Under 25	321	50.7
	25-35	248	39.2
	36-45	53	8.4
	46-56	11	1.7
Gender	Female	361	57
	Male	272	43
Education	Elementary School	1	0.2
	Secondary School	2	0.3
	High School	46	7.3
	Undergraduate	380	60
	Postgraduate	204	32.2
Socioeconomic Status	Low	33	5.2
	Low-to-middle	95	15
	Middle	365	57.7
	Middle-to-high	133	21
	High	7	1.1
Active and Passive accidents (within the previous 3 years)	Never	585	92.4
	1-10 times	47	7.4
	15 times	1	0.2
Daily walking time (minutes)	Less than 60 min	361	57
	60-119 min	215	34
	120 – 180 min	57	9
Tickets	Never	628	99.2
	1	5	0.8

2.2. Instruments

In this section, detailed information regarding instruments which are Demographic Information Form, Big Five Inventory, Portrait Values Questionnaire, and Pedestrian Behavior Scale will be presented.

2.2.1. Demographic Information Form

In this form, participants were expected to provide their demographic information and pedestrian-related information. This form included questions about age, gender, education, socio-economic level, involvement in active and passive accidents, tickets, and daily walking time (see Appendix C).

2.2.2. Pedestrian Behavior Scale

The Pedestrian Behavior scale was developed by Granie et al. (2013). It is a comprehensive scale based on the measures of driver aberrant behaviors, aggressive behaviors and positive behaviors (Lawton, Parker, Manstead & Stradling, 1997; Özkan and Lajunen, 2005; Reason, Manstead, Stradling, Baxter & Campbell, 1990). The scale was adapted into Turkish by Demir (2017) (see Appendix D). This adapted version of the scale was used in the current study. It is a four-factor scale with 20 items; violations (8 items), lapses (4 items), aggressive behaviors (4 items), and positive behaviors (4 items). Sample items include “I give way to the pedestrians I come across by stopping,” “I get angry at the drivers and hit their cars,” and “I walk across the parked cars.” Participants indicated their responses on a 7-point Likert scale. Higher scores indicate a higher tendency to perform the behavior on the item. Cronbach's coefficient alpha for the complete scale was found .81 for this study. Cronbach's coefficient alphas for violations, lapses, aggressive behaviors, and positive behaviors were found .86, .88, .81, and .62, respectively.

2.2.3. Big Five Inventory

The Big Five Inventory developed by Benet-Martinez and John (1998) aims to measure the five basic personality traits. The scale was adapted into Turkish by Sümer and Sümer (2002) (see Appendix E). It is a five-factor scale with 44 items; 10 items for openness to experience (“I see myself as curious about many different things), 8 items for neuroticism (“I see myself as depressed), 8 items for extraversion (“I see myself as talkative), 9 items for conscientiousness (“I see myself as someone who does things carefully and completely), and 9 items for agreeableness (“I see myself as helpful and unselfish with others). Each item on the scale comes from the sentence ‘I see myself as a person who...’. Participants rated the items on a 5-point scale from strongly disagree (1) to strongly agree (5). Higher scores on each subscale demonstrate a higher tendency to possess the trait. Cronbach's coefficient alpha for the complete scale was found .73 for this study. Cronbach's coefficient alphas for extraversion, agreeableness, neuroticism, openness, and conscientiousness were found as .82, .66, .80, .79, and .76, respectively.

2.2.4. Schwartz Portrait Values Questionnaire

The Portrait Values Questionnaire was developed by Schwartz and colleagues (2001). In the present study, pedestrians' values were measured using the Turkish translation of the scale (Demirutku & Sümer, 2010) (see Appendix F). It is composed of 40 sentence items. For each statement (40), participants were asked to respond using a 5-point Likert scale ranging from very much like me (6) to not like me at all (1) by answering the question “How much you are similar to this person?”. There are ten types of values which are hedonism, stimulation, self-direction, achievement, power, conformity, tradition, security, universalism, and benevolence. Sample items include “It is important for him to be rich. He wants to have a lot of money and expensive things,” and “He likes taking risks. He always pursues adventure.” First, ten value domain scores were created by averaging the item scores on a given value domain for each individual. Second, four scores for Self-

Enhancement, Openness to Change, Self-Transcendence, and Conservation were created by averaging the related value domain scores. Hedonism was included in openness-to-change value dimension (Schwartz, 2012). Higher scores state higher importance of the value for the individual. Cronbach's coefficient alpha for the complete scale was found .91 for this study. Cronbach's coefficient alphas for hedonism, stimulation, self-direction, achievement, power, conformity, tradition, security, universalism and benevolence were found as .78, .67, .72, .81, .66, .66, .54, .69, .83, and .66, respectively.

2.4. Procedure

Prior to data collection, ethical approval was obtained from METU Human Subjects Ethics Committee (HSEC, see Appendix A). After getting approval, surveys were prepared on the Qualtrics Online Survey Software program. Social media channels were used to distribute the study announcement. Participants were recruited by using convenience and snowball sampling to increase the representativeness of the sample. Also, SONA System, a software program enabling university students to reach the studies, was used to collect data by giving bonus points to the students who took part in the study.

In the inform consent form, participants were informed that the data obtained would be used for scientific purposes; and confidentiality and anonymity were assured (see Appendix B). After providing the consent form, participants who accepted voluntary participation were expected to fill out a questionnaire package, including a demographic information form, The Big Five Inventory, The Portrait Values Questionnaire, and Pedestrian Behavior Scale. After completing all of the measurements, participants were debriefed and thanked for their participation. This procedure took approximately 20 minutes.

CHAPTER 3

RESULTS

In this section, the results of the thesis will be given. Data management and analysis were performed using Statistical Package for Social Science (SPSS) 26. Firstly, the demographic characteristics of participants and descriptive statistics of the variables are provided. Afterward, bivariate correlations are provided to show the relationship between study variables. Lastly, the results of mediation analyses are given to show the mediational role of values on the relationship between personality traits and pedestrian behaviors.

3.1. Descriptive Statistics

The means of extraversion, agreeableness, conscientiousness, openness, power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, security, positive behaviors, openness to change, conservation, self-enhancement, and self-transcendence were above the midpoint of their scales. Means of neuroticism, violations, lapses, and aggressive behaviors are lower compared to others. Standard deviations differ between 0.09 and 34.55. Mean age of participants was 26.07. The standard deviation of the age was 6.51. The mean daily walking time is 52.28 minutes, with a standard deviation of 34.55. Table 2 presents descriptive statistics of the variables of interest for 633 participants.

Table 2. Descriptive Statistics for All Study Variables

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
1 Age	633	26.07	6.51	18.00	56.00
2 SES	633	2.98	0.78	1.00	5.00
3 Education	633	5.24	0.60	2.00	6.00
4 Accidents	633	0.16	0.93	0.00	15.00
5 Walking Time (min)	633	52.28	34.55	0.00	180.00
6 Tickets	633	0.01	0.09	0.00	1.00
7 Extraversion	633	3.31	0.78	1.00	5.00
8 Agreeableness	633	3.69	0.56	1.67	5.00
9 Neuroticism	633	2.99	0.80	1.00	5.00
10 Conscientiousness	633	3.65	0.64	1.78	5.00
11 Openness	633	3.83	0.59	1.40	5.00
12 Power	633	3.76	1.12	1.00	6.00
13 Achievement	633	4.30	1.11	1.00	6.00
14 Hedonism	633	4.60	1.06	1.00	6.00
15 Stimulation	633	4.32	1.05	1.00	6.00
16 Self-direction	633	5.00	0.80	1.00	6.00
17 Universalism	633	5.17	0.80	1.00	6.00
18 Benevolence	633	4.78	0.83	1.00	6.00
19 Tradition	633	3.68	1.00	1.00	6.00
20 Conformity	633	4.51	0.97	1.00	6.00
21 Security	633	4.70	0.91	1.20	6.00
22 Violation Beh.	633	3.12	1.15	1.00	6.88
23 Lapse Beh.	633	1.85	1.11	1.00	7.00
24 Aggressive Beh.	633	1.63	0.92	1.00	7.00
25 Positive Beh.	633	4.47	1.08	1.00	7.00
26 Openness to Change	633	4.64	0.81	1.11	6.00
27 Conservation	633	4.30	0.80	1.23	5.83
28 Self-Enhancement	633	4.03	0.99	1.00	6.00
29 Self- Transcendence	633	4.97	0.74	1.00	6.00

3.2. Bivariate Correlations of Study Variables

Bivariate correlation analysis was performed to examine the relationship between all study variables. As shown in Table 3, significant correlations were detected among variables.

Age was significantly positively related with education level ($r = .33, p < .01$), agreeableness ($r = .17, p < .01$), conscientiousness ($r = .27, p < .01$), openness ($r = .09, p < .05$), universalism ($r = .13, p < .01$), benevolence ($r = .17, p < .01$), tradition ($r = .30, p < .01$), conformity ($r = .24, p < .01$), security ($r = .19, p < .01$), and significantly negatively related to daily walking time ($r = .18, p < .01$), neuroticism ($r = .17, p < .01$), violations ($r = .33, p < .01$), lapses ($r = .17, p < .01$). Gender (Female=1; Male=2) significantly positively related with age ($r = .24, p < .01$), education level ($r = .11, p < .01$), daily walking time ($r = .08, p < .05$), tradition ($r = .10, p < .05$), violations ($r = .11, p < .01$), aggressive behaviors ($r = .14, p < .01$), positive behaviors ($r = .11, p < .01$), and significantly negatively related to socioeconomic status ($r = .09, p < .05$), neuroticism ($r = .20, p < .01$), hedonism ($r = .16, p < .01$). Socioeconomic status was significantly positively related with extraversion ($r = .14, p < .01$), agreeableness ($r = .09, p < .05$), conscientiousness ($r = .12, p < .01$), and significantly negatively related to daily walking time ($r = .10, p < .05$), tickets ($r = .11, p < .01$), neuroticism ($r = .20, p < .01$), universalism ($r = .10, p < .05$), lapses ($r = .09, p < .05$). Education was significantly positively related with agreeableness ($r = .09, p < .05$), conscientiousness ($r = .19, p < .01$), openness ($r = .11, p < .01$), tradition ($r = .14, p < .01$), conformity ($r = .11, p < .01$), security ($r = .11, p < .01$), and was significantly negatively related to daily walking time ($r = .10, p < .05$), hedonism ($r = .09, p < .05$), violations ($r = .16, p < .01$), lapses ($r = .09, p < .05$). Accidents was significantly positively related with extraversion ($r = .08, p < .05$) and openness ($r = .09, p < .05$). Daily walking time was significantly positively related with openness ($r = .09, p < .05$) and stimulation ($r = .08, p < .05$), and negatively related to tradition ($r = .10, p < .05$). Tickets was positively related to aggressive behaviors ($r = .08, p < .05$).

Extraversion was significantly positively related with agreeableness ($r = .23, p < .01$), conscientiousness ($r = .28, p < .01$), openness ($r = .39, p < .01$), power ($r = .17, p < .01$), achievement ($r = .14, p < .01$), hedonism ($r = .39, p < .01$), stimulation ($r = .40, p < .01$), self-direction ($r = .32, p < .01$), universalism ($r = .15, p < .01$) and benevolence ($r = .16, p < .01$), and negatively related to neuroticism ($r = .30, p < .01$). Agreeableness was significantly positively related with conscientiousness ($r = .27, p < .01$), openness ($r = .20, p < .01$), stimulation ($r = .11, p < .01$), self-direction ($r = .11, p < .01$), universalism ($r = .28, p < .01$), benevolence ($r = .46, p < .01$), tradition ($r = .24, p < .01$), conformity ($r = .22, p < .01$), security ($r = .18, p < .01$) and positive behaviors ($r = .14, p < .01$), and negatively related to neuroticism ($r = .40, p < .01$), power ($r = .17, p < .01$), achievement ($r = .09, p < .01$), violations ($r = .20, p < .01$), lapses ($r = .13, p < .01$) and aggressive behaviors ($r = .24, p < .01$). Neuroticism was significantly positively related with achievement ($r = .13, p < .01$), violations ($r = .11, p < .01$) and lapses ($r = .20, p < .01$), and negatively related to conscientiousness ($r = .33, p < .01$), openness ($r = .21, p < .01$), stimulation ($r = .09, p < .05$), self-direction ($r = .13, p < .01$) and benevolence ($r = .09, p < .05$). Conscientiousness was significantly positively related with openness ($r = .24, p < .01$), power ($r = .08, p < .05$), achievement ($r = .17, p < .01$), self-direction ($r = .20, p < .01$), universalism ($r = .20, p < .01$), benevolence ($r = .20, p < .01$), tradition ($r = .26, p < .01$), conformity ($r = .25, p < .01$), security ($r = .34, p < .01$) and positive behaviors ($r = .12, p < .01$), and negatively related to violations ($r = .28, p < .01$) and lapses ($r = .22, p < .01$). Openness was significantly positively related with power ($r = .13, p < .01$), achievement ($r = .14, p < .01$), hedonism ($r = .25, p < .01$), stimulation ($r = .39, p < .01$), self-direction ($r = .50, p < .01$), universalism ($r = .21, p < .01$), benevolence ($r = .15, p < .01$), security ($r = .10, p < .01$) and positive behaviors ($r = .17, p < .01$), and negatively related to violations ($r = .09, p < .01$).

Power was significantly positively related with achievement ($r = .57, p < .01$), hedonism ($r = .24, p < .01$), stimulation ($r = .25, p < .01$), self-direction ($r = .25, p < .01$), universalism ($r = .09, p < .05$), benevolence ($r = .17, p < .01$), conformity ($r = .21, p < .01$), security ($r = .29, p < .01$) and aggressive behaviors ($r = .08, p < .05$), and negatively related to positive behaviors ($r = .09, p < .05$). Achievement was

significantly positively related with hedonism ($r = .28, p < .01$), stimulation ($r = .32, p < .01$), self-direction ($r = .39, p < .01$), universalism ($r = .26, p < .01$), benevolence ($r = .29, p < .01$), tradition ($r = .11, p < .01$), conformity ($r = .37, p < .01$) and security ($r = .43, p < .01$). Hedonism was significantly positively related with stimulation ($r = .61, p < .01$), self-direction ($r = .47, p < .01$), universalism ($r = .36, p < .01$), benevolence ($r = .27, p < .01$), conformity ($r = .08, p < .05$) and security ($r = .22, p < .01$). Stimulation was significantly positively related with self-direction ($r = .55, p < .01$), universalism ($r = .42, p < .01$), benevolence ($r = .35, p < .01$), conformity ($r = .14, p < .01$) and security ($r = .26, p < .01$), and negatively related to aggressive behaviors ($r = .10, p < .05$). Self-direction was significantly positively related with universalism ($r = .58, p < .01$), benevolence ($r = .46, p < .01$), conformity ($r = .23, p < .01$), security ($r = .41, p < .01$) and positive behaviors ($r = .09, p < .05$), and negatively related to violations ($r = .14, p < .01$), lapses ($r = .19, p < .01$) and aggressive behaviors ($r = .23, p < .01$). Universalism was significantly positively related with benevolence ($r = .62, p < .01$), tradition ($r = .24, p < .01$), conformity ($r = .45, p < .01$), security ($r = .52, p < .01$) and positive behaviors ($r = .14, p < .01$), and negatively related to violations ($r = .24, p < .01$), lapses ($r = .20, p < .01$) and aggressive behaviors ($r = .30, p < .01$). Benevolence was significantly positively related with tradition ($r = .32, p < .01$), conformity ($r = .47, p < .01$) and security ($r = .51, p < .01$), and negatively related to violations ($r = .15, p < .01$), lapses ($r = .14, p < .01$) and aggressive behaviors ($r = .28, p < .01$). Tradition was significantly positively related with conformity ($r = .59, p < .01$) and security ($r = .43, p < .01$), and negatively related to violations ($r = .17, p < .01$), lapses ($r = .11, p < .01$) and aggressive behaviors ($r = .14, p < .01$). Conformity was significantly positively related with security ($r = .59, p < .01$) and positive behaviors ($r = .11, p < .01$), and negatively related to violations ($r = .25, p < .01$), lapses ($r = .17, p < .01$) and aggressive behaviors ($r = .19, p < .01$). Security was significantly positively related with positive behaviors ($r = .09, p < .05$), and negatively related to violations ($r = .25, p < .01$), lapses ($r = .17, p < .01$) and aggressive behaviors ($r = .23, p < .01$). Violations was significantly positively related with lapses ($r = .36, p < .01$) and aggressive behaviors ($r = .28, p < .01$). Lapses was significantly positively related

with aggressive behaviors ($r = .34, p <.01$) and negatively related to positive behaviors ($r = .10, p <.05$).

Openness to change was positively correlated with extraversion ($r = .42, p <.01$), agreeableness ($r = .11, p <.01$), openness ($r = .44, p <.01$), power ($r = .29, p <.01$), achievement ($r = .39, p <.01$), hedonism ($r = .85, p <.01$), stimulation ($r = .88, p <.01$), self-direction ($r = .77, p <.01$), universalism ($r = .53, p <.01$), benevolence ($r = .42, p <.01$), conformity ($r = .17, p <.01$), security ($r = .34, p <.01$), and negatively with neuroticism ($r = -.10, p <.05$) and aggressive behaviors ($r = -.15, p <.01$). Conservation was positively correlated with age ($r = .26, p <.01$), education ($r = .15, p <.01$), agreeableness ($r = .26, p <.01$), conscientiousness ($r = .34, p <.01$), power ($r = .21, p <.01$), achievement ($r = .36, p <.01$), hedonism ($r = .108, p <.05$), stimulation ($r = .19, p <.01$), self-direction ($r = .25, p <.01$), universalism ($r = .48, p <.01$), benevolence ($r = .52, p <.01$), tradition ($r = .82, p <.01$), conformity ($r = .87, p <.01$), security ($r = .80, p <.01$), positive behaviors ($r = .11, p <.01$), openness to change ($r = .20, p <.01$) and negatively with daily walking time ($r = -.08, p <.05$), violations ($r = -.27, p <.01$), lapses ($r = -.18, p <.01$) and aggressive behaviors ($r = -.22, p <.01$). Self-enhancement was correlated positively with extraversion ($r = .17, p <.01$), neuroticism ($r = .11, p <.01$), conscientiousness ($r = .14, p <.01$), openness ($r = .16, p <.01$), power ($r = .87, p <.01$), achievement ($r = .88, p <.01$), hedonism ($r = .30, p <.01$), stimulation ($r = .32, p <.01$), self-direction ($r = .36, p <.01$), universalism ($r = .20, p <.01$), benevolence ($r = .26, p <.01$), tradition ($r = .08, p <.05$), conformity ($r = .33, p <.01$), security ($r = .41, p <.01$), openness ($r = .38, p <.01$), conservation ($r = .32, p <.01$) and negatively with agreeableness ($r = .15, p <.01$) and positive behaviors ($r = -.08, p <.05$). Self-transcendence was correlated positively with age ($r = .13, p <.01$), extraversion ($r = .17, p <.01$), agreeableness ($r = .41, p <.01$), conscientiousness ($r = .22, p <.01$), openness ($r = .20, p <.01$), power ($r = .15, p <.01$), achievement ($r = .31, p <.01$), hedonism ($r = .35, p <.01$), stimulation ($r = .43, p <.01$), self-direction ($r = .58, p <.01$), universalism ($r = .90, p <.01$), benevolence ($r = .91, p <.01$), tradition ($r = .31, p <.01$), conformity ($r = .51, p <.01$), security ($r = .57, p <.01$), positive behaviors ($r = .11, p <.01$), openness-to-change ($r = .53, p <.01$), conservation (r

= .55, $p < .01$), self-enhancement ($r = .26, p < .01$) and negatively with violations ($r = -.21, p < .01$), lapses ($r = -.19, p < .01$) and aggressive behaviors ($r = -.32, p < .01$).

3.3. Mediation Analysis

Ten types of Schwartz values and four higher-order values were used as mediator variables in order to investigate the path from personality traits to pedestrian behaviors. Gender, age, and daily walking time were added as potential control variables to the analyses to define their effects on the results of mediation analyses. However, daily walking time had no significant associations as a control variable. It was not reported in the results.

Only significant results of the analyses are presented to prevent reporting lots of results. All mediation analyses were performed using the PROCESS Macro program (Hayes, 2020).

Results showed partial, full and inconsistent mediations of values on the relationship between personality traits and pedestrian behaviors. Partial mediation was described as the absence of direct effect after including the mediator on the model, whereas partial mediation was described as the decreased direct effect after including the mediator on the model (Baron & Kenny, 1986). In inconsistent mediation, mediator plays a role as suppressor and the direct effect becomes larger than the total effect after the including the mediator (Mackinnon et al., 2000).

Table 3. Bivariate Correlations of Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age	1.														
2 Gender (1=Female,2=Male)	.235**	1.													
3 SES	.010	-.094*	1.												
4 Education	.325**	.106**	-.026	1.											
5 Accidents	-.005	.018	.057	-.012	1.										
6 Time	-.176**	.081*	-.102*	-.100*	.017	1.									
7 Tickets	.004	.067	.111**	.024	.061	.072	1.								
8 Extraversion	.071	-.067	.139**	.065	.083*	.066	-.033	1.							
9 Agreeableness	.166**	-.032	.092*	.087*	.010	-.016	-.050	.227**	1.						
10 Neuroticism	-.167**	.203**	-.100*	-.061	.010	-.041	.043	.296**	.397**	1.					
11 Conscientiousness	.272**	-.008	.123**	.194**	.032	-.046	.008	.284**	.273**	.333**	1.				
12 Openness	.088*	.026	-.012	.109**	.089*	.092*	-.047	.393**	.203**	.212**	.241**	1.			
13 Power	.058	.061	.022	.018	.025	.009	.003	.156**	.168**	.069	.083*	.130**	1.		
14 Achievement	.004	.010	-.019	.020	.006	.010	.004	.141**	-.092*	.130**	.166**	.144**	.565**	1.	
15 Hedonism	-.063	.157**	.003	-.091*	.044	.008	-.017	.338**	.060	-.037	-.036	.250**	.240**	.284**	1.

** : Correlation is significant at the 0.01 level (2-tailed).

* : Correlation is significant at the 0.05 level (2-tailed).

Table 3. (Continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16 Stimulation	.008	-.037	.015	-.032	.054	.080*	-.022	.400**	.106**	-.094*	.048	.391**	.245**	.319**	.612**
17 Self-direction	.059	.024	-.025	-.009	.005	.073	-.062	.317**	.110**	.126**	.196**	.503**	.248**	.389**	.471**
18 Universalism	.130**	-.059	-.096*	.043	-.011	.064	-.067	.147**	.284**	-.050	.195**	.213**	.093*	.263**	.363**
19 Benevolence	.106**	-.045	-.043	.054	.028	.014	-.046	.160**	.456**	-.086*	.198**	.146**	.174**	.286**	.269**
20 Tradition	.296**	.095*	.030	.141**	.052	-.100*	.046	-.052	.244**	-.054	.255**	-.069	.037	.110**	-.078
21 Conformity	.243**	.042	-.022	.106**	.041	-.037	.008	-.034	.219**	.031	.252**	-.030	.206**	.371**	.079*
22 Security	.192**	-.031	-.025	.114**	.005	-.058	.006	.059	.177**	-.025	.344**	.104**	.290**	.428**	.222**
23 Violation Beh.	.329**	.113**	-.04	.158**	-.005	.074	.060	-.067	.201**	.106**	.282**	-.087*	.039	.012	.015
24 Lapse Beh.	.167**	-.060	-.085*	-.090*	.035	.050	.040	.007	.130**	.204**	.217**	-.069	.041	.006	-.024
25 Aggressive Beh.	.006	.136**	.003	-.039	.026	-.018	.084*	.023	.239**	.065	-.063	-.001	.084*	-.002	-.072
26 Positive Beh.	.073	.114**	-.014	.013	.011	-.008	.015	-.002	.142**	-.049	.119**	.116**	-.092*	-.057	.015
27 OpennesstoChange	-.005	-.076	-.001	-.056	.044	.062	-.037	.423**	.108**	-.098*	.070	.442**	.291**	.389**	.851**
28 Conservation	.295**	.045	-.006	.145**	.04	-.079*	.025	-.013	.257**	-.019	.339**	-.001	.209**	.359**	.084*
29 Self-Enhancement	.035	.040	.002	.021	.018	.010	.004	.168**	.147**	.112**	.141**	.155**	.886**	.883**	.296**
30 Self-Transcendence	.131**	-.057	-.076	.054	.010	.043	-.062	.170**	.413**	-.076	.218**	.199**	.149**	.305**	.350**

** : Correlation is significant at the 0.01 level (2-tailed).

* : Correlation is significant at the 0.05 level (2-tailed).

Table 3. (Continued)

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16 Stimulation	1.														
17 Self-direction	.551**	1.													
18 Universalism	.422**	.579**	1.												
19 Benevolence	.347**	.462**	.623**	1.											
20 Tradition	.069	.015	.241**	.322**	1.										
21 Conformity	.142**	.225**	.450**	.470**	.588**	1.									
22 Security	.261**	.405**	.520**	.505**	.434**	.586**	1.								
23 Violation Beh.	-.059	.138**	.237**	.147**	.168**	.253**	.245**	1.							
24 Lapse Beh.	-.013	.188**	.196**	.144**	.106**	.172**	.170**	.358**	1.						
25 Aggressive Beh.	-.099*	.234**	.303**	.278**	.136**	.187**	.233**	.279**	.344**	1.					
26 Positive Beh.	.028	.087*	.137**	.070	.074	.108**	.092*	-.055	-.096*	-.039	1.				
27 OpennesstoChange	.877**	.771**	.530**	.418**	.001	.170**	.342**	-.064	-.078	.151**	.047	1.			
28 Conservation	.186**	.252**	.481**	.517**	.820**	.874**	.799**	.266**	.179**	.221**	.110**	.199**	1.		
29 Self-Enhancement	.318**	.359**	.200**	.259**	.083*	.325**	.406**	.029	.027	.047	-.084*	.384**	.321**	1.	
30 Self-Transcendence	.426**	.577**	.897**	.905**	.313**	.511**	.568**	.212**	.188**	.322**	.114**	.525**	.554**	.256**	1.

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

3.3.1. Relationship Between Personality Traits and Values

Extraversion significantly predicted power ($b = .23$, $SE = 0.06$, $p < .001$), achievement ($b = .21$, $SE = 0.06$, $p < .001$), hedonism ($b = .46$, $SE = 0.05$, $p < .001$), stimulation ($b = .54$, $SE = 0.05$, $p < .001$), self-direction ($b = .32$, $SE = 0.04$, $p < .001$), universalism ($b = .13$, $SE = 0.04$, $p < .001$), benevolence ($b = .16$, $SE = 0.05$, $p < .001$), openness-to-change ($b = .44$, $SE = 0.04$, $p < .001$), self-enhancement ($b = .22$, $SE = 0.05$, $p < .001$), and self-transcendence ($b = .14$, $SE = 0.04$, $p < .001$).

Agreeableness significantly predicted power ($b = -.37$, $SE = 0.08$, $p < .001$), achievement ($b = -.19$, $SE = 0.08$, $p < .01$), stimulation ($b = .19$, $SE = 0.08$, $p < .001$), self-direction ($b = .15$, $SE = 0.06$, $p < .01$), universalism ($b = .38$, $SE = 0.06$, $p < .001$), benevolence ($b = .67$, $SE = 0.05$, $p < .001$), tradition ($b = .37$, $SE = 0.07$, $p < .001$), conformity ($b = .32$, $SE = 0.07$, $p < .001$), security ($b = .24$, $SE = 0.06$, $p < .001$), openness-to-change ($b = .15$, $SE = 0.06$, $p < .01$), conservation ($b = .31$, $SE = 0.05$, $p < .001$), self-enhancement ($b = -.28$, $SE = 0.07$, $p < .001$), and self-transcendence ($b = .52$, $SE = 0.05$, $p < .001$).

Neuroticism significantly predicted power ($b = .13$, $SE = 0.06$, $p < .05$), achievement ($b = .20$, $SE = 0.06$, $p < .001$), stimulation ($b = -.13$, $SE = 0.05$, $p < .01$), self-direction ($b = -.12$, $SE = 0.04$, $p < .01$), benevolence ($b = -.09$, $SE = 0.04$, $p < .05$), openness-to-change ($b = -.12$, $SE = 0.04$, $p < .01$), and self-enhancement ($b = .16$, $SE = 0.05$, $p < .001$).

Conscientiousness significantly predicted achievement ($b = .31$, $SE = 0.07$, $p < .001$), self-direction ($b = .24$, $SE = 0.05$, $p < .001$), universalism ($b = .21$, $SE = 0.05$, $p < .001$), benevolence ($b = .23$, $SE = 0.05$, $p < .001$), tradition ($b = .30$, $SE = 0.06$, $p < .001$), conformity ($b = .30$, $SE = 0.06$, $p < .001$), security ($b = .44$, $SE = 0.06$, $p < .001$), conservation ($b = .35$, $SE = 0.05$, $p < .001$), self-enhancement ($b = .22$, $SE = 0.06$, $p < .001$), and self-transcendence ($b = .22$, $SE = 0.05$, $p < .001$).

Openness to experience significantly predicted power ($b = .24$, $SE = 0.08$, $p < .001$), achievement ($b = .27$, $SE = 0.07$, $p < .001$), hedonism ($b = .46$, $SE = 0.07$, $p < .001$),

stimulation ($b = .69, SE = 0.07, p < .001$), self-direction ($b = .68, SE = 0.05, p < .001$), universalism ($b = .26, SE = 0.05, p < .001$), benevolence ($b = .19, SE = 0.06, p < .001$), tradition ($b = -.15, SE = 0.06, p < .01$), security ($b = .14, SE = 0.06, p < .05$), openness-to-change ($b = .61, SE = 0.05, p < .001$), and self-enhancement ($b = .26, SE = 0.07, p < .001$), and self-transcendence ($b = .23, SE = 0.05, p < .001$).

3.3.2. Mediation Analysis for Agreeableness and Violations

Self-direction value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when self-direction was eliminated from the model was significant ($b = -.28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted self-direction ($b = .15, SE = 0.06, p < .01$), and self-direction significantly predicted violation behavior ($b = -.16, SE = 0.05, p < .01$). As agreeableness increased, self-direction value also increased (and vice versa), and as self-direction increases, violation behavior decreases. Agreeableness significantly predicted violation behavior when it was mediated by self-direction ($b = -.26, SE = 0.08, p < .001$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.02, SE = .01, 95\% CI = -.051, -.002$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, agreeableness still predicted violation behavior. That is, self-direction partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).

Universalism value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when universalism was eliminated from the model was significant ($b = -.28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted universalism ($b = .38, SE = 0.06, p < .001$), and universalism significantly predicted violation behavior ($b = -.22, SE = 0.05, p < .001$). As agreeableness increased, universalism value also increased (and vice versa), and as universalism increased, violation

behavior decreased. Agreeableness significantly predicted violation behavior when it was mediated by universalism ($b = -.20, SE = 0.08, p < .05$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.08, SE = .03, 95\% CI = -.140, -.035$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, agreeableness still predicted violation behavior, which means that universalism partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).

Conformity value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when conformity was eliminated from the model was significant ($b = -.28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted conformity ($b = .32, SE = 0.08, p < .001$), and conformity significantly predicted violation behavior ($b = -.19, SE = 0.04, p < .001$). As agreeableness increased, conformity value also increased (and vice versa), and as conformity increases, violation behavior decreases. Agreeableness significantly predicted violation behavior when it was mediated by conformity ($b = -.22, SE = 0.08, p < .01$). When the indirect effect of conformity was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.06, SE = .02, 95\% CI = -.106, -.024$). It means that the effect was significant because the confident interval does not contain zero. After including conformity in the model, agreeableness still predicted violation behavior, which means that conformity partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).

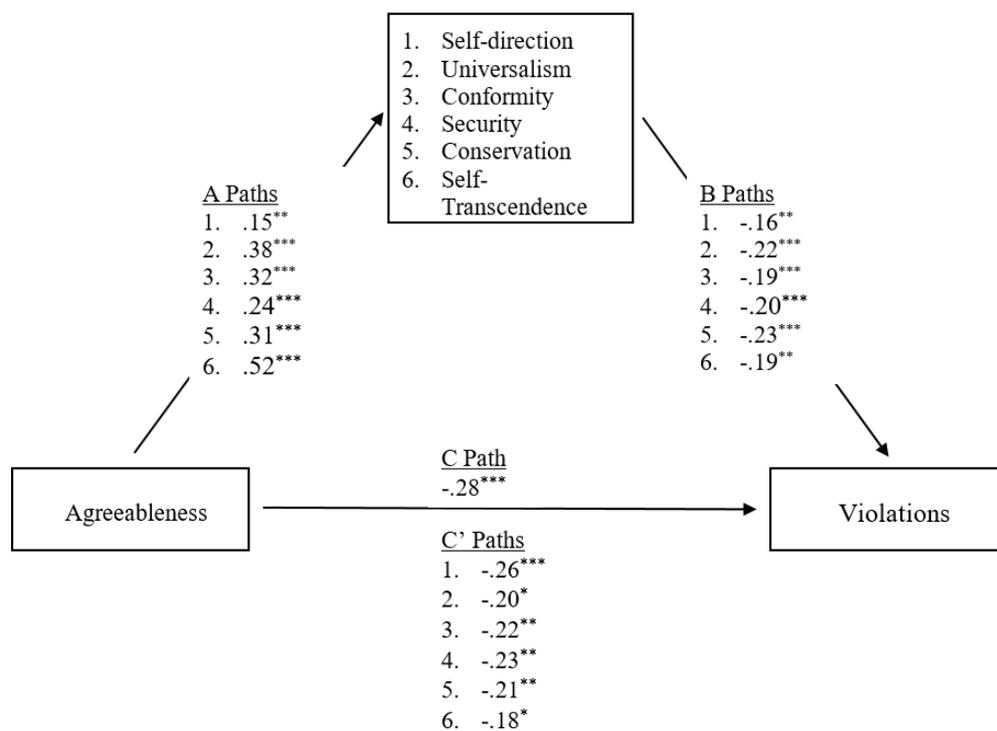
Security value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when security was eliminated from the model was significant ($b = -.28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted security ($b = .24, SE = 0.06, p < .001$), and security significantly predicted violation behavior ($b = -.20, SE = 0.05, p < .001$). As agreeableness increased, security value also increased (and vice versa), and as security increases, violation behavior decreases. Agreeableness significantly

predicted violation behavior when it was mediated by security ($b = -.23$, $SE = 0.08$, $p < .01$). When the indirect effect of security was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.088, -.015$). It means that the effect was significant because the confident interval does not contain zero. After including security in the model, agreeableness still predicted violation behavior, which means that security partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).

Conservation value dimension value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when conservation value dimension was eliminated from the model was significant ($b = -.28$, $SE = 0.08$, $p < .001$). Also, agreeableness significantly predicted conservation value dimension ($b = .31$, $SE = 0.05$, $p < .001$), and conservation value dimension significantly predicted violation behavior ($b = -.23$, $SE = 0.06$, $p < .001$). As agreeableness increased, conservation value dimension value also increased (and vice versa), and as conservation value dimension increases, violation behavior decreases. Agreeableness significantly predicted violation behavior when it was mediated by conservation value dimension ($b = -.21$, $SE = 0.08$, $p < .01$). When the indirect effect of conservation value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.07$, $SE = .02$, $95\% CI = -.120, -.028$). It means that the effect was significant because the confident interval does not contain zero. After including the conservation value dimension in the model, agreeableness still predicted violation behavior, which means that the conservation value dimension partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between agreeableness and violation behavior. Total effect of agreeableness on violation behavior when self-transcendence value dimension was eliminated from the model was significant ($b = -.28$, $SE = 0.08$, $p < .001$). Also,

agreeableness significantly predicted self-transcendence value dimension ($b = .52$, $SE = 0.05$, $p < .001$), and self-transcendence value dimension significantly predicted violation behavior ($b = -.19$, $SE = 0.06$, $p < .01$). As agreeableness increased, self-transcendence value dimension value also increased (and vice versa), and as self-transcendence value dimension increases, violation behavior decreases. Agreeableness significantly predicted violation behavior when it was mediated by self-transcendence value dimension ($b = -.18$, $SE = 0.08$, $p < .05$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.10$, $SE = .04$, $95\% CI = -.168, -.022$). It means that the effect was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, agreeableness still predicted violation behavior, which means that the self-transcendence value dimension partially mediates the effect of agreeableness on violations (See Figure 2 and Table 4 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 2. The relationship between agreeableness and violations as mediated by values

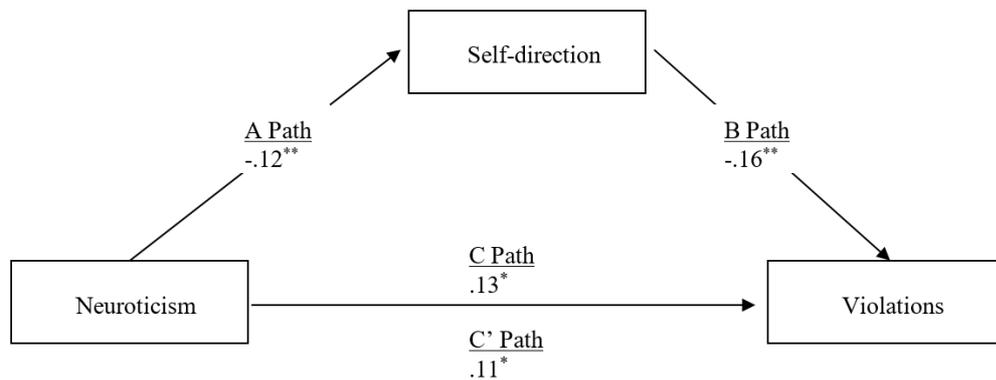
Table 4. Mediation of values on agreeableness and violations relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction 95% CI [-.051, -.002]	-0.02	0.01	26.82***	.18
Age	-0.06***	0.01		
Gender	0.45***	0.09		
Universalism 95% CI [-.140, -.035]	-0.08	0.08	28.78***	.19
Age	-0.06***	0.01		
Gender	0.41***	0.09		
Conformity 95% CI [-.106, -.024]	-0.06	0.02	29.03***	.19
Age	-0.06***	0.01		
Gender	0.44***	0.09		
Security 95% CI [-.088, -.015]	-0.05	0.02	28.99***	.19
Age	-0.06***	0.01		
Gender	0.42***	0.09		
Conservation 95% CI [-.119, -.028]	-0.07	0.02	28.62***	.43
Age	-0.06***	0.01		
Gender	0.44***	0.09		
Self-transcendence 95% CI [-.168, -.022]	-0.09	0.04	26.88***	.42
Age	-0.06***	0.01		
Gender	0.42***	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.3. Mediation Analysis for Neuroticism and Violations

Self-direction value was the mediator variable on the relationship between neuroticism and violation behavior. Total effect of neuroticism on violation behavior when self-direction was eliminated from the model was significant ($b = .13$, $SE = 0.05$, $p < .05$). Also, neuroticism significantly predicted self-direction ($b = -.12$, $SE = 0.04$, $p < .01$), and self-direction significantly predicted violation behavior ($b = -.16$, $SE = 0.05$, $p < .01$). As neuroticism increases, self-direction value decreases (and vice versa), and as self-direction increases, violation behavior decreases. Neuroticism significantly predicted violation behavior when it was mediated by self-direction ($b = .11$, $SE = 0.05$, $p < .05$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .02$, $SE = .01$, $95\% CI = .003, -.041$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, neuroticism still predicted violation behavior, which means that self-direction partially mediates the effect of neuroticism on violations (See Figure 3 and Table 5 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 3. The relationship between neuroticism and violations as mediated by values

Table 5. Mediation of values on neuroticism and violations relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction	0.02	0.01	28.99***	.19
95% CI [.003, .041]				
Age	-0.06***	0.00		
Gender	0.50***	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.4. Mediation Analysis for Conscientiousness and Violations

Self-direction value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on violation behavior when self-direction was eliminated from the model was significant ($b = -.35$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted self-direction ($b = .25$, $SE = 0.05$, $p < .001$), and self-direction significantly predicted violation behavior ($b = -.13$, $SE = 0.05$, $p < .05$). As conscientiousness increased, self-direction value also increased (and vice versa), and as self-direction increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by self-direction ($b = -.32$, $SE = 0.07$, $p < .001$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.03$, $SE = .02$, $95\% CI = -.066, -.002$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, conscientiousness still predicted violation behavior, which means that self-direction partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).

Universalism value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on violation behavior when universalism was eliminated from the model was significant ($b = -.35$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly

predicted universalism ($b = .21, SE = 0.05, p < .001$), and universalism significantly predicted violation behavior ($b = -.22, SE = 0.05, p < .001$). As conscientiousness increased, universalism value also increased (and vice versa), and as universalism increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by universalism ($b = -.30, SE = 0.07, p < .001$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05, SE = .02, 95\% CI = -.082, -.016$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, conscientiousness still predicted violation behavior, which means that universalism partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).

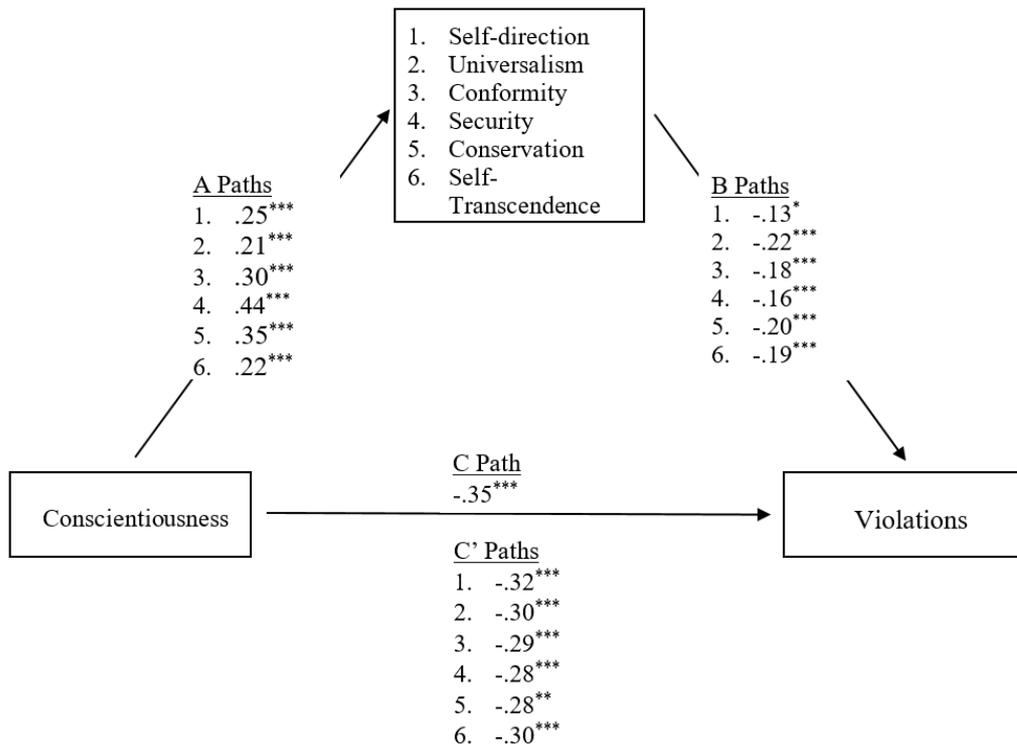
Conformity value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on violation behavior when conformity was eliminated from the model was significant ($b = -.35, SE = 0.07, p < .001$). Also, conscientiousness significantly predicted conformity ($b = .30, SE = 0.06, p < .001$), and conformity significantly predicted violation behavior ($b = -.18, SE = 0.04, p < .001$). As conscientiousness increased, conformity value also increased (and vice versa), and as conformity increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by conformity ($b = -.29, SE = 0.07, p < .001$). When the indirect effect of conformity was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05, SE = .02, 95\% CI = -.095, -.018$). It means that the effect was significant because the confident interval does not contain zero. After including conformity in the model, conscientiousness still predicted violation behavior, which means that conformity partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).

Security value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on

violation behavior when security was eliminated from the model was significant ($b = -.35, SE = 0.08, p < .001$). Also, conscientiousness significantly predicted security ($b = .44, SE = 0.06, p < .001$), and security significantly predicted violation behavior ($b = -.16, SE = 0.05, p < .001$). As conscientiousness increased, security value also increased (and vice versa), and as security increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by security ($b = -.28, SE = 0.07, p < .001$). When the indirect effect of security was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.07, SE = .03, 95\% CI = -.125, -.023$). It means that the effect was significant because the confident interval does not contain zero. After including security in the model, conscientiousness still predicted violation behavior, which means that security partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).

Conservation value dimension value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on violation behavior when conservation value dimension was eliminated from the model was significant ($b = -.35, SE = 0.07, p < .001$). Also, conscientiousness significantly predicted conservation value dimension ($b = .35, SE = 0.05, p < .001$), and conservation value dimension significantly predicted violation behavior ($b = -.20, SE = 0.06, p < .001$). As conscientiousness increased, conservation value dimension value also increased (and vice versa), and as conservation value dimension increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by conservation value dimension ($b = -.28, SE = 0.07, p < .001$). When the indirect effect of conservation value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.07, SE = .02, 95\% CI = -.120, -.020$). It means that the effect was significant because the confident interval does not contain zero. After including the conservation value dimension in the model, conscientiousness still predicted violation behavior, which means that the conservation value dimension partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between conscientiousness and violation behavior. Total effect of conscientiousness on violation behavior when self-transcendence value dimension was eliminated from the model was significant ($b = -.35, SE = 0.07, p < .001$). Also, conscientiousness significantly predicted self-transcendence value dimension ($b = .22, SE = 0.05, p < .001$), and self-transcendence value dimension significantly predicted violation behavior ($b = -.19, SE = 0.06, p < .001$). As conscientiousness increased, self-transcendence value dimension value also increased (and vice versa), and as self-transcendence value dimension increases, violation behavior decreases. Conscientiousness significantly predicted violation behavior when it was mediated by self-transcendence value dimension ($b = -.30, SE = 0.07, p < .001$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04, SE = .02, 95\% CI = -.079, -.012$). It means that the effect was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, conscientiousness still predicted violation behavior, which means that the self-transcendence value dimension partially mediates the effect of conscientiousness on violations (See Figure 4 and Table 6 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 4. The relationship between conscientiousness and violations as mediated by values

Table 6. Mediation of values on conscientiousness and violations relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [-.066, -.002]	-0.03	0.02	29.18***	.19
Age	-0.06***	0.01		
Gender	0.44***	0.09		
Universalism				
95% CI [-.082, -.016]	-0.05	0.02	32.10***	.20
Age	-0.05***	0.01		
Gender	0.40***	0.09		
Conformity				
95% CI [-.095, -.018]	-0.05	0.02	31.55***	.20
Age	-0.05***	0.01		
Gender	0.43***	0.09		
Security				
95% CI [-.125, -.023]	-0.07	0.03	30.44***	.20
Age	-0.05***	0.01		
Gender	0.42***	0.09		
Conservation				
95% CI [-.120, -.021]	-0.07	0.02	30.69***	.44
Age	-0.05***	0.01		
Gender	0.43***	0.09		
Self-transcendence				
95% CI [-.079, -.012]	-0.04	0.02	30.53***	.44
Age	-0.05***	0.01		
Gender	0.40***	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.5. Mediation Analysis for Agreeableness and Lapses

Self-direction value was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when self-direction was eliminated from the model was significant ($b = -.22, SE = 0.08, p < .01$). Also, agreeableness significantly predicted self-direction ($b = .18, SE = 0.06, p < .01$), and self-direction significantly predicted lapses ($b = -.24, SE = 0.05, p < .001$). As agreeableness increases, self-direction value also increases (and vice versa), and as self-direction increases, lapses decreases. Agreeableness significantly predicted lapses when it was mediated by self-direction ($b = -.18, SE = 0.08, p < .05$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04, SE = .02, 95\% CI = -.076, -.005$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, agreeableness still predicted lapses, which means that self-direction partially mediates the effect of agreeableness on lapses (See Figure 5 and Table 7 for detailed results).

Universalism value was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when universalism was eliminated from the model was significant ($b = -.22, SE = 0.08, p < .01$). Also, agreeableness significantly predicted universalism ($b = .38, SE = 0.06, p < .001$), and universalism significantly predicted lapses ($b = -.23, SE = 0.06, p < .001$). As agreeableness increases, universalism value also increases (and vice versa), and as universalism increases, lapses decrease. Agreeableness did not predict lapses when it was mediated by universalism ($b = -.13, SE = 0.08, p = .121$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.09, SE = .03, 95\% CI = -.157, -.035$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, agreeableness did not predict lapses, which means that universalism fully mediates the effect of agreeableness on lapses (See Figure 5 and Table 7 for detailed results).

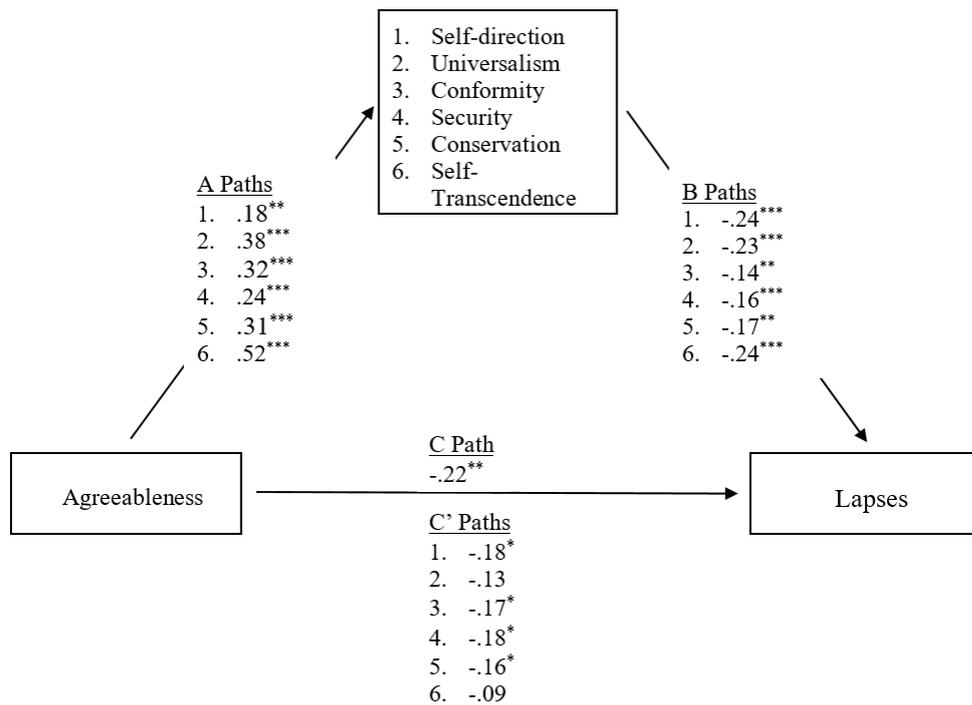
Conformity value was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when conformity was eliminated from the model was significant ($b = -.22, SE = 0.08, p < .01$). Also, agreeableness significantly predicted conformity ($b = .32, SE = 0.07, p < .001$), and conformity significantly predicted lapses ($b = -.14, SE = 0.05, p < .01$). As agreeableness increases, conformity value also increases (and vice versa), and as conformity increases, lapses decrease. Agreeableness significantly predicted lapses when it was mediated by conformity ($b = -.17, SE = 0.08, p < .05$). When the indirect effect of conformity was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05, SE = .02, 95\% CI = -.089, -.011$). It means that the effect was significant because the confident interval does not contain zero. After including conformity in the model, agreeableness still predicted lapses, which means that conformity partially mediates the effect of agreeableness on lapses (See Figure 5 and Table 7 for detailed results).

Security value was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when security was eliminated from the model was significant ($b = -.22, SE = 0.08, p < .01$). Also, agreeableness significantly predicted security ($b = .24, SE = 0.06, p < .001$), and security significantly predicted lapses ($b = -.16, SE = 0.05, p < .001$). As agreeableness increases, security value also increases (and vice versa), and as security increases, lapses decrease. Agreeableness significantly predicted lapses when it was mediated by security ($b = -.18, SE = 0.08, p < .05$). When the indirect effect of security was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04, SE = .02, 95\% CI = -.075, -.009$). It means that the effect was significant because the confident interval does not contain zero. After including security in the model, agreeableness still predicted lapses, which means that security partially mediates the effect of agreeableness on lapses. The results supported partial mediation (See Figure 5 and Table 7 for detailed results).

Conservation value dimension value was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when

conservation value dimension was eliminated from the model was significant ($b = -.22$, $SE = 0.08$, $p < .01$). Also, agreeableness significantly predicted conservation value dimension ($b = .31$, $SE = 0.05$, $p < .001$), and conservation value dimension significantly predicted lapses ($b = -.17$, $SE = 0.06$, $p < .01$). As agreeableness increased, conservation value dimension value also increased (and vice versa), and as conservation value dimension increases, lapses decreases. Agreeableness significantly predicted lapses when it was mediated by conservation value dimension ($b = -.16$, $SE = 0.08$, $p < .05$). When the indirect effect of conservation value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.199, -.013$). It means that the effect was significant because the confident interval does not contain zero. After including the conservation value dimension in the model, agreeableness still predicted lapses, which means that the conservation value dimension partially mediates the effect of agreeableness on lapses. The results supported partial mediation (See Figure 5 and Table 7 for detailed results).

Self-transcendence was the mediator variable on the relationship between agreeableness and lapses. Total effect of agreeableness on lapses when self-transcendence was eliminated from the model was significant ($b = -.22$, $SE = 0.08$, $p < .01$). Also, agreeableness significantly predicted self-transcendence ($b = .52$, $SE = 0.05$, $p < .001$), and self-transcendence significantly predicted lapses ($b = -.24$, $SE = 0.06$, $p < .001$). As agreeableness increases, self-transcendence also increases (and vice versa), and as self-transcendence increases, lapses decrease. Agreeableness did not predict lapses when it was mediated by self-transcendence ($b = -.09$, $SE = 0.09$, $p = .296$). When the indirect effect of self-transcendence was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.13$, $SE = .05$, $95\% CI = -.219, -.037$). It means that the effect was significant because the confident interval does not contain zero. After including self-transcendence in the model, agreeableness did not predict lapses, which means that self-transcendence fully mediates the effect of agreeableness on lapses. The results supported full mediation (See Figure 5 and Table 7 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 5. The relationship between agreeableness and lapses as mediated by values

Table 7. Mediation of values on agreeableness and lapses relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [-.076, -.005]	-0.04	0.02	9.36***	.26
Age	-0.02**	0.01		
Gender	-0.07	0.09		
Universalism				
95% CI [-.157, -.035]	-0.09	0.03	8.83***	.32
Age	-0.02**	0.01		
Gender	-0.11	0.09		
Conformity				
95% CI [-.089, -.011]	-0.05	0.02	7.19***	.23
Age	-0.02**	0.01		
Gender	0.08	0.09		

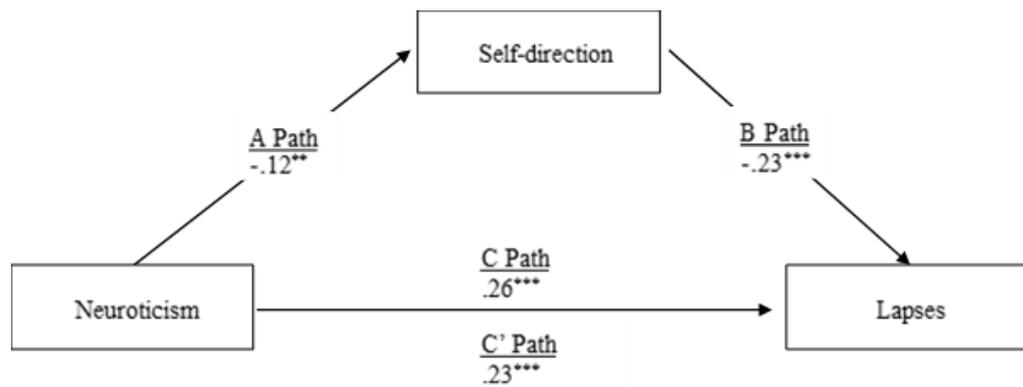
Table 7. (Continued)

Security				
95% CI [-.075, -.009]	-0.04	0.01	7.54***	.24
Age	-0.02**	0.01		
Gender	-0.09	0.09		
Conservation				
95% CI [-.099, -.013]	-0.05	0.02	7.07***	.23
Age	-0.02*	0.01		
Gender	-0.08	0.09		
Self-transcendence				
95% CI [-.219, -.037]	-0.13	0.05	8.09***	.25
Age	-0.02**	0.01		
Gender	-0.10	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.6. Mediation Analysis for Neuroticism and Lapses

Self-direction value was the mediator variable on the relationship between neuroticism and lapses. Total effect of neuroticism on lapses when self-direction was eliminated from the model was significant ($b = .26$, $SE = 0.06$, $p < .001$). Also, neuroticism significantly predicted self-direction ($b = -.12$, $SE = 0.04$, $p < .01$), and self-direction significantly predicted lapses ($b = -.23$, $SE = 0.05$, $p < .001$). As neuroticism increases, self-direction value decreases (and vice versa), and as self-direction increases, lapses decreases. Neuroticism significantly predicted lapses when it was mediated by self-direction ($b = .23$, $SE = 0.06$, $p < .001$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03$, $SE = .01$, $95\% CI = .006, .053$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, neuroticism still predicted lapses, which means that self-direction partially mediates the effect of neuroticism on lapses (See Figure 6 and Table 8 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 6. The relationship between neuroticism and lapses as mediated by self-direction

Table 8. Mediation of values on neuroticism and lapses relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [.007, .053]	0.03	0.01	11.95***	.29
Age	-0.02**	0.01		
Gender	0.01	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.7. Mediation Analysis for Conscientiousness and Lapses

Self-direction value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when self-direction was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted self-direction ($b = .24$, $SE = 0.05$, $p < .001$), and self-direction significantly predicted lapses ($b = -.21$, $SE = 0.05$, $p < .001$). As conscientiousness increases, self-direction value also increases (and vice versa), and as self-direction increases, lapses decreases. Conscientiousness significantly predicted lapses when it was mediated by self-direction ($b = -.27$, $SE = 0.07$, $p < .001$). When the indirect effect of self-direction was investigated via

bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.098, -.016$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, conscientiousness still predicted lapses, which means that self-direction partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

Universalism value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when universalism was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted universalism ($b = .21$, $SE = 0.05$, $p < .001$), and universalism significantly predicted lapses ($b = -.22$, $SE = 0.05$, $p < .001$). As conscientiousness increases, universalism value also increases (and vice versa), and as universalism increases, lapses decrease. Conscientiousness significantly predicted lapses when it was mediated by universalism ($b = -.28$, $SE = 0.07$, $p < .001$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.091, -.013$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, conscientiousness still predicted lapses, which means that universalism partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

Benevolence value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when benevolence was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted benevolence ($b = .23$, $SE = 0.05$, $p < .001$), and benevolence significantly predicted lapses ($b = -.14$, $SE = 0.05$, $p < .01$). As conscientiousness increases, benevolence value also increases (and vice versa), and as benevolence increases, lapses decrease. Conscientiousness significantly predicted lapses when it was mediated by benevolence ($b = -.29$, $SE = 0.07$, $p < .001$). When the indirect effect of benevolence was investigated via

bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.03$, $SE = .02$, $95\% CI = -.073, -.004$). It means that the effect was significant because the confident interval does not contain zero. After including benevolence in the model, conscientiousness still predicted lapses, which means that benevolence partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

Conformity value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when conformity was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted conformity ($b = .30$, $SE = 0.06$, $p < .001$), and conformity significantly predicted lapses ($b = -.12$, $SE = 0.05$, $p < .01$). As conscientiousness increases, conformity value also increases (and vice versa), and as conformity increases, lapses decrease. Conscientiousness significantly predicted lapses when it was mediated by conformity ($b = -.29$, $SE = 0.07$, $p < .001$). When the indirect effect of conformity was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04$, $SE = .02$, $95\% CI = -.078, -.005$). It means that the effect was significant because the confident interval does not contain zero. After including conformity in the model, conscientiousness still predicted lapses, which means that conformity partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

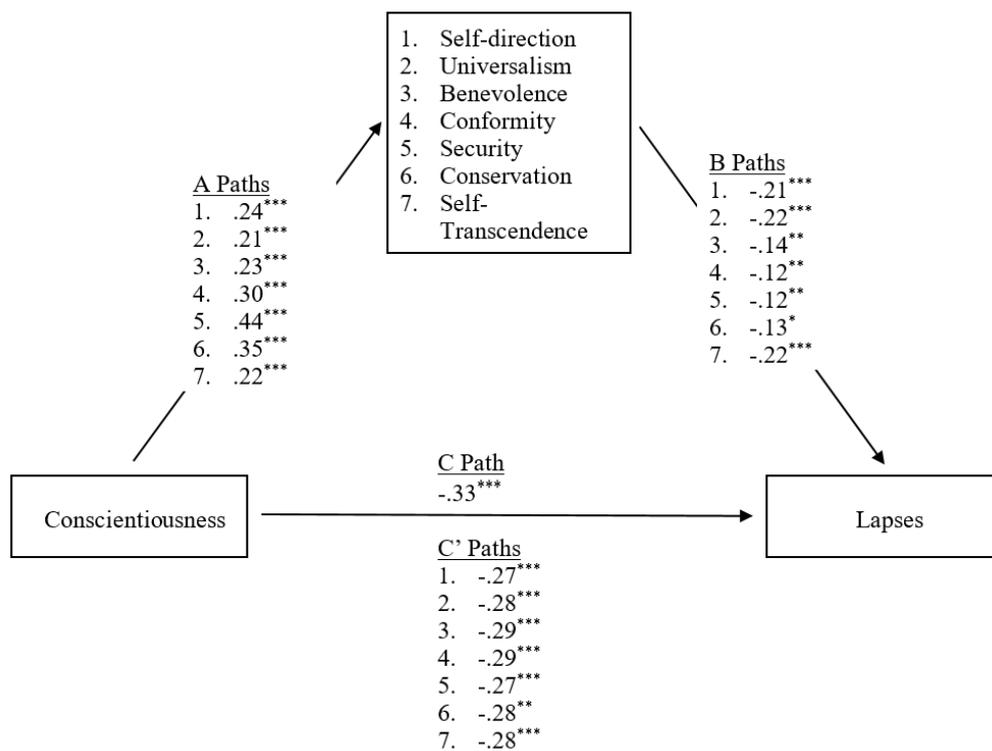
Security value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when security was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted security ($b = .44$, $SE = 0.06$, $p < .001$), and security significantly predicted lapses ($b = -.12$, $SE = 0.05$, $p < .05$). As conscientiousness increases, security value also increases (and vice versa), and as security increases, lapses decrease. Conscientiousness significantly predicted lapses when it was mediated by security ($b = -.27$, $SE = 0.07$, $p < .001$). When the indirect effect of security was investigated via bootstrap estimation approach with

5000 samples, the effect was found significant ($b = -.05$, $SE = .03$, $95\% CI = -.109$, $-.004$). It means that the effect was significant because the confident interval does not contain zero. After including security in the model, conscientiousness still predicted lapses, which means that security partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

Conservation value dimension value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when conservation value dimension was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted conservation value dimension ($b = .35$, $SE = 0.05$, $p < .001$), and conservation value dimension significantly predicted lapses ($b = -.13$, $SE = 0.06$, $p < .05$). As conscientiousness increased, conservation value dimension value also increased (and vice versa), and as conservation value dimension increases, lapses decreases. Conscientiousness significantly predicted lapses when it was mediated by conservation value dimension ($b = -.28$, $SE = 0.07$, $p < .001$). When the indirect effect of conservation value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.095$, $-.002$). It means that the effect was significant because the confident interval does not contain zero. After including conservation value dimension in the model, conscientiousness still predicted lapses which means that conservation value dimension partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between conscientiousness and lapses. Total effect of conscientiousness on lapses when self-transcendence value dimension was eliminated from the model was significant ($b = -.33$, $SE = 0.07$, $p < .001$). Also, conscientiousness significantly predicted self-transcendence value dimension ($b = .22$, $SE = 0.05$, $p < .001$), and self-transcendence value dimension significantly predicted lapses ($b = -.22$, $SE = 0.06$, $p < .001$). As conscientiousness increased, self-transcendence value dimension value also increased (and vice versa), and as self-transcendence value dimension

increases, lapses decreases. Conscientiousness significantly predicted lapses when it was mediated by self-transcendence value dimension ($b = -.28$, $SE = 0.07$, $p < .001$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.096, -.014$). It means that the effect was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, conscientiousness still predicted lapses, which means that the self-transcendence value dimension partially mediates the effect of conscientiousness on lapses (See Figure 7 and Table 9 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 7. The relationship between conscientiousness and lapses as mediated by values

Table 9. Mediation of values on conscientiousness and lapses relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [-.098, -.016]	-0.05	0.02	11.49***	.29
Age	-0.02*	0.01		
Gender	-0.08	0.09		
Universalism				
95% CI [-.091, -.013]	-0.05	0.02	11.76***	.29
Age	-0.01*	0.01		
Gender	-0.12	0.09		
Benevolence				
95% CI [-.098, -.016]	-0.03	0.02	9.69***	.27
Age	-0.02*	0.01		
Gender	-0.10	0.09		
Conformity				
95% CI [-.078, -.005]	-0.04	0.02	9.74***	.27
Age	-0.01	0.01		
Gender	-0.09	0.09		
Security				
95% CI [-.109, -.004]	-0.05	0.03	9.45***	.26
Age	-0.02*	0.01		
Gender	-0.10	0.09		
Conservation				
95% CI [-.095, -.002]	-0.05	0.02	9.35***	.26
Age	-0.01	0.01		
Gender	-0.09	0.09		
Self-transcendence				
95% CI [-.096, -.014]	-0.05	0.02	11.17***	.29
Age	-0.01*	0.01		
Gender	-0.12	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.8. Mediation Analysis for Agreeableness and Aggressive Behaviors

Self-direction value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when self-direction was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted self-direction ($b = .15$, $SE = 0.06$, $p < .01$), and self-direction significantly predicted aggressive behaviors ($b = -.25$, $SE = 0.04$, $p < .001$). As agreeableness increases, self-direction value also increases (and vice versa), and as self-direction increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by self-direction ($b = -.36$, $SE = 0.06$, $p < .001$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04$, $SE = .02$, $95\% CI = -.076$, $-.006$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, agreeableness still predicted aggressive behaviors, which means that self-direction partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

Universalism value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when universalism was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted universalism ($b = .38$, $SE = 0.06$, $p < .001$), and universalism significantly predicted aggressive behaviors ($b = -.29$, $SE = 0.05$, $p < .001$). As agreeableness increases, universalism value also increases (and vice versa), and as universalism increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by universalism ($b = -.28$, $SE = 0.07$, $p < .001$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.11$, $SE = .03$, $95\% CI = -.179$, $-.053$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, agreeableness still

predicted aggressive behaviors, which means that universalism partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

Benevolence value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when benevolence was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted benevolence ($b = .67$, $SE = 0.05$, $p < .001$), and benevolence significantly predicted aggressive behaviors ($b = -.23$, $SE = 0.05$, $p < .001$). As agreeableness increases, benevolence value also increases (and vice versa), and as benevolence increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by benevolence ($b = -.24$, $SE = 0.07$, $p < .001$). When the indirect effect of benevolence was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.16$, $SE = .05$, $95\% CI = -.241, -.067$). It means that the effect was significant because the confident interval does not contain zero. After including benevolence in the model, agreeableness still predicted aggressive behaviors, which means that benevolence partially mediates the effect of agreeableness on aggressive behaviors. The results supported partial mediation (See Figure 8 and Table 10 for detailed results).

Tradition value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when tradition was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted tradition ($b = .37$, $SE = 0.07$, $p < .001$), and tradition significantly predicted aggressive behaviors ($b = -.10$, $SE = 0.04$, $p < .01$). As agreeableness increases, tradition value also increases (and vice versa), and as tradition increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by tradition ($b = -.36$, $SE = 0.07$, $p < .001$). When the indirect effect of tradition was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.04$, $SE = .02$, $95\% CI = -.175, -.008$). It means that the effect was significant

because the confident interval does not contain zero. After including tradition in the model, agreeableness still predicted aggressive behaviors, which means that tradition partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

Conformity value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when conformity was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted conformity ($b = .32$, $SE = 0.07$, $p < .001$), and conformity significantly predicted aggressive behaviors ($b = -.15$, $SE = 0.04$, $p < .001$). As agreeableness increases, conformity value also increases (and vice versa), and as conformity increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by conformity ($b = -.35$, $SE = 0.07$, $p < .001$). When the indirect effect of conformity was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.05$, $SE = .02$, $95\% CI = -.089, -.015$). It means that the effect was significant because the confident interval does not contain zero. After including conformity in the model, agreeableness still predicted aggressive behaviors, which means that conformity partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

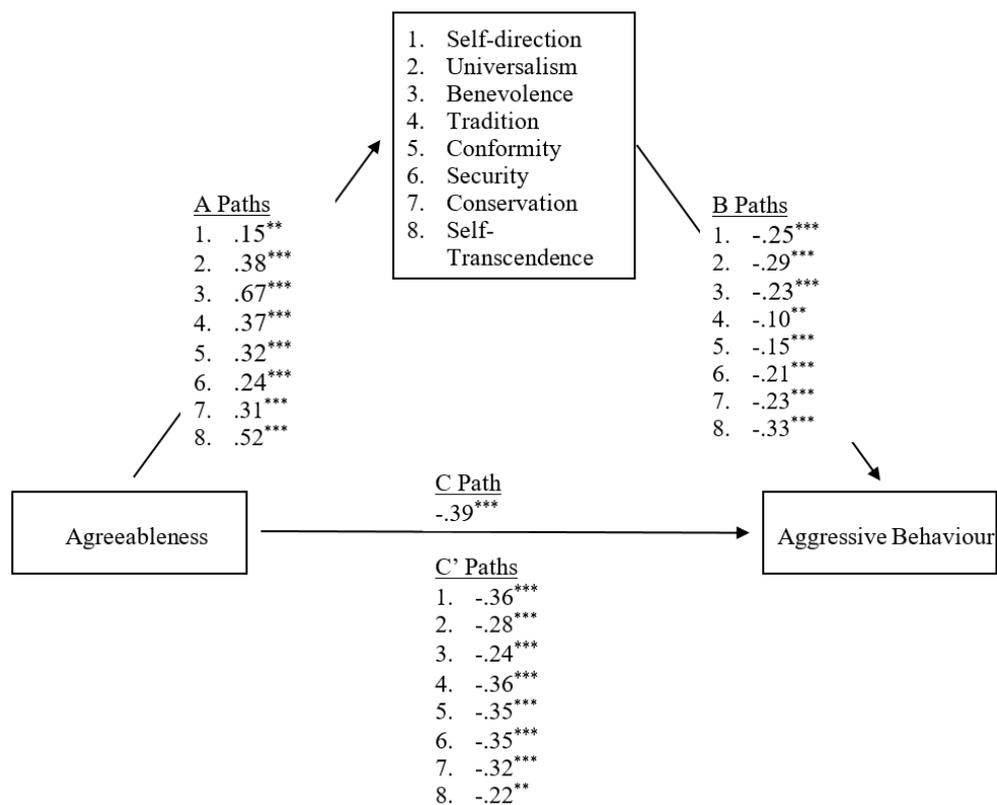
Security value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when security was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted security ($b = .24$, $SE = 0.06$, $p < .001$), and security significantly predicted aggressive behaviors ($b = -.21$, $SE = 0.04$, $p < .001$). As agreeableness increases, security value also increases (and vice versa), and as security increases, aggressive behaviors decrease. Agreeableness significantly predicted aggressive behaviors when it was mediated by security ($b = -.35$, $SE = 0.06$, $p < .001$). When the indirect effect of security was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant

($b = -.05$, $SE = .02$, $95\% CI = -.088, -.017$). It means that the effect was significant because the confident interval does not contain zero. After including security in the model, agreeableness still predicted aggressive behaviors, which means that security partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

Conservation value dimension value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when conservation value dimension was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted conservation value dimension ($b = .31$, $SE = 0.05$, $p < .001$), and conservation value dimension significantly predicted aggressive behaviors ($b = -.23$, $SE = 0.05$, $p < .001$). As agreeableness increased, conservation value dimension value also increased (and vice versa), and as conservation value dimension increases, aggressive behaviors decreases. Agreeableness significantly predicted aggressive behaviors when it was mediated by conservation value dimension ($b = -.32$, $SE = 0.07$, $p < .001$). When the indirect effect of conservation value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.07$, $SE = .02$, $95\% CI = -.118, -.029$). It means that the effect was significant because the confident interval does not contain zero. After including the conservation value dimension in the model, agreeableness still predicted aggressive behaviors, which means that the conservation value dimension partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between agreeableness and aggressive behaviors. Total effect of agreeableness on aggressive behaviors when self-transcendence value dimension was eliminated from the model was significant ($b = -.39$, $SE = 0.06$, $p < .001$). Also, agreeableness significantly predicted self-transcendence value dimension ($b = .52$, $SE = 0.05$, $p < .001$), and self-transcendence value dimension significantly predicted aggressive behaviors ($b = -.33$, $SE = 0.05$, $p < .001$). As agreeableness increased,

self-transcendence value dimension value also increased (and vice versa), and as self-transcendence value dimension increases, aggressive behaviors decreases. Agreeableness significantly predicted aggressive behaviors when it was mediated by self-transcendence value dimension ($b = -.22$, $SE = 0.07$, $p < .01$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.17$, $SE = .04$, $95\% CI = -.263, -.089$). It means that the effect was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, agreeableness still predicted aggressive behaviors, which means that the self-transcendence value dimension partially mediates the effect of agreeableness on aggressive behaviors (See Figure 8 and Table 10 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 8. The relationship between agreeableness and aggressive behaviours as mediated by values

Table 10. Mediation of values on agreeableness and aggressive behaviors relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [-.076, -.006]	-0.04	0.02	17.07***	.35
Age	0.00	0.01		
Gender	0.24***	0.07		
Universalism				
95% CI [-.179, -.053]	-0.11	0.03	19.13***	.36
Age	0.01	0.01		
Gender	0.20**	0.07		
Benevolence				
95% CI [-.241, -.067]	-0.16	0.05	15.39***	.33
Age	0.00	0.01		
Gender	0.22**	0.07		
Tradition				
95% CI [-.075, -.008]	-0.04	0.02	11.74***	.29
Age	0.01	0.01		
Gender	0.25***	0.07		
Conformity				
95% CI [-.089, -.015]	-0.05	0.02	13.61***	.31
Age	0.01	0.01		
Gender	0.24***	0.07		
Security				
95% CI [-.088, -.017]	-0.05	0.02	16.11***	.34
Age	0.01	0.01		
Gender	0.21**	0.07		
Conservation				
95% CI [-.118, -.029]	-0.07	0.02	15.31***	.33
Age	0.01	0.01		
Gender	0.24***	0.07		
Self-transcendence				
95% CI [-.263, -.089]	-0.17	0.04	19.14***	.36
Age	0.00	0.01		
Gender	0.20**	0.07		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

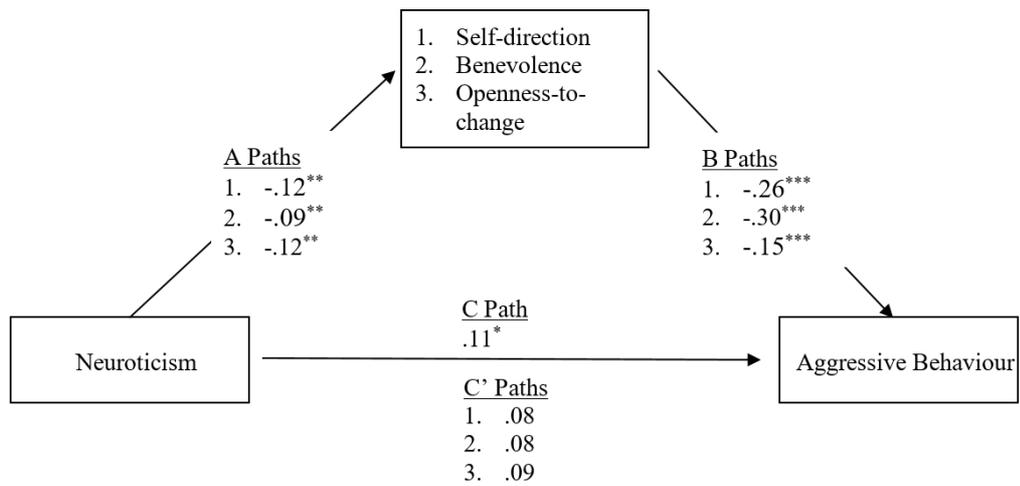
3.3.9. Mediation Analysis for Neuroticism and Aggressive Behaviors

Self-direction value was the mediator variable on the relationship between neuroticism and aggressive behaviors. Total effect of neuroticism on aggressive behaviors when self-direction was eliminated from the model was significant ($b = .11$, $SE = 0.05$, $p < .05$). Also, neuroticism significantly predicted self-direction ($b = -.12$, $SE = 0.04$, $p < .01$), and self-direction significantly predicted aggressive behaviors ($b = -.26$, $SE = 0.04$, $p < .001$). As neuroticism increases, self-direction value decreases (and vice versa), and as self-direction increases, aggressive behaviors decrease. Neuroticism did not predict aggressive behaviors when it was mediated by self-direction ($b = .08$, $SE = 0.05$, $p = .094$). When the indirect effect of self-direction was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03$, $SE = .01$, $95\% CI = .008, .060$). It means that the effect was significant because the confident interval does not contain zero. After including self-direction in the model, neuroticism did not predict aggressive behaviors, which means that self-direction fully mediates the effect of neuroticism on aggressive behaviors (See Figure 9 and Table 11 for detailed results).

Benevolence value was the mediator variable on the relationship between neuroticism and aggressive behaviors. Total effect of neuroticism on aggressive behaviors when benevolence was eliminated from the model was significant ($b = .11$, $SE = 0.05$, $p < .05$). Also, neuroticism significantly predicted benevolence ($b = -.09$, $SE = 0.04$, $p < .01$), and benevolence significantly predicted aggressive behaviors ($b = -.30$, $SE = 0.04$, $p < .001$). As neuroticism increases, benevolence value decreases (and vice versa), and as benevolence increases, aggressive behaviors decrease. Neuroticism did not predict aggressive behaviors when it was mediated by benevolence ($b = .08$, $SE = 0.05$, $p = .070$). When the indirect effect of benevolence was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03$, $SE = .01$, $95\% CI = .000, .053$). It means that the effect was significant because the confident interval does not contain zero. After including benevolence in the model, neuroticism did not predict aggressive

behaviors, which means that benevolence fully mediates the effect of neuroticism on aggressive behaviors (See Figure 9 and Table 11 for detailed results).

Openness-to-change was the mediator variable on the relationship between neuroticism and aggressive behaviors. Total effect of neuroticism on aggressive behaviors when openness-to-change was eliminated from the model was significant ($b = .11, SE = 0.05, p < .05$). Also, neuroticism significantly predicted openness-to-change ($b = -.12, SE = 0.04, p < .01$), and openness-to-change significantly predicted aggressive behaviors ($b = -.15, SE = 0.04, p < .001$). As neuroticism increases, openness-to-change decreases (and vice versa), and as openness-to-change increases, aggressive behaviors decrease. Neuroticism did not predict aggressive behaviors when it was mediated by openness-to-change ($b = .09, SE = 0.05, p = .053$). When the indirect effect of openness-to-change was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .02, SE = .01, 95\% CI = .001, .038$). It means that the effect was significant because the confident interval does not contain zero. After including openness-to-change in the model, neuroticism did not predict aggressive behaviors, which means that openness-to-change fully mediates the effect of neuroticism on aggressive behaviors (See Figure 9 and Table 11 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 9. The relationship between neuroticism and aggressive behaviours as mediated by values

Table 11. Mediation of values on neuroticism and aggressive behaviors relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Self-direction				
95% CI [.008, .059]	0.03	0.01	10.84***	.28
Age	-0.00	0.01		
Gender	0.29***	0.08		
Benevolence				
95% CI [.000, .053]	0.03	0.01	13.61***	.31
Age	0.00	0.01		
Gender	0.26***	0.07		
Openness-to-change				
95% CI [.001, .038]	0.02	0.01	5.97***	.21
Age	-0.00	0.01		
Gender	0.28***	0.08		

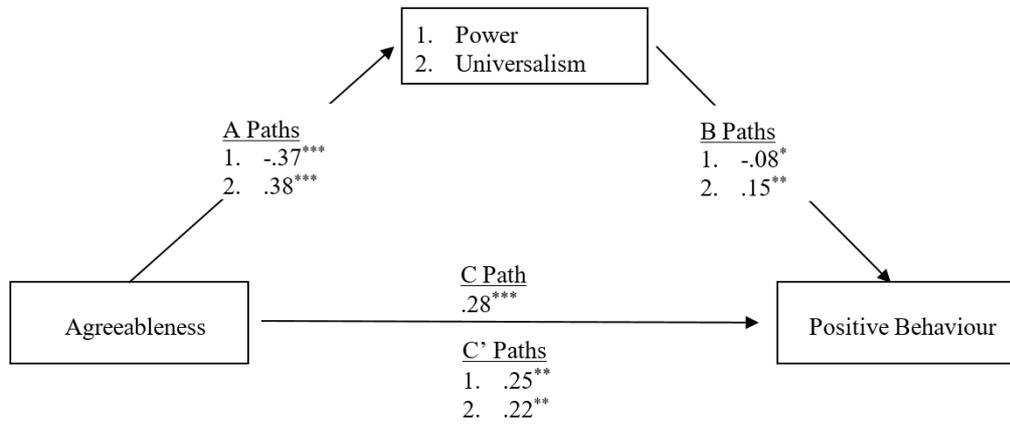
Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.10. Mediation Analysis for Agreeableness and Positive Behaviors

Power value was the mediator variable on the relationship between agreeableness and positive behaviors. Total effect of agreeableness on positive behaviors when power was eliminated from the model was significant ($b = .28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted power ($b = -.37, SE = 0.08, p < .001$), and power significantly predicted positive behaviors ($b = -.08, SE = 0.04, p < .05$). As agreeableness increases, power value decreases (and vice versa), and as power increases, positive behaviors decrease. Agreeableness significantly predicted positive behaviors when it was mediated by power ($b = .25, SE = 0.08, p < .01$). When the indirect effect of power was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03, SE = .02, 95\% CI = .000, .062$). It means that the effect was significant because the confident interval does not contain zero. After including power in the model, agreeableness still predicted positive behaviors, which means that power partially mediates the effect of agreeableness on positive behaviors (See Figure 10 and Table 12 for detailed results).

Universalism value was the mediator variable on the relationship between agreeableness and positive behaviors. Total effect of agreeableness on positive behaviors when universalism was eliminated from the model was significant ($b = .28, SE = 0.08, p < .001$). Also, agreeableness significantly predicted universalism ($b = .38, SE = 0.06, p < .001$), and universalism significantly predicted positive behaviors ($b = .15, SE = 0.06, p < .01$). As agreeableness increases, universalism value also increases (and vice versa), and as universalism increases, positive behaviors increase. Agreeableness significantly predicted positive behaviors when it was mediated by universalism ($b = .22, SE = 0.08, p < .01$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .06, SE = .03, 95\% CI = .009, .123$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, agreeableness still predicted positive behaviors, which means that universalism partially mediates the

effect of agreeableness on positive behaviors. The results supported partial mediation (See Figure 10 and Table 12 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 10. The relationship between agreeableness and positive behaviours as mediated by values

Table 12. Mediation of values on agreeableness and positive behaviors relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Power				
95% CI [.001, .063]	0.03	0.02	5.33 ^{***}	.20
Age	0.00	0.01		
Gender	0.26 ^{**}	0.09		
Universalism				
95% CI [.108, .124]	0.06	0.03	6.09 ^{***}	.22
Age	0.00	0.01		
Gender	0.27 ^{**}	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

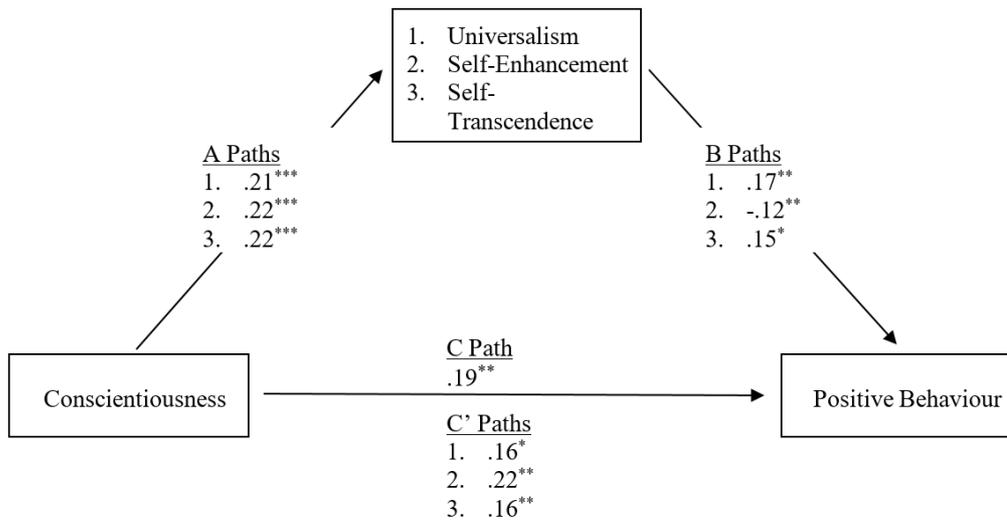
3.3.11. Mediation Analysis for Conscientiousness and Positive Behaviors

Universalism value was the mediator variable on the relationship between conscientiousness and positive behaviors. Total effect of conscientiousness on positive behaviors when universalism was eliminated from the model was significant ($b = .19$, $SE = 0.07$, $p < .01$). Also, conscientiousness significantly predicted universalism ($b = .21$, $SE = 0.05$, $p < .001$), and universalism significantly predicted positive behaviors ($b = .17$, $SE = 0.05$, $p < .01$). As conscientiousness increases, universalism value also increases (and vice versa), and as universalism increases, positive behaviors increase. Conscientiousness significantly predicted positive behaviors when it was mediated by universalism ($b = .16$, $SE = 0.07$, $p < .05$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .04$, $SE = .02$, $95\% CI = .006, .079$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, conscientiousness still predicted positive behaviors, which means that universalism partially mediates the effect of conscientiousness on positive behaviors (See Figure 11 and Table 13 for detailed results).

Self-enhancement value dimension value was the mediator variable on the relationship between conscientiousness and positive behaviors. Total effect of conscientiousness on positive behaviors when self-enhancement value dimension was eliminated from the model was significant ($b = .19$, $SE = 0.07$, $p < .01$). Also, conscientiousness significantly predicted self-enhancement value dimension ($b = .22$, $SE = 0.06$, $p < .001$), and self-enhancement value dimension significantly predicted positive behaviors ($b = -.12$, $SE = 0.04$, $p < .01$). As conscientiousness increases, self-enhancement value dimension value also increases (and vice versa), and as self-enhancement value dimension increases, positive behaviors decreases. Conscientiousness significantly predicted positive behaviors when it was mediated by self-enhancement value dimension ($b = .22$, $SE = 0.07$, $p < .01$). When the indirect effect of self-enhancement value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.03$,

$SE = .01$, $95\% CI = -.054, -.005$). It means that the effect was significant because the confident interval does not contain zero. After including the self-enhancement value dimension in the model, conscientiousness still predicted positive behaviors, which means that the self-enhancement value dimension inconsistently mediates the effect of conscientiousness on positive behaviors (See Figure 11 and Table 13 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between conscientiousness and positive behaviors. Total effect of conscientiousness on positive behaviors when self-transcendence value dimension was eliminated from the model was significant ($b = .19$, $SE = 0.07$, $p < .01$). Also, conscientiousness significantly predicted self-transcendence value dimension ($b = .22$, $SE = 0.05$, $p < .001$), and self-transcendence value dimension significantly predicted positive behaviors ($b = .15$, $SE = 0.06$, $p < .05$). As conscientiousness increases, self-transcendence value dimension value also increases (and vice versa), and as the self-transcendence value dimension increases, positive behaviors increases. Conscientiousness significantly predicted positive behaviors when it was mediated by self-transcendence value dimension ($b = .16$, $SE = 0.07$, $p < .01$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03$, $SE = .02$, $95\% CI = .002, .078$). It means that the effect was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, conscientiousness still predicted positive behaviors, which means that the self-transcendence value dimension partially mediates the effect of conscientiousness on positive behaviors (See Figure 11 and Table 13 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 11. The relationship between conscientiousness and positive behaviours as mediated by values

Table 13. Mediation of values on conscientiousness and positive behaviors relationship

	<i>b</i>	<i>se</i>	<i>F</i> (5,627)	<i>R</i> ²
Universalism				
95% CI [.108, .124]	0.04	0.02	5.62***	.21
Age	-0.00	0.01		
Gender	0.27**	0.09		
Self-enhancement				
95% CI [-.054, -.005]	-0.03	0.01	5.07***	.19
Age	0.00	0.01		
Gender	0.26**	0.09		
Self-transcendence				
95% CI [.002, .078]	0.03	0.02	4.82***	.19
Age	0.00	0.01		
Gender	0.26**	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

3.3.12. Mediation Analysis for Openness and Positive Behaviors

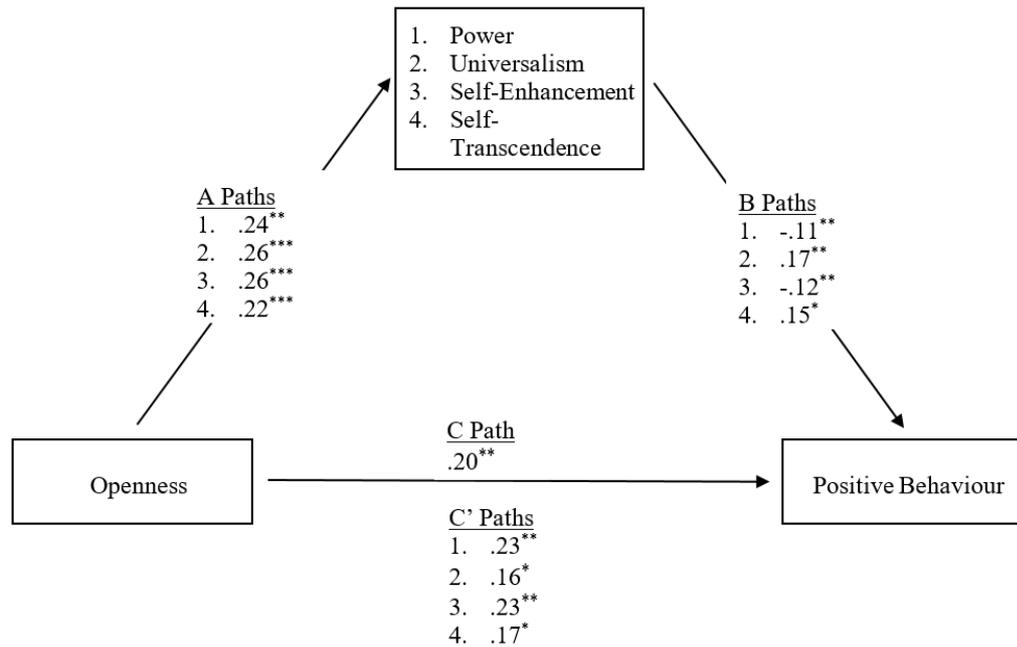
Power value was the mediator variable on the relationship between openness and positive behaviors. Total effect of openness on positive behaviors when power was eliminated from the model was significant ($b = .20$, $SE = 0.07$, $p < .01$). Also, openness significantly predicted power ($b = .24$, $SE = 0.08$, $p < .01$), and power significantly predicted positive behaviors ($b = -.11$, $SE = 0.04$, $p < .01$). As openness increases, power value also increases (and vice versa), and as power increases, positive behaviors decrease. Openness significantly predicted positive behaviors when it was mediated by power ($b = .23$, $SE = 0.07$, $p < .01$). When the indirect effect of power was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.03$, $SE = .01$, $95\% CI = -.056, -.006$). It means that the effect was significant because the confident interval does not contain zero. After including power in the model, openness still predicted positive behaviors, which means that power inconsistently mediates the effect of openness on positive behaviors (See Figure 12 and Table 14 for detailed results).

Universalism value was the mediator variable on the relationship between openness and positive behaviors. Total effect of openness on positive behaviors when universalism was eliminated from the model was significant ($b = .20$, $SE = 0.07$, $p < .01$). Also, openness significantly predicted universalism ($b = .26$, $SE = 0.05$, $p < .001$), and universalism significantly predicted positive behaviors ($b = .17$, $SE = 0.05$, $p < .01$). As openness increases, universalism value also increases (and vice versa), and as universalism increases, positive behaviors increase. Openness significantly predicted positive behaviors when it was mediated by universalism ($b = .16$, $SE = 0.07$, $p < .05$). When the indirect effect of universalism was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .04$, $SE = .02$, $95\% CI = .009, .095$). It means that the effect was significant because the confident interval does not contain zero. After including universalism in the model, openness still predicted positive behaviors, which means that universalism partially mediates the effect of openness on positive behaviors (See Figure 12 and Table 14 for detailed results).

Self-enhancement value dimension value was the mediator variable on the relationship between openness and positive behaviors. Total effect of openness on positive behaviors when self-enhancement value dimension was eliminated from the model was significant ($b = .20, SE = 0.07, p < .01$). Also, openness significantly predicted self-enhancement value dimension ($b = .26, SE = 0.07, p < .001$), and self-enhancement value dimension significantly predicted positive behaviors ($b = -.12, SE = 0.04, p < .01$). As openness increases, self-enhancement value dimension value also increases (and vice versa), and as self-enhancement value dimension increases, positive behaviors decreases. Openness significantly predicted positive behaviors when it was mediated by self-enhancement value dimension ($b = .23, SE = 0.07, p < .01$). When the indirect effect of self-enhancement value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = -.03, SE = .01, 95\% CI = -.064, -.006$). It means that the effect was significant because the confident interval does not contain zero. After including the self-enhancement value dimension in the model, openness still predicted positive behaviors, which means that the self-enhancement value dimension inconsistently mediates the effect of openness on positive behaviors (See Figure 12 and Table 14 for detailed results).

Self-transcendence value dimension value was the mediator variable on the relationship between openness and positive behaviors. Total effect of openness on positive behaviors when self-transcendence value dimension was eliminated from the model was significant ($b = .20, SE = 0.07, p < .01$). Also, openness significantly predicted self-transcendence value dimension ($b = .22, SE = 0.05, p < .001$), and self-transcendence value dimension significantly predicted positive behaviors ($b = .15, SE = 0.06, p < .05$). As openness increase, self-transcendence value dimension value also increases (and vice versa), and as the self-transcendence value dimension increases, positive behaviors increase. Openness significantly predicted positive behaviors when it was mediated by self-transcendence value dimension ($b = .17, SE = 0.07, p < .05$). When the indirect effect of self-transcendence value dimension was investigated via bootstrap estimation approach with 5000 samples, the effect was found significant ($b = .03, SE = .02, 95\% CI = .002, .080$). It means that the effect

was significant because the confident interval does not contain zero. After including the self-transcendence value dimension in the model, openness still predicted positive behaviors, which means that the self-transcendence value dimension partially mediates the effect of openness on positive behaviors (See Figure 12 and Table 14 for detailed results).



Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Figure 12. The relationship between openness and positive behaviours as mediated by values

Table 14. Mediation of values on openness and positive behaviors relationship

	b	se	F (5,627)	R²
Power 95% CI [-.056, -.006]	-0.03	0.01	5.34***	.20
Age	0.01	0.01		
Gender	0.24**	0.09		
Universalism 95% CI [.009, .095]	0.04	0.02	5.51***	.21
Age	0.00	0.01		
Gender	0.26**	0.09		
Self-enhancement 95% CI [-.064, -.006]	-0.03	0.01	5.11***	.19
Age	0.01	0.01		
Gender	0.24**	0.09		
Self-transcendence 95% CI [.002, .080]	0.03	0.02	4.82***	.19
Age	0.00	0.01		
Gender	0.25**	0.09		

Note. * $p < .05$ ** $p < .01$, *** $p < .001$

Summary of Results

Self-direction, universalism, conformity, security, conservation and self-transcendence mediated the relationship between agreeableness and violations, lapses and aggressive behaviors. Besides these values, benevolence and tradition values mediated the relationship between agreeableness and aggressive behaviors. Moreover, power mediated the relationship between agreeableness and positive behaviors.

Self-direction, universalism, conformity, security, conservation and self-transcendence mediated the relationship between conscientiousness and violations and lapses. Benevolence also mediated the relationship between agreeableness and

lapses. Universalism and self-transcendence, self-enhancement mediated the relationship between conscientiousness and positive behaviors.

Power, self-enhancement, universalism and self-transcendence mediated the relationship between openness-to-experience and positive behaviors.

Self-direction mediated the relationship between neuroticism and lapses and aggressive behaviors. Also, self-direction, benevolence and openness-to-change mediated the relationship between neuroticism and aggressive behaviors.

CHAPTER 4

DISCUSSION

3.4. General Discussion

The primary purpose of the current study was to determine the relationship between personality traits (extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism) and pedestrian behaviors (violations, lapses, aggressive behaviors, and positive behaviors) through the mediation of individual values (hedonism, stimulation, self-direction, achievement, power, conformity, tradition, security, universalism, and benevolence) for the first time in the literature. To my best knowledge, the relationship between the Big Five personality traits and pedestrian behaviors is seldom studied. Up to now, there have also been no attempts to examine the mediational role of values on pedestrian research. Therefore, this is the first study aiming to contribute to the literature by examining the effects of personality traits on pedestrian behaviors through the mediation of individual values.

To date, personality traits were investigated as predictors of pedestrian behaviors. Previous studies were mostly focused on personality traits such as empathy, impulsivity, sensation-seeking (Herrero-Fernández et al., 2016; Rosenbloom, 2006; Şimşekoğlu, 2015). However, Big Five Personality Traits is seldom studied, and it is unclear to what extent it contributes to aberrant and positive pedestrian behaviors.

Individual values are also associated with behaviors. Values were studied in traffic context (Kaçan et al., 2019). However, there is very little published information on to what extent values affect pedestrian behaviors. For example, Solmazer et al. (2020) carried out cross-cultural research by examining the effects of individual values on pedestrian behaviors recently. However, no previous study has

investigated the mediating role of values on the relationship between personality traits and pedestrian behaviors. The current study is a significant attempt to fill this gap in the literature by examining these relationships.

In the following sections, the findings of the present study will be explained and discussed. Afterward, limitations, suggestions for future research, and expected contributions and conclusions will be provided.

3.5. Discussion of Bivariate Correlation Analysis

Bivariate correlation analyses were conducted to investigate the relationship between variables of interest. Age had positive relationships with agreeableness, conscientiousness, openness, universalism, benevolence, tradition, conformity, security, conservation, and self-transcendence, while negative relationships with daily walking time, neuroticism, violations, and lapses. These findings are in accord with recent studies that found a negative relationship of age with violations and a positive relationship with conservation value dimension (Kaçan et al., 2019; Solmazer et al., 2020). The negative associations of age with violations and lapses might be because of younger individuals' well-known risk-taking tendencies (Diaz, 2002). Also, they might not be aware of the traffic rules and hazards on the road. On the other hand, improved awareness of the dangers on the road, control in their behaviors, and learning how to share the road with other road users may lead to fewer violations and lapses in older people.

Moreover, males scored more on tradition, violations, aggressive behaviors, positive behaviors, and less on neuroticism, hedonism. This study has been unable to show associations of gender and values, but not surprising. As stated in the literature, there are no significant differences between males and females regarding values (Demirutku & Sümer, 2010; Yılmaz, Avşaroglu, & Deniz, 2010). These findings are in line with previous findings. However, what is surprising is that males reported more positive behaviors than females, contrary to previous studies (Qu et al., 2016). This can be explained by the fact that males reported a higher education level

correlated negatively with violations and lapses. Accidents have a positive relationship with extraversion and openness. A possible explanation might be that the positive correlation of stimulation with extraversion and openness may lead to more accidents due to the nature of stimulation related to the excitement, novelty, and challenge seeking in life (Schwartz, 1992). Also, Lajunen (2001) found a positive association between extraversion and traffic fatalities in 34 nations.

Neuroticism was correlated positively with violations and lapses. As stated before, neuroticism was characterized by feeling anxious, worrying, depressed (John & Srivastava, 1999; McCrae & Costa, 1987). To eliminate negative emotional states, these people may develop unhealthy coping mechanisms, which may lead to more violations and lapses as pedestrians. Openness-to-experience correlated positively with positive behaviors and negatively with violations. The findings are consistent with Zheng et al. (2017), who found a positive relationship between openness-to-experience and positive and aggressive behaviors. However, openness-to-experience did not correlate with aggressive behaviors in this study. What is surprising is that openness-to-experience associated with risky behaviors in previous studies. Contrary to previous literature, openness-to-experience correlated positively with positive behaviors and negatively with violations opposed to previous studies, which found a positive correlation between risky behaviors and openness (Sümer et al., 2005). Overall, these findings support previous research regarding personality traits and behaviors.

3.6. Discussion of Mediation Analysis

In the present study, the mediating role of Schwartz's ten values and four higher-order value dimensions (hedonism, stimulation, self-direction, achievement, power, conformity, tradition, security, universalism, benevolence, and openness-to-change, conservation, self-transcendence, self-enhancement) in the relationship between personality traits (extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism) and pedestrian behaviors (violations, lapses,

aggressive behaviors, and positive behaviors) were investigated by conducting several mediation analyses by using the PROCESS Macro program (Hayes, 2020). In all mediation analyses, ten values and four higher-order value dimensions as mediators were entered separately. Age and gender were added as control variables.

3.6.1. Trait-Value Relationship

Individuals scoring high on extraversion were characterized as excitement seeking, adventurous, and energetic (John & Srivastava, 1999). These characteristics of extraversion seem compatible with the goals of self-direction, and hedonism. Results are consistent with Roccas et al. (2002); they found a positive association between extraversion and the values achievement, stimulation, hedonism, and negative with tradition.

Individuals scoring high on agreeableness were characterized as helpful, cooperative, friendly, altruistic, compliant, and modesty (John & Srivastava, 1999). These characteristics of agreeableness seem compatible with the goals of benevolence, universalism, conformity, and tradition. These people also tend to give less priority to dominance, which is incompatible with the goals of power. It is the only trait associated negatively with power, achievement, and self-enhancement, which could be explained by its characteristics.

Neuroticism was associated positively with achievement, power, and self-enhancement and negatively with stimulation, self-direction, benevolence, and openness-to-change. There is conflicting, mixed, and inconsistent evidence on the relationship between neuroticism and values (Grankvist & Kajonius, 2015; Parks-Leduc et al., 2015; Roccas et al., 2002). Neuroticism was defined as anxiety, depression, emotionality, and nervousness (John & Srivastava, 1999). Unstable characteristics of this trait might lead to mixed results regarding their value priorities. Also, it is the only trait associated negatively with self-direction, benevolence, and openness-to-change

Conscientiousness has the strongest positive associations with security, achievement, tradition, conformity, and conservation. Individuals scoring high on conscientiousness were characterized as cautious, responsible, organized, and achievement-seeking (John & Srivastava, 1999). These characteristics seem compatible with the goals of security and achievement. As expected, the strongest association of achievement and security was found with conscientiousness.

Openness-to-experience has the strongest positive associations with stimulation, self-direction, openness-to-change, and hedonism. It is defined as novelty, originality, and creativity (John & Srivastava, 1999). The characteristics of openness-to-experience seem compatible with the value dimension openness-to-change. Moreover, hedonism, stimulation, self-direction, and openness-to-change are strongly associated with extraversion and openness-to-experience.

In general, the strong associations found in this study between personality traits and values match those found in earlier studies (Grankvist & Kajonius, 2015; Olver & Mooradian, 2003; Roc-cas et al., 2002). Agreeableness and conscientiousness demonstrated similar associations with values. Extraversion and openness-to-experience showed similar associations with values. Neuroticism is associated weakly with values.

3.6.2. Basic Human Values as Mediator Variable

First, agreeableness and conscientiousness correlated with decreased violations through the increased level of self-direction, universalism, conformity, security, conservation, and self-transcendence values. Universalism and self-transcendence fully mediated the relationship between agreeableness and lapses. In addition to these values, benevolence also mediated the relationship between conscientiousness and lapses in the same direction. In consistent with the literature, conscientiousness was negatively correlated with risky pedestrian behaviors (Herrero-Fernandez et al., 2016; Jiang et al., 2011;). It was correlated with security, achievement, conformity, and universalism in the current study. Accordingly, it is expected these individuals

behave in a safe way and show positive patterns of behaviors to others. On the other hand, agreeableness was defined as helpful, cooperative, friendly, altruistic, compliant, and modesty behaviors (John & Srivastava, 1999). In this study, it was associated positively with universalism, benevolence, and conformity. Accordingly, it is an expected result these individuals behave positively as pedestrians and avoid risky situations not to hurt others. It is obvious that almost same values affected these relationships for agreeableness and conscientiousness. Also, these traits almost have same effect on pedestrian behaviors.

Neuroticism correlated with increased violations and lapses through the decreased level of self-direction. It seems that the importance of self-direction value significantly affects behaviors of individuals with high neuroticism.

Agreeableness correlated with decreased aggressive behaviors through the increased level of self-direction, universalism, benevolence, tradition, conformity, security, conservation, and self-transcendence. Different from violations and lapses, there was no significant effect of conscientiousness on aggressive behaviors.

Also, neuroticism correlated with increased aggressive behaviors through the decreased level of self-direction, benevolence, and openness-to-change. These three values fully mediated this relationship. Pedestrians scoring higher on neuroticism and lower on these values might behave more aggressively as pedestrians. This provided more evidence in terms of basic human values that might be an important determinant of pedestrian behaviors.

Conscientiousness and openness-to-experience correlated with increased positive behaviors through the increased level of universalism and self-transcendence. However, an increase in power and self-enhancement on individuals with agreeableness and conscientiousness results in decreased positive behaviors. Lastly, an increase in power on individuals with openness results in a decrease in positive behaviors. Agreeableness also correlated with positive behaviors through the decreased level of power and increased level of universalism. It seems that power

value is a significant mediator for the relationship between traits and positive pedestrian behaviors.

The results of the mediation analysis for positive behaviors can be explained by the theory of Schwartz (1992). These findings further support the theory: values close to each other on the circle are compatible with each other, and values on opposite sides of the circle are in conflict. Power and universalism, which are values in conflict on the circle, affected positive behaviors in opposite directions. Additionally, the same explanation can also be made for the opposite effect of self-enhancement and self-transcendence on positive behaviors.

Moreover, Schwartz (2012) defined another principle regarding the relations of values on the circle. Expressing personal interest is regulated by self-enhancement and openness-to-change values, which is named as personal focus. On the other hand, relating with others socially is regulated by conservation and self-transcendence. The current study shows that values placed on the social focus mediated the relationships between traits and pedestrian behaviors more than values placed on personal focus. It means that concerning others' interests and relationships with others have more effect on the relationship between traits and pedestrian behaviors. This might be because being a pedestrian makes them more social and a part of society, increasing the effect of social focus on behaviors.

In conclusion, the mediation analyses in the current study were conducted for the first time and demonstrated individual values mediate the relationship between personality traits and pedestrian behaviors.

3.7. Limitations and Suggestions for Future Studies

Although the current study has successfully shown that values mediated the effect of personality traits on pedestrian behaviors, it has certain limitations that need to be mentioned. The first one is about the characteristics of the participants. The majority of them consist of younger individuals and university graduates with a

mean age of 26.07. Studies indicate that age is related to values and pedestrian behaviors. For example, young people give more importance to self-direction and stimulation values (Schwartz, 2001; Schwartz & Rubel, 2005). Older individuals are more careful when crossing because of their awareness of dangerous situations and show less risky behaviors (Harrell, 1991; Yildirim, 2007). Therefore, this must be considered when interpreting the findings of the present research because the results of the current study cannot be generalized to the middle and older age group, less educated ones and those with higher than one hour daily walking time. In future studies, it would be worthwhile to study with a sample representing all groups of gender, age, education, socioeconomic status, and other demographics to boost representativeness and to learn more about people from other groups.

Another limitation of the current study is the self-report measurement method. Although confidentiality was ensured, the self-report method of data collection might lead to inaccurate recalling and biased responding of participants in a socially desirable way to demonstrate themselves as favorable to others. Additionally, the design of the study is the cross-sectional design. It is unlikely to make inferences regarding causality among the variables of interest because it is not possible to analyze behavior over a period of time in cross-sectional design (Mann, 2003). It is just a snapshot of time, which might not be representative. The findings of the study should be interpreted cautiously due to mentioned limitations. In future studies, the use of multiple methods of design and collecting data would be desirable to decrease the response bias, to increase the representativeness of the sample and the generalizability of findings.

In the current study, it seems that values placed on the social focus mediated the relationship between traits and pedestrian behaviors more than values placed on the personal focus. In this study, ten values and four higher-order values were investigated. In future studies, it would be worthwhile examining other principles organizing value structures concerning personality traits and pedestrian behaviors, which are the relations of values to interests and to anxiety on Schwartz's model (2012).

Finally, this study needs to be replicated in other countries because the relationships between variables might vary with culture. Cross-cultural/country studies could be informative and useful for comparing the findings from different cultures and deeply understanding the issue by revealing more about variables of interest in other cultures.

3.8. Contributions and Conclusions

The present study was mainly designed to explore how personality traits affect pedestrian behaviors through the mediation of individual values. The findings of the study contribute to the existing knowledge of personality traits, values, and pedestrian behaviors. First, it was demonstrated that personality traits related to pedestrian behaviors. Second, individual values are related to pedestrian behaviors. Third, personality traits have indirect effects on pedestrian behaviors through the impact of values. The current study contributes to the individual values, personality research, and traffic safety literature by providing a better and comprehensive understanding of individual values, personality traits, pedestrian behaviors, and their relationship. There is very limited research in the current literature regarding the relationship between Big Five Personality Traits and aberrant and positive pedestrian behaviors. On the other hand, individual values have never been applied to the relationship between personality and pedestrian behaviors as a mediator, to my best knowledge. By including individual values in this study, indirect effects of personality traits on pedestrian behaviors have also been explored.

Specific interventions, public service announcements, and educational programs targeting younger age groups can be developed to decrease younger pedestrians' tendency to show unsafe behaviors. These interventions may help individuals recognize the risk factors on the road, learn how to share the road with other road users in the best way, and develop safer behaviors with this awareness. To illustrate, these interventions can be placed on the educational curriculum. As an educational intervention, road safety can be implemented in schools to provide knowledge regarding the rules, risk factors, and safe behaviors as pedestrians. Social media

channels can be used to provide awareness to the public regarding rules, risk factors on the road, and safe behaviors as pedestrians.

Moreover, interventions aiming to improve pedestrian safety may focus on personality traits and their indirect effects via individual values on pedestrian behaviors. Focusing on individual values might enrich the content of intervention programs. Values that are related to safe behaviors could be more emphasized. A question on there is which processes can lead to value change. Bardi and Goodwin (2011) examined the concept of value change. They identified five facilitators of value change, which are priming processes (repeated priming), adaptation (adaptation to new life conditions), identification processes (changing values to adapt to the values of a new group), consistency maintenance (changing values when encountering a situation inconsistent with values), and direct persuasion attempts (media messages, education programs). These ways revealed by Bardi and Goodwin (2011) can be placed on intervention programs for value change to promote safety-related behaviors. For example, Arieli, Grant and Sagiv (2013) designed a 30-min intervention by synthesizing three of five facilitators: persuasion, priming, and consistency maintenance to increase the importance of benevolence. At the end of the intervention, the importance of benevolence increased for these individuals.

These types of interventions might also be considered for pedestrian behaviors concerning the findings of the current study. According to the present study's findings, self-direction value was the dominant mediator variable on the relationship between neuroticism and violations, lapses, and aggressive behaviors. It can be suggested that an increase in the self-direction value in individuals with high neuroticism might decrease these aberrant behaviors. On the other hand, increasing the importance of self-direction, universalism, self-transcendence, which are the values that generally mediated relationships by reducing aberrant behaviors and increasing positive behaviors, and decreasing the importance of power might lead to an increase in positive behaviors and a decrease in aberrant behaviors. These values also can be placed on road safety education at schools and universities or on

media messages. Their importance can be increased by placing them on educational programs, media messages, or public service ads.

However, the idea of making a change in values raises some ethical questions even though the main principle in this field is that life is the most sacred. Is trying to change the importance of values ethical? What is the limit in value shaping? In which ratios the importance of values can be increased or decreased?

The findings of this study demonstrate the relations between individual values, personality traits, and pedestrian behaviors. This study provided evidence that personality traits predicted pedestrian behaviors through the mediation of individual values. These constructs are essential determinants that should be considered when examining individual differences in pedestrians, their behaviors, and developing intervention programs to improve traffic safety.

REFERENCES

- Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological monographs*, 47(1), i-171.
- Arieli, S., Grant, A. M., & Sagiv, L. (2014). Convincing yourself to care about others: An intervention for enhancing benevolence values. *Journal of Personality*, 82(1), 15-24.
- Arthur, W., & Graziano, W.G. (1996). The five-factor model, conscientiousness, and driving accident involvement. *Journal of Personality*, 64(3), 593–618.
- Bardi, A., & Goodwin, R., (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross-Cultural Psychology*, 42(2), 271–287.
- Bardi, A., & Schwartz, S. H. (2003). Values and Behavior: Strength and Structure of Relations. *Personality and Social Psychology Bulletin*, 29(10), 1207–1220.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variables distinction in social psychological research: Conceptual, strategic and statistical consideration. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Benet-Martinez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, 75(3), 729-750.
- Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality*, 8, 163- 181.
- Cattell, R. B. (1945). The Description of Personality: Principles and Findings in a Factor Analysis. *The American Journal of Psychology*, 58(1), 69–90.

- Clarke, S., & Robertson, I. T. (2005). A meta-analytic review of the Big Five personality factors and accident involvement in occupational and non-occupational settings. *Journal of Occupational and Organizational Psychology*, 78(3), 355-376.
- Costa, P. T., McCrae, R. R., & Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: a revision of the NEO personality inventory. *Personality and Individual Differences*, 12(9), 887-898.
- Deb, S., Strawderman, L., DuBien, J., Smith, B., Carruth, D. W., & Garrison, T. M. (2017). Evaluating pedestrian behavior at crosswalks: validation of a pedestrian behavior questionnaire for the US population. *Accident Analysis and Prevention*, 106, 191–201.
- Demir, B. (2017). *The social psychological predictors of pedestrian behaviors* (doctoral dissertation). Middle East Technical University, Ankara, Turkey.
- Demir, B., Özkan, T., & Demir, S. (2019). Pedestrian violations: Reasoned or social reactive? Comparing theory of planned behavior and prototype willingness model. *Transportation Research Part F: Traffic Psychology and Behaviour*, 60, 560-572.
- Demirutku, K. & Sümer, N. (2010). Temel değerlerin ölçümü: Portre değerler anketinin Türkçe uyarlaması. *Türk Psikoloji Yazıları*, 13(25), 17-25.
- Diaz, E. M. (2002). Theory of planned behavior and pedestrians' intentions to violate traffic regulations. *Transportation Research Part F: Traffic Psychology and Behaviour*, 5(3), 169-175.
- Dilmaç, B., Bozgeyikli, H. & Çıkılı, Y. (2008). Öğretmen adaylarının değer algılarının farklı değişkenler açısından incelenmesi. *Değerler eğitimi dergisi*, 6(16), 69-91.
- Dirilen-Gümüş Ö. (2009). *Kültür, değerler, kişilik ve siyasal ideoloji arasındaki ilişki: Kültürlerarası bir karşılaştırma (Türkiye-Amerika)* (doctoral dissertation). Ankara University, Ankara, Turkey.

- Dirilen-Gümüş, Ö. & Büyüksahin-Sunal, A. (2012). Gender differences in Turkish undergraduate students' values. *Sex Roles*, 67(9-10), 559-570.
- Elliott, M. A., & Baughan, C. J. (2004). Developing a self-report method for investigating adolescent road user behavior. *Transportation Research Part F: Traffic Psychology and Behaviour*, 7(6), 373-393
- Evans, D., & Norman, P. (2003). Predicting adolescent pedestrians' road-crossing intentions: An application and extension of the theory of planned behaviour. *Health Education Research*, 18(3), 267-277.
- Fine, B. J. (1963). Introversion-extraversion and motor vehicle driver behaviour. *Perceptual and Motor Skills*, 16(1), 95-100.
- Fiske, D. W. (1949). Consistency of the factorial structure of personality ratings from different sources. *Journal of Abnormal and Social Psychology*, 44(3), 329-344.
- Goldberg, L. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.). *Review of Personality and Social Psychology*, 2, 141-165, Beverly Hills, CA: Sage Publication.
- Granié, M. A., Pannetier, M., & Gueho, L. (2013). Developing a self-reporting method to measure pedestrian behaviors at all ages. *Accident Analysis & Prevention*, 50, 830-839.
- Grankvist, G., & Kajonius, P. (2015). Personality traits and values: a replication with a Swedish sample. *International Journal of Personality Psychology*, 1(1), 8-14.
- Hamed, M. M. (2001). Analysis of pedestrians' behavior at pedestrian crossings. *Safety Science*, 38(1), 63-82.
- Harrell, W. A. (1991). Factors influencing pedestrian cautiousness in crossing streets. *The Journal of Social Psychology*, 131(3), 367-372.

- Hayes, A. F. (2020). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: The Guilford Press.
- Herrero-Fernandez, D., Macía-Guerrero, P., Silvano-Chaparro, L., Merino, L., & Jenchura, E. J. (2016). Risky behavior in young adult pedestrians: Personality determinants, correlates with risk perception and gender differences. *Transportation Research Part F: Traffic Psychology and Behavior*, 36, 14-24
- Jiang, N., Xiao, Y., Chen, Y., Shi, K., Watson, B., King, M., ..., Wang, L. (2011). Big-five personality factors affecting pedestrian crossing behaviors. In *Proceedings of the 1st International Conference on Transportation Information and Safety*, American Society of Civil Engineers, China, 1577-1583.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of Personality: Theory and Research*, 2(510), 102–138.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research*. New York, NY, USA: Guilford Press
- Kaçan, B., Fındık, G., Üzümcüoğlu, Y., Azık, D., Solmazer, G., Ersan, Ö., et al. (2019). Driver profiles based on values and traffic safety climate and their relationships with driver behaviors. *Transportation Research Part F: Traffic Psychology and Behaviour*, 64, 246–259.
- Karakitapoğlu-Aygün, Z., & İmamoğlu, E. O. (2002). Value domains of Turkish adults and university students. *The Journal of Social Psychology*, 142(3), 333- 351.
- Klages, L. (1929). The Science of Character, 38(152), 513–520.

- Lajunen, T. (2001). Personality and accident liability: Are extraversion, neuroticism and psychoticism related to traffic and occupational fatalities?. *Personality and Individual Differences, 31*(8), 1365-1373.
- Lawton, R., Parker, D., Manstead, A. S., & Stradling, S. G. (1997). The role of affect in predicting social behaviors: The case of road traffic violations. *Journal of Applied Social Psychology, 27*(14), 1258-1276.
- Lee, J. A., Bardi, A., Gerrans, P., Sneddon, J. N., Herk, H. V., Evers, U., Schwartz, S. H., & Bond, V. (2021). Are value-behavior relations stronger than previously thought? It depends on value importance. *European Journal of Personality.*
- MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding, and suppression effect. *Prevention Science, 1*, 173–181.
- Mako, E., & Szakonyi, P. (2016). Evaluation of human behavior at pedestrian crossings. *Transportation Research Procedia, 14*, 2121–2128.
- Mann, C. J. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency Medicine Journal, 20*, 54-60.
- McCrae, R. R., & Costa, P. T. (1985a). Updating Norman's adequate taxonomy: Intelligence and personality dimensions in natural language and in questionnaires. *Journal of Personality and Social Psychology, 49*(3), 710-721.
- McCrae, R. R., & Costa, P. T. (1985b). Openness to experience. In R. Hogan & W. H. Jones, *Perspectives in personality* (Vol. 1, pp. 145-172). Greenwich, CT: JAI Press
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*(1), 81–90.

- McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A Five-Factor Theory perspective*. NY: Guilford Press.
- McIlroy, R. C., Plant, K. L., Jikyong, U., Nam, V. H., Bunyasi, B., Kokwaro, G. O., et al. (2019). Vulnerable road users in low-, middle-, and high-income countries: Validation of a pedestrian behaviour questionnaire. *Accident Analysis and Prevention, 131*, 80–94.
- National Center for Statistics and Analysis. (2020, March). Pedestrians: 2018 data (Traffic Safety Facts. Report No. DOT HS 812 850). National Highway Traffic Safety Administration.
- Nordfjaern, T., & Şimşekoğlu, Ö. (2013). The role of cultural factors and attitudes for pedestrian behaviour in an urban Turkish sample. *Transportation Research Part F: Traffic Psychology and Behaviour, 21*, 181–193.
- Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology, 66*(6), 574–583.
- O’Hern, S., Stephens, A. N., Estgfaeller, N., Moore, V., & Koppel, S. (2020). Self-reported pedestrian behaviour in Australia. *Transportation Research Part F: Traffic Psychology and Behaviour, 75*, 134-144.
- Olver, J. M., & Mooradian, T. A. (2003). Personality traits and personal values: A conceptual and empirical integration. *Personality and Individual Differences, 35*(1), 109-125.
- Özkan, T., & Lajunen, T. (2005). A new addition to DBQ: Positive driver behaviours scale. *Transportation Research Part F: Traffic Psychology and Behaviour, 8*(4), 355-368.
- Parks-Leduc, L., Feldman, G., & Bardi, A. (2015). Personality traits and personal values: A meta-analysis. *Personality and Social Psychology Review, 19*(1), 3-29.

- Qu, W., Zhang, H., Zhao, W., Zhang, K., & Ge, Y. (2016). The effect of cognitive errors, mindfulness and personality traits on pedestrian behavior in a Chinese sample. *Transportation Research Part F: Traffic Psychology and Behaviour*, *41*, 29–37.
- Reason, J., Manstead, A., Stradling, S., Baxter, J., & Campbell, K. (1990). Errors and violations on the roads: A real distinction? *Ergonomics*, *33*(10-11), 1315-1332.
- Roccas, S., & Sagiv, L. (2010). Personal values and behavior: Taking the cultural context into account. *Social and Personality Psychology Compass*, *4*(1), 30–41.
- Roccas, S., & Sagiv, L. (2017). Values and behavior. Taking a cross-cultural perspective. Cham: Springer
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. *Personality and Social Psychology Bulletin*, *28*(6), 789-801.
- Rosenbloom, T. (2006). Sensation seeking and pedestrian crossing compliance. *Social Behavior and Personality*, *34*(2), 113–122.
- Rosenbloom, T., Nemrodov, D., & Barkan, H. (2004). For heaven's sake follow the rules: pedestrians' behavior in an ultra-orthodox and a non-orthodox city. *Transportation Research Part F: Traffic Psychology and Behaviour*, *7*(6), 395-404.
- Ryckman, R. M. & Houston, D. M. (2003). Value priorities in American and British female and male university students. *The Journal of Social Psychology*, *143*(1), 127-138.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (pp. 1-65). NY: Academic Press.

- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture*, 2(1).
- Schwartz S. H. (2017). The refined theory of basic values. In S. Roccas and L. Sagiv (Eds), *Values and Behavior: Taking a Cross-Cultural Perspective* (pp. 51-72). Cham: Springer International Publishing.
- Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, 53(3), 550–562.
- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, 32(5), 519 –542.
- Schwartz, S. H. & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multimethod studies. *Journal of Personality and Social Psychology*, 89(6), 1010-1028.
- Schwartz, S. H. & Rubel-Lifschitz, T. (2009). Cross-national variation in the science of sex differences in values: Effects of gender equality. *Journal of Personality and Social Psychology*, 97(1), 171-185.
- Serin, G., Öz, C., Öz, B. & Lajunen, T. (2018). Türkiye’de yaya tutumları ve yaya davranışları arasındaki ilişkinin incelenmesi. *Trafik ve Ulaşım Araştırmaları Dergisi*, 1(1), 54–68.
- Skimina, E. & Cieciuch, J. (2020). Explaining everyday behaviours and situational context by personality metatraits and higher-order values. *European Journal of Personality*, 34(1), 29-59.
- Skimina, E., Cieciuch, J., & Strus, W. (2018). Traits and values as predictors of the frequency of everyday behavior: Comparison between models and levels. *Current Psychology*, 40(6), 133-153.

- Şimşekoğlu, Ö. (2015) How do attitudes, personality traits, and driver behaviors relate to pedestrian behaviors?: A Turkish case. *Traffic Injury Prevention*, 16(1), 84-89.
- Sümer, N. & Sümer, H. C. (2005). Beş Faktör Kişilik Özellikleri Ölçeği. Unpublished manuscript.
- Sümer, N., Lajunen, T. and Özkan, T. (2005). Big five personality traits as the distal predictors of road accident involvement. In G. Underwood, (Ed.), *Traffic and Transport Psychology* (pp. 215-227). USA: Elsevier Ltd.
- Solmazer, G., Azık, D., Fındık, G., Üzümcüoğlu, Y., Ersan, Ö., Kaçan, B., ... & Pashkevich, M. (2020). Cross-cultural differences in pedestrian behaviors in relation to values: A comparison of five countries. *Accident Analysis & Prevention*, 138, 105459.
- Turkish Statistical Institute (2018). Road Traffic Accident Statistics. Retrieved from <https://data.tuik.gov.tr/Bulten/Index?p=Karayolu-Trafik-Kaza-Istatistikleri-2019-33628>.
- World Health Organization (2018). Global Status Report on Road Safety 2018. World Health Organization.
- Useche, S. A., Hezaveh, A. M., Llamazares, F. J., & Cherry, C. (2021). Not gendered... but different from each other? A structural equation model for explaining risky road behaviors of female and male pedestrians. *Accident Analysis & Prevention*, 150(1), 105942.
- Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behavior. *Journal of Personality and Social Psychology*, 82(3), 434-447.
- Yagil, D. (2000). Beliefs, motives and situational factors related to pedestrians' self-reported behavior at signal-controlled crossings. *Transportation Research Part F: Traffic Psychology and Behaviour*, 3(1), 1-13.

Yıldırım, Z. (2007). *Religiousness Conservatism and Their Relationship with Traffic Behavior* (master's thesis). Middle East Technical University, Ankara.

Yılmaz, E., Avşaroglu, S., & Deniz, M. (2010). An investigation of teacher candidates' value preferences. *Procedia - Social and Behavioral Sciences*, 2(2), 4943-4948.

Zheng, T., Qu, W., Ge, Y., Sun, X., & Zhang, K. (2017) The joint effect of personality traits and perceived stress on pedestrian behavior in a Chinese sample. *PLoS One*, 12(11), 1–18.

APPENDICES

APPENDIX A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYDULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY
T: +90 312 210 22 91
F: +90 312 210 79 99
www.ortadogu.edu.tr
Sayı: 28620816/398

04 EKİM 2019

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Prof.Dr. Türker ÖZKAN

Danışmanlığını yaptığımız Nesrin BUDAK'ın "The relationship between Schwarz's values, personality and pedestrian behaviors" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve 338 ODTÜ 2019 protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof. Dr. Tulin GENÇÖZ

Başkan

Prof. Dr. Tolga CAN

Üye

Dr. Öğr. Üyesi Ali Emre TURGUT

Üye

Dr. Öğr. Üyesi Müge GÜNDÜZ

Üye

Doç.Dr. Pınar KAYGAN

Üye

Dr. Öğr. Üyesi Şerife SEVİNÇ

Üye

Dr. Öğr. Üyesi Süreyya Özcan KABASAKAL

Üye

APPENDIX B: INFORMED CONSENT FORM

GÖNÜLLÜ KATILIM FORMU

Orta Doğu Teknik Üniversitesi (ODTÜ) İnsan Araştırmaları Etik Kurulu tarafından onaylanmış olan bu araştırma, ODTÜ Psikoloji Bölümü yüksek lisans programı Trafik ve Ulaşım Psikolojisi Opsiyonu öğrencisi Arş. Gör. Nesrin Budak tarafından Prof. Dr. Türker Özkan danışmanlığında tez çalışması olarak yürütülmektedir. Bu çalışmanın amacı değerler, kişilik faktörü ve yaya davranışları arasındaki ilişkinin araştırılmasıdır.

Çalışmada kimlik belirleyici özel bilgiler istenmemektedir. Verilecek cevaplar gizli tutulacak, elde edilecek bulgular yalnızca bilimsel kaynaklarda kullanılacaktır.

Anketler genel olarak rahatsızlık verecek sorular içermemektedir. Fakat soruları cevaplarken herhangi bir rahatsızlık hissederseniz, bir sebep belirtmeden çalışmayı bırakmakta serbestsiniz. Çalışmanın sonunda, çalışmayla ilgili sorularınız cevaplanacaktır. Bu araştırmaya katılımınız ve verdiğiniz destek için şimdiden çok teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için ODTÜ Psikoloji Bölümü öğretim üyelerinden Prof. Dr. Türker Özkan (E-posta: ozturker@metu.edu.tr) veya öğrencilerinden Nesrin Budak (E-posta: e191174@metu.edu.tr) ile iletişim kurabilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Ad Soyad

Tarih

İmza

__/__/__

APPENDIX C: DEMOGRAPHIC INFORMATION FORM

Demografik Sorular

A1. Yaşınız: ____ A2. Erkek Kadın
Cinsiyetiniz:

A3. Aşağıdakilerden hangisi sosyo-ekonomik statünüzü tanımlar?

Alt Ortanın altı Orta Ortanın Üstü Üst

A4. Eğitim durumunuz?

Okur-yazar İlkokul Ortaokul Lise Üniversite (Lisans)
Üniversite (Lisansüstü)

A5. Son 3 yıl içinde, yaya olarak toplam kaç kazaya karıştınız : ____

A6. Gün içerisinde yaya olarak ortalama kaç dakika yürürsünüz? : ____

APPENDIX D: PEDESTRIAN BEHAVIOR SCALE

YAYA DAVRANIŞLARI ÖLÇEĞİ

Yaya olarak aşağıda verilen davranışları ne sıklıkla yapıyorsunuz?

		Hiçbir Zaman	Nadiren	Arada Sırada	Bazen	Sıkça	Çoğu Zaman	Her Zaman
1.	Zaman kazanmak için yolu çapraz geçerim.	1	2	3	4	5	6	7
2.	Yaya geçidi 50 metre kadar yakın olsa bile yaya geçidi kullanmadan karşıya geçerim.	1	2	3	4	5	6	7
3.	Yayalara kırmızı yansa bile karşıdan karşıya geçerim.	1	2	3	4	5	6	7
4.	Taşıtlara hala yeşil yanarken karşıdan karşıya geçerim.	1	2	3	4	5	6	7
5.	Park etmiş arabaların arasından karşıya geçerim.	1	2	3	4	5	6	7
6.	Yaya geçidinden karşıya geçmeye başlayıp zaman kazanmak için çapraz devam ederim.	1	2	3	4	5	6	7
7.	Trafik sıkışırken arabaların arasından karşıya geçerim.	1	2	3	4	5	6	7
8.	Arkadaşlarımla yürürken ya da önümden yavaş yürüyen yayayı geçmek için taşıt yolundan yürürüm.	1	2	3	4	5	6	7
9.	Başka bir şey düşündüğüm zamanlarda karşıya geçerken yola bakmayı unuturum.	1	2	3	4	5	6	7
10.	Yolun karşısındaki birine yetişmek için karşıya geçerken yola bakmayı unuturum.	1	2	3	4	5	6	7
11.	Birileriyle yürürken karşıdan karşıya geçtiğimde yola bakmadan karşıya geçerim.	1	2	3	4	5	6	7
12.	Trafığe dikkat etmeden bir sürü sokak ve kavşak geçtiğimi fark ederim.	1	2	3	4	5	6	7

13.	Başka bir yol kullanıcısına kızar (yaya, sürücü, bisikletli vb.) ona hakaret ederim.	1	2	3	4	5	6	7
14.	Başka bir yol kullanıcısına kızar (yaya, sürücü, bisikletli vb.) ve ona bağıırım.	1	2	3	4	5	6	7
15.	Başka bir yol kullanıcısına kızar (yaya, sürücü, bisikletli vb.) ve ona el hareketi yaparım.	1	2	3	4	5	6	7
16.	Sürücülere sinirlenir ve arabalarına vururum.	1	2	3	4	5	6	7
17.	Yol hakkı bende olduğu halde, eğer arkasında başka araç yoksa arabaya yol veririm.	1	2	3	4	5	6	7
18.	Yanımda başka yayalar olduğu zaman, karşılaştığım yayaları rahatsız etmemek için tek sıra yürürüm.	1	2	3	4	5	6	7
19.	Karşı karşıya geldiğim yayalara durarak yol veririm.	1	2	3	4	5	6	7
20.	Diğer yayaları rahatsız etmemek için kaldırımın sağ tarafından yürürüm.	1	2	3	4	5	6	7

APPENDIX E: BIG FIVE INVENTORY

Aşağıda sizi kısmen tanımlayan (ya da pek tanımlayamayan) bir takım özellikler sunulmaktadır. Örneğin, başkaları ile zaman geçirmekten hoşlanan birisi olduğunuzu düşünüyor musunuz? Lütfen aşağıda verilen özelliklerin sizi ne oranda yansıttığını ya da yansıtmadığını belirtmek için sizi en iyi tanımlayan rakamı işaretleyiniz.

- 1 = Hiç katılmıyorum
2 = Biraz katılmıyorum
3 = Ne katılıyorum ne de katılmıyorum (kararsızım)
4 = Biraz katılıyorum
5 = Tamamen katılıyorum

Kendimi biri olarak görüyorum

1. Konuşkan	1	2	3	4	5
2. Başkalarında hata arayan	1	2	3	4	5
3. İşini tam yapan	1	2	3	4	5
4. Bunalımlı, melankolik	1	2	3	4	5
5. Orijinal, yeni görüşler ortaya koyan	1	2	3	4	5
6. Ketum/vakur	1	2	3	4	5
7. Yardımsever ve çıkarıcı olmayan	1	2	3	4	5
8. Biraz umursamaz	1	2	3	4	5
9. Rahat, stresle kolay baş eden	1	2	3	4	5
10. Çok değişik konuları merak eden	1	2	3	4	5
11. Enerji dolu	1	2	3	4	5
12. Başkalarıyla sürekli didişen	1	2	3	4	5
13. Güvenilir bir çalışan	1	2	3	4	5
14. Gergin olabilen	1	2	3	4	5
15. Maharetli, derin düşünen	1	2	3	4	5
16. Heyecan yaratabilen	1	2	3	4	5
17. Affedici bir yapıya sahip	1	2	3	4	5
18. Dağınık olma eğiliminde	1	2	3	4	5
19. Çok endişelenen	1	2	3	4	5
20. Hayal gücü yüksek	1	2	3	4	5
21. Sessiz bir yapıda	1	2	3	4	5
22. Genellikle başkalarına güvenen	1	2	3	4	5
23. Tembel olma eğiliminde olan	1	2	3	4	5
24. Duygusal olarak dengeli, kolayca keyfi kaçmayan	1	2	3	4	5

Appendix E (Continued)

25. Keşfeden, icat eden	1	2	3	4	5
26. Atılgan bir kişiliğe sahip	1	2	3	4	5
27. Soğuk ve mesafeli olabilen	1	2	3	4	5
28. Görevi tamamlanıncaya kadar sebat edebilen	1	2	3	4	5
29. Dakikası dakikasına uymayan	1	2	3	4	5
30. Sanata ve estetik değerlere önem veren	1	2	3	4	5
31. Bazen utangaç, çekingen olan	1	2	3	4	5
32. Hemen hemen herkese karşı saygılı ve nazik olan	1	2	3	4	5
33. İşleri verimli yapan	1	2	3	4	5
34. Gergin ortamlarda sakin kalabilen	1	2	3	4	5
35. Rutin işleri yapmayı tercih eden	1	2	3	4	5
36. Sosyal, girişken	1	2	3	4	5
37. Bazen başkalarına kaba davranabilen	1	2	3	4	5
38. Planlar yapan ve bunları takip eden	1	2	3	4	5
39. Kolayca sinirlenen	1	2	3	4	5
40. Düşünmeyi seven, fikirler geliştirebilen	1	2	3	4	5
41. Sanata ilgisi çok az olan	1	2	3	4	5
42. Başkalarıyla işbirliği yapmayı seven	1	2	3	4	5
43. Kolaylıkla dikkati dağılan	1	2	3	4	5
44. Sanat, müzik ve edebiyatta çok bilgili	1	2	3	4	5

APPENDIX F: PORTRAIT VALUES QUESTIONNAIRE

PORTRE DEĞERLER ANKETİ

Aşağıda bazı kişiler kısaca tanımlanmaktadır. Lütfen her tanımı okuyun ve bu kişilerin size ne kadar benzediğini ya da benzemediğini ilgili ifadenin altında belirtin.

	Bana çok benziyor	Bana benziyor	Bana az benziyor	Bana çok az benziyor	Bana benzemiyor	Bana hiç benzemiyor
1. Yeni fikirler bulmak ve yaratıcı olmak onun için önemlidir. İşleri kendine özgü yollarla yapmaktan hoşlanır.						
2. Onun için zengin olmak önemlidir. Çok parası ve pahalı şeyleri olsun ister.						
3. Dünyada herkesin eşit muamele görmesinin önemli olduğunu düşünür. Hayatta herkesin eşit fırsatlara sahip olması gerektiğine inanır.						
4. Onun için yeteneklerini göstermek çok önemlidir. İnsanların onun yaptıklarına hayran olmasını ister.						
5. Onun için güvenli bir çevrede yaşamak önemlidir. Güvenliğini tehlikeye sokabilecek her şeyden kaçınır.						
6. Hayatta pek çok farklı şey yapmanın önemli olduğunu düşünür. Her zaman deneyecek yeni şeyler arar.						
7. İnsanların kendilerine söylenenleri yapmaları gerektiğine inanır. İnsanların her zaman, hatta başkaları izlemiyorken bile, kurallara uymaları gerektiğini düşünür.						
8. Kendisinden farklı olan insanları dinlemek onun için önemlidir. Onlarla aynı fikirde olmadığında bile onları anlamak ister.						
9. Sahip olduğundan daha fazlasını istememenin önemli olduğunu düşünür. İnsanların sahip olduklarıyla tatmin olmaları gerektiğine inanır.						

10. Eğlenmek için her fırsatı kollar. Zevk veren şeyleri yapmak onun için önemlidir.						
11. Yaptığı işler hakkında kendi başına karar vermek onun için önemlidir. Faaliyetlerini seçip planlarken özgür olmaktan hoşlanır.						
12. Çevresindeki insanlara yardım etmek onun için çok önemlidir. Onların refaha kavuşmasını ister.						
13. Çok başarılı olmak onun için önemlidir. İnsanlar üzerinde iyi izlenim bırakmaktan hoşlanır.						
14. Ülkesinin güvende olması onun için çok önemlidir. Devletin içeriden ve dışarıdan gelebilecek tehditlere karşı uyanık olması gerektiğini düşünür.						
15. Risk almaktan hoşlanır. Her zaman macera peşinde koşar.						
16. Her zaman uygun şekilde davranmak onun için önemlidir. İnsanların yanlış diyeceği şeyleri yapmaktan kaçınmak ister.						
17. İşin başında olmak ve başkalarına ne yapacaklarını söylemek onun için önemlidir. İnsanların onun söylediklerini yapmalarını ister.						
18. Arkadaşlarına sadık olmak onun için önemlidir. Kendisini ona yakın olan insanlara adamak ister.						
19. İnsanların doğayı korumaları gerektiğine gönülden inanır. Çevreyi korumak onun için önemlidir.						
20. Dini inanç onun için önemlidir. Dininin gereklerini yerine getirmek için çok çaba harcar.						
21. Eşyaların düzenli ve temiz olması onun için önemlidir. Her şeyin pislik içinde olmasından hiç hoşlanmaz.						
22. Her şeyle ilgili olmanın önemli olduğunu düşünür. Meraklı olmaktan ve her türlü şeyi anlamaya çalışmaktan hoşlanır.						
23. Dünyadaki bütün insanların uyum içinde yaşaması gerektiğine inanır. Dünyadaki bütün gruplar arasında barışın güçlenmesi onun için önemlidir.						
24. Hırslı olmanın önemli olduğunu düşünür. Ne kadar kabiliyetli olduğunu göstermek ister.						

25. İşleri geleneksel yollarla yapmanın en iyisi olduğunu düşünür. Öğrendiği gelenek ve göreneklerin devam ettirmek onun için önemlidir.						
26. Hayattan zevk almak onun için önemlidir. Kendisini “şımartmaktan” hoşlanır.						
27. Başkalarının ihtiyaçlarına cevap vermek onun için önemlidir. Tanıdıklarına destek olmaya çalışır.						
28. Ana-babasına ve yaşlı insanlara her zaman saygı göstermesi gerektiğine inanır. Onun için itaatkar olmak önemlidir.						
29. Herkese, hatta hiç tanımadığı insanlara bile adil muamele yapılmasını ister. Toplumdaki zayıfları korumak onun için önemlidir.						
30. Sürprizlerden hoşlanır. Heyecan verici bir yaşamının olması onun için önemlidir.						
31. Hastalanmaktan kaçınmak için çok çaba gösterir. Sağlıklı kalmak onun için çok önemlidir.						
32. Hayatta öne geçmek onun için önemlidir. Başkalarından daha iyi olmaya çalışır.						
33. Kendisini inciten insanları bağışlamak onun için önemlidir. İçlerindeki iyi yanları görmeye ve kin gütmemeye çalışır.						
34. Bağımsız olmak onun için önemlidir. Kendi ayakları üzerinde durmak ister.						
35. İstikrarlı bir hükümetin olması onun için önemlidir. Sosyal düzenin korunması konusunda endişelenir.						
36. Başkalarına karşı her zaman kibar olmak onun için önemlidir. Başkalarını hiçbir zaman rahatsız veya huzursuz etmemeye çalışır.						
37. Hayattan zevk almayı çok ister. İyi zaman geçirmek onun için önemlidir.						
38. Alçakgönüllü ve kibirsiz olmak onun için önemlidir. Dikkatleri üzerine çekmemeye çalışır.						
39. Her zaman kararları veren kişi olmak ister. Lider olmaktan hoşlanır.						
40. Doğaya uyum sağlamak ve onun uyumlu bir parçası olmak onun için önemlidir. İnsanların doğayı değiştirmemesi gerektiğine inanır.						

APPENDIX G: DEBRIEFING FORM

KATILIM SONRASI BİLGİ FORMU

Bu araştırma daha önce de belirtildiği gibi, ODTÜ Psikoloji Bölümü yüksek lisans programı Trafik ve Ulaşım Psikolojisi Opsiyonu öğrencisi Arş. Gör. Nesrin Budak tarafından Prof. Dr. Türker Özkan danışmanlığında tez çalışması olarak yürütülmektedir. Çalışmanın amacı değerler, kişilik faktörü ve yaya davranışları arasındaki ilişkinin araştırılmasıdır.

Bu amaçla katılımcılardan bir ölçek setini doldurmaları istenmiştir. Araştırmanın sonunda değerler, kişilik faktörü ve yaya davranışları arasında ilişkinin bulunması beklenmektedir.

Bu çalışmadan alınacak ilk verilerin Haziran 2020 sonunda elde edilmesi amaçlanmaktadır. Elde edilen bilgiler sadece bilimsel araştırma ve yazılarda kullanılacaktır. Çalışmanın sağlıklı ilerleyebilmesi ve bulguların güvenilir olması için çalışmaya katılacağını bildiğiniz diğer kişilerle çalışma ile ilgili detaylı bilgi paylaşımında bulunmamanızı dileriz Bu araştırmaya katıldığınız için tekrar çok teşekkür ederiz.

Araştırmanın sonuçlarını öğrenmek ya da daha fazla bilgi almak için aşağıdaki isimlere başvurabilirsiniz.

Prof. Dr. Türker Özkan (ozturker@metu.edu.tr)

Nesrin Budak (nesrin.budak@metu.edu.tr)

Çalışmaya katkıda bulunan bir gönüllü olarak katılımcı haklarınızla ilgili veya etik ilkelerle ilgili soru veya görüşlerinizi ODTÜ Uygulamalı Etik Araştırma Merkezi'ne iletebilirsiniz.

e-posta: ueam@metu.edu.tr

APPENDIX H. TURKISH SUMMARY / TÜRKÇE ÖZET

1. GİRİŞ

Trafik kazaları her yıl dünyada milyonlarca insanın yaralanmasına ve hayatını kaybetmesine sebebiyet vermektedir. Bu durum giderek kötüleşmektedir ve trafik kazalarından kaynaklanan ölümlerin sayısı artmaktadır. 2018 verilerine göre dünyada her yıl 1.35 milyon insan hayatını kaybetmektedir. Yayaalar, bisikletliler ve motosikletliler, sürücülere kıyasla korunmasız durumları nedeniyle savunmasız yol kullanıcıları risk grubu oluşturur. Yayaalar küresel olarak ölümlü trafik kazalarının %26'sını temsil etmektedir (WHO, 2018).

Türkiye'de de trafik kazalarının sebep olduğu hayat kayıpları önemli bir sorundur. 2018 yılında trafik kazalarından dolayı hayatını kaybedenlerin sayısı 5473 olarak rapor edilmiştir. Yayaalar Türkiye'de ise ölümlü trafik kazalarının %23'ünü ve yaralanmaların %11.8'ini temsil etmektedir (Türkiye İstatistik Kurumu, 2020). Bu verilere göre, yaya davranışları ile ilgili değişkenleri anlamak daha güvenli bir trafik ortamı sağlamaya katkıda bulunabilir.

1.1. Yaya Davranışları

Yayaaların davranışlarını incelemek, bu davranışların kazalar üzerindeki etkisini belirlemeye yardımcı olur. Ancak yaya davranışları, yol güvenliği araştırmacılarından sürücü davranışları kadar ilgi görmemiştir. Araştırmaların geneli yaya davranışlarından ziyade sürücü davranışlarına odaklanmıştır (Rosenbloom, Nemdorov ve Barkan, 2004). Yaya davranışlarına yönelik araştırmalar son zamanlarda daha fazla ilgi görmeye başlamıştır (Qu ve ark., 2016).

Yayaaların savunmasız durumuna ek olarak, yayaaların trafikte tehlikeli ve dikkatsiz davranışlar sergilemesi, kazaya karışma riskini önemli ölçüde artırmaktadır (Mako ve Szakonyi, 2016; McIlroy ve ark., 2019; Qu ve ark., 2016). Örneğin, Mako and Szakonyi (2016) yayaaların reskli davranışlarının kazalarda bir artışa sebebiyet

verdiğini raporlamıştır. Genel olarak çalışmalar, yaya davranışlarının yayalarla ilgili kazaların temel bir unsuru olduğunu göstermektedir.

İlgili literatürde riskli ve güvenli yaya davranışları ile ilgili faktörler incelendiğinde, demografik faktörler (yaş, cinsiyet, medeni durum, ehliyet sahibi olma vb.) (Harrell, 1991; Diaz, 2002; Qu vd., 2016), çevresel ve durumsal faktörler (hava ve yol koşulları, ruh hali vb.) (Harrell, 1991), tutumlar (Diaz, 2002; Evans ve Norman, 2003 ; Zhou, Romero ve Qin, 2016), değerler (Solmazer ve ark., 2020) ve kişilik özellikleri (Şimşekoğlu, 2015; Qu ve ark., 2016) gibi faktörler ana faktörler olarak belirlenmiştir ve sıkça çalışılan konulardandır.

Cinsiyet ve yaş, yaya davranışlarının önemli belirleyicileri olarak gösterilmiştir ve en çok çalışılan demografik faktörlerdir. Harrell (1991) yaşlı yayaların ve kadınların trafikteki tehlikeli durumlar hakkında farkındalıklarının yüksek olduğunu ve karşıdan karşıya geçerken daha dikkatli olduklarını belirtmiştir. Diaz (2002), genç yayaların ve erkeklerin, yaşlılara ve kadınlara göre daha fazla ihlal, hata ve dalgınlık gösterdiğini bildirmiştir.

Yaya davranışlarının belirleyicileri olarak değerler ve kişilik özellikleri de araştırılmıştır (Herrero-Fernández ve ark., 2016; Solmazer ve ark., 2020; Yıldırım, 2007; Zheng ve ark., 2017). Bu değişkenler ilişki ilgili bölümlerde anlatılacaktır.

Genel olarak araştırmalar, yaya davranışlarının genellikle kazalarda belirleyici olduğunu ortaya koymaktadır. Kazaları önleme stratejileri ve müdahale programlarına bilgi sağlamak için, kişilerde bireysel farklılıkları ve yayalara ilişkili risk faktörlerini incelemek çok önemlidir.

1.2. Beş Faktör Kişilik Özellikleri

Kişilik özellikleri, davranışlar, algılar ve duygulardaki bireysel farklılıklar üzerinde belirleyici etkiye sahiptir. Beş Büyük Kişilik Modeli, kişiliği incelemek için en temel ve yaygın olarak kullanılan bir teori olduğu için bu çalışmada araştırılmak üzere seçilmiştir (John, Naumann ve Soto, 2008; Roccas, Sagiv, Schwartz & Knafo, 2002). Bu modele göre kişilik, dışadönüklük, uyumluluk, sorumluluk, duygusal

tutarsızlık ve deneyime açıklık olmak üzere beş ana boyuttan oluşur ve bu beş boyut aşağıdaki şekilde tanımlanmıştır (Costa, McCrae ve Dye, 1991; John ve Srivastava, 1999; McCrae ve Costa, 1987);

Dışadönük bireyler enerjik, heyecan arayan, konuşkan ve arkadaş canlısı olarak tanımlanır. Uyumluluk boyutunda daha yüksek puan alan kişiler, iyi huylu, mütevazı, fedakâr ve uyumlu davranışlar gösterme eğilimindedir. Sorumluluk boyutunda yüksek puan alan bireyler kurallara uyma, organize olma ve disiplinli olma eğilimindedir. Duygusal tutarsızlık boyutunda yüksek puan bireyler endişeli, sınırlı, depresif ve güvensiz hissetme eğilimindedir. Deneyime açıklık boyutunda yüksek puan alan bireyler özgünlük, açık görüşlülük, bağımsızlık ve yüksek hayal gücü gösterme eğilimindedir.

1.2.1. Kişilik ve Davranışlar

Kişilik özelliklerinin insanların nasıl düşündükleri, hissettikleri ve nasıl davrandıkları üzerinde güçlü bir etkisi vardır (McCrae ve Costa, 1987). Kişilik özelliklerinin trafik bağlamındaki rolü geniş çapta incelenmiştir (Fine, 1963; Arthur ve Graziano, 1996; Clarke ve Robertson, 2005; Sümer, Lajunen ve Özkan, 2005; Lajunen, 2001). Herrero-Fernández ve ark. (2016) yayaların risk alma eğiliminin dürtüsellik ile pozitif, sorumluluk kişilik özelliği ile negatif ilişkili olduğunu ortaya koymuştur. Sosyal uyma eğiliminin, yayaların çevredeki diğer insanlarla eşzamanlı olarak karşıdan karşıya geçmesine yol açtığı bulunmuştur (Zhou ve Horrey, 2009; 2010). Zheng ve ark. (2017) duygusal tutarsızlık kişilik özelliği ile yayalarda ihlaller ve dalgınlıklar arasında pozitif bir ilişki olduğunu ortaya koymuştur.

Genel olarak, kişilik özelliklerinin davranışlar üzerinde önemli bir rol oynadığı bulunmuştur. Beş Faktör kişilik özellikleri, yaygın olarak kullanılan bir modeldir ve yayalar arasındaki bireysel farklılıkları daha kapsamlı bir şekilde açıklamaya katkı sağlayabilir.

1.3. Schwartz Değerler Kuramı

Schwartz ve Bilsky (1987) değerler teorisini önermiş ve değerleri beş özellik ile tanımlamıştır; (1) Değerler, etkinleştirildiğinde olumlu ve olumsuz duygular üreten duygularla ilgili inançlardır; (2) Değerler, bireyleri arzu edilen hedeflere ulaşmaya motive eder; (3) Değerler belirli eylemleri aşar; (4) Değerler, eylemlerin, kişilerin, olayların seçimine ve değerlendirmelere rehberlik eden standartları veya kriterleri ifade eder; (5) Değerler, sıralı bir sistem oluşturarak diğer değerlere göre görece önemde işler. Değerler 3 temel yaşamsal ihtiyaca hizmet eder. Bunlar, biyolojik ihtiyaçlar, sosyal etkileşim ihtiyaçları ve grubun hayatta kalmasını ve refahını gözetilen ihtiyaçlardır.

Bu tanıma ve değerlerin gerekliliklerine dayanarak, Schwartz (1992) bir değer kuramı önermiştir ve on değer tipi tanımlamıştır: güç, başarı, hazcılık, uyarılma, özyönelim, evrenselcilik, iyilikseverlik, geleneksellik, uyuma ve güvenlik.

Teori ayrıca bu değer türleri arasında dinamik ilişkilerin varlığından bahsetmiştir. Dairesel düzlem üzerindeki değerlerin yakınlığı, bu yakınlığın değerlerin güdülerindeki benzerliğini gösterir. Benzer güdülere sahip değerler çemberde birbirlerine yakındırlar ve farklı güdülere sahip değerler çemberde zıt kutuplarda bulunur.

Muhafazacılık (Güvenlik, Geleneksellik, Uyuma), Değişime açıklık (Uyarım, Öz Yönlendirme) ile zıt kutuplarda bulunur. Özaşkınlık (Evrenselcilik, İyilikseverlik), Özyetkinlik (Başarı, Güç) ile zıt kutuplarda bulunur. Hazcılık, Değişime Açıklık ve Özyetkinlik boyutlarının her ikisine de dahildir (Schwartz, 1992; Schwartz, 2012).

Değerlerin yaş ve cinsiyet ile ilişkisi alanyazında sıkça çalışılan konulardır. Değer önceliklerinde yaşın rolü ile ilgili olarak Schwartz (2001), gençlerin özyönelim ve uyarılma değerlerine daha çok, uyuma, geleneksellik ve güvenlik değerlerine daha az önem verdiğini belirtmiştir. Solmazer ve ark. (2020), yaş ile uyuma, geleneksellik, güç ve koruma arasında pozitif bir ilişki bulmuştur.

Değer önceliklerinde cinsiyetin bazı çalışmalarda farklılık yaratırken bazı çalışmalarda bir farklılık yaratmadığı bulgulanmıştır. Örneğin, Ryckman ve Houston (2003), değer önceliklerinde cinsiyet farklılıklarının rolünü incelemek için yaptıkları araştırmada kadınların iyilikseverlik, evrensellik ve güvenliğe erkeklerden daha fazla önem verdiğini ve kadınların ve erkeklerin güç ve başarıya eşit önem verdiğini bulmuşlardır. Bazı araştırmalar ise cinsiyet farklılığının değerlerde önemli ölçüde farklılık oluşturmadığını vurgulamaktadır (Demirutku ve Sümer, 2010; Schwartz ve Rubel-Lifschitz, 2009; Yılmaz, Avşaroglu ve Deniz, 2010).

1.3.2. Değerler ve Davranışlar

Alanyazındaki bulgular değerlerin insanların eylemlerini incelemeye yardımcı olabileceği fikrini desteklemektedir (Roccas ve Sagiv, 2017). Değer-davranış bağlantısı alanyazında genel olarak kabul edilmektedir. Schwartz'ın değer teorisi, değerleri motivasyonel yapılar olarak ve eylemleri seçmede yol gösterici ilkeler olarak tanımlamıştır (Schwartz, 1992). Değerlerin bireylerin olayları yorumlamaları üzerindeki etkisi, insanların eylemlerine rehberlik edebilir (Schwartz, 2017). Değerler, olayları yorumlarken etkili ve motive edicidir, böylece etkinleştirildiklerinde davranışları etkileyebilirler (Bardi ve Schwartz, 2003; Verplanken ve Holland, 2002).

Yaya davranışlarının bir yordayıcısı olarak değerler yaya bağlamında incelenmiştir. Fakat yaya davranışları ile değerler arasındaki ilişkiyi inceleyen çalışmalar sınırlı sayıdadır. Solmazer ve ark. (2020) yaya davranışlarını ve değerleri inceleyen kültürler arası bir çalışma yapmış ve Türkiye için özaşkınlık dalgınlıklar ve saldırgan davranışlarla negatif ilişkili bulunmuştur. Muhafazacılık ise olumlu davranışlarla pozitif ilişkili bulunmuştur. Birlikte ele alındığında bu araştırmalar, değerlerin sürücülerin ve yayaların davranışlarını etkileyerek trafik bağlamında önemli bir rol oynadığı fikrini desteklemektedir. Bu çalışmada, değerlerin kişilik ve yaya davranışları arasındaki ilişkiyi ne ölçüde etkilediğini anlamak için değerlerin aracı rolü araştırılacaktır.

1.3.3. Değerler ve Kişilik Özellikleri

Kişilik ve değerler arasındaki ilişki konusunda birçok araştırma yapılmıştır. Örnek vermek gerekirse, Roccas ve arkadaşları (2002) kişilik-değer ilişkisini incelemiştir ve bulgular şu şekildedir: Dışadönüklüğün başarı, uyarılma, hazcılık ile pozitif ilişkili ve geleneksellik ile olumsuz ilişkili olduğu bulunmuştur. Deneyime açıklığın evrenselcilik, özyönelim ve uyarılma pozitif bir ilişkisi ve güç, uyma, geleneksellik ve güvenlikle negatif bir ilişkisi olduğu bulunmuştur. Uyumluluk iyilikseverlik, geleneksellik ve uyma ile pozitif bir ilişki ve güç, başarı, hazcılık, uyarılma ve özyönelim ile negatif bir ilişki göstermiştir. Sorumluluk başarı, uyma, güvenlik ile pozitif ve uyarılma ile negatif olarak ilişkilendirilmiştir. Duygusal tutarsızlık, değerlerle zayıf bir şekilde ilişkilendirilmiştir. Bu çalışmalar kişilik ve değerler arasındaki ilişkileri göstermektedir.

1.3.4. Değerler ve Kişilik Özelliklerinin Ortak Etkisi

Belirtildiği gibi, kişilik-değerler ilişkisi alanyazında geniş çapta incelenen bir konudur. Birbirleriyle olan güçlü ilişkileri birçok araştırmacı tarafından kanıtlanmıştır (Grankvist ve Kajonius, 2015; Olver ve Mooradian, 2003; Roccas ve ark, 2002). Skimina, Ciecuch ve Strus (2018), kişilik özelliklerinin ve değerlerin birbirine katkıda bulunduğunu ve davranışlar gibi bazı sonuç değişkenlerinin önemli belirleyicileri olduklarını bildirmişlerdir. Bazı araştırmalar, geniş çapta incelenen bu iki yapının ortak katkısını araştırmıştır. Örnek vermek gerekirse, Beş Büyük kişilik özellikleri ile siyasi tercihler arasındaki ilişkide değerlerin aracı rolünü araştırmayı amaçlayan bir çalışma, evrensellik ve güvenlik değerleri uyumluluk ve sorumluluk kişilik özellikleri ile siyasi tercihler arasındaki ilişkide aracı değerler olarak bulunmuştur (Caprara, Vecchione & Schwartz, 2009).

Yaya davranışları ile kişilik özelliklerinin ve değerlerin ilişkileri ayrı ayrı incelenmesine rağmen, önceki çalışmalar bu değişkenlerin yaya davranışları üzerindeki ortak etkilerini araştırmamıştır. Bu kapsamda bu çalışmada, beş Büyük kişilik özellikleri ile yaya davranışları arasındaki ilişkide değerlerin aracılık rolü ele alınacak ve araştırılacaktır.

1.5. Çalışmanın Amacı

Çalışmanın temel amacı, kişilik özellikleri ile yaya davranışları arasındaki ilişkide değerlerin aracı rolünü araştırmaktır.

2. YÖNTEM

2.1. Katılımcılar

İstatistiksel analizler 633 kişilik bir örneklem ile yapılmıştır. Örneklem 361 kadın (% 57) ve 272 erkek (% 43) katılımcıdan oluşmaktadır. Yaş aralığı 18 ile 56 arasında ve ortalama yaş 26,07 yıldır (SS = 6,5). 48 katılımcı aktif veya pasif bir kaza geçmişi belirtmiştir. Ankete katılan katılımcıların ortalama yürüme süresi günlük 52,28 dakikadır.

2.2. Veri Toplama Araçları

2.2.1. Demografik Bilgi Formu

Bu form, katılımcıların yaş, cinsiyet, eğitim durumu, sosyo-ekonomik düzey gibi demografik bilgilerini öğrenmeyi amaçlayan sorular içermektedir. Aynı zamanda yaya olarak kişilerin aktif ve pasif kaza geçmişi, cezalar ve günlük yürüme süresi gibi bilgiler toplamayı amaçlayan bazı sorulara da yer verilmiştir.

2.2.2. Yaya Davranışları Ölçeği

Yaya Davranışı Ölçeği Granie ve arkadaşları tarafından geliştirilmiştir (2013). Sürücü sapkın davranışları, saldırgan davranışlar ve olumlu davranışları ölçekleri temelinde geliştirilmiş kapsamlı bir ölçektir (Özkan ve Lajunen, 2005; Lawton ve ark., 1997; Reason ve ark., 1990). Ölçek Türkçe'ye Demir (2017) tarafından uyarlanmıştır. Mevcut çalışmada ölçeğin bu uyarlaması kullanılmıştır. 20 maddeden oluşan dört faktörlü bir ölçektir; ihlaller (8 madde), dalgınlıklar (4 madde), saldırgan davranışlar (4 madde) ve olumlu davranışlar (4 madde).

2.2.3. Beş Faktör Envanteri

Kişilik özelliklerini ölçmek için John ve Srivastava tarafından (1996) geliştirilen ve Sümer ve Sümer (2002) tarafından Türkçe'ye çevrilen Beş Faktör Envanteri bu çalışmada kullanılmıştır. Ölçek kişiliğin beş boyutunu ölçmeyi amaçlayan 44

maddeden oluşmaktadır; sorumluluk, uyumluluk, dışa dönüklük, deneyime açıklık ve duygusal tutarsızlık.

2.2.4. Portre Değerler Anketi

Portre Değerler Anketi Schwartz ve arkadaşları (2001) tarafından geliştirilmiştir. Bu çalışmada değerler ölçeğinin Türkçe çevirisi kullanılarak ölçülmüştür (Demirutku ve Sümer, 2010). Ölçek 40 maddeden oluşmaktadır. Hazcılık, uyarılma, özyönelim, başarı, güç, uyma, geleneksellik, güvenlik, evrenselcilik ve iyilikseverlik olmak üzere on tür değer vardır. İlk olarak, her bir birey için belirli bir değer alanındaki öge puanlarının ortalaması alınarak on değer alanı puanı oluşturulmuştur. İkincisi, dört değer boyunu hesaplamak için ilgili değerlerin puanlarının ortalaması alınarak Özaşkınlık, Özyetkinlik, Değişime Açıklık ve Muhafazacılık için dört puan oluşturulmuştur.

2.4. Prosedür

İlk olarak, Orta Doğu Teknik Üniversitesi Sosyal Bilimler Enstitüsü Etik Kurulu'ndan etik izin alınmıştır. Onay alındıktan sonra Qualtrics programı ile anketler hazırlanmış ve çalışma duyurusunun dağıtımını için sosyal medya kanalları kullanılmıştır.

3. SONUÇLAR

Dışadönüklük kişilik özelliği, güç, başarı, hazcılık, uyarılma, evrensellik, özyönelim, iyilikseverlik değerleri ve değişime açıklık, özaşkınlık ve özyetkinlik değer boyutları ile pozitif bir şekilde ilişkili bulunmuştur. Uyumluluk kişilik özelliği, güç, başarı ve özyetkinlik ile negatif; uyarılma, evrensellik, özyönelim, iyilikseverlik, geleneksellik, uyma, güvenlik değerleri ve değişime açıklık, muhafakarlık ve özaşkınlık değer boyutlarıyla pozitif bir şekilde ilişkili bulunmuştur. Duygusal tutarsızlık kişilik özelliği güç, başarı ve özyetkinlik ile pozitif; uyarılma, özyönelim, iyilikseverlik ve değişime açıklık ile negatif bir şekilde ilişkili bulunmuştur. Sorumluluk kişilik özelliği, başarı, evrensellik, özyönelim, iyilikseverlik, geleneksellik, uyma, güvenlik değerleri ve muhafakarlık, özyetkinlik ve özaşkınlık boyutlarıyla ilgili pozitif bir şekilde ilişkili bulunmuştur. Deneyime açıklık kişilik özelliği, güç, başarı, hazcılık, uyarılma, özyönelim, evrensellik, iyilikseverlik, güvenlik değerleri ve değişime açıklık, özaşkınlık ve özyetkinlik boyutlarıyla pozitif bir şekilde ilişkili bulunmuştur ve geleneksellik ile negatif bir şekilde ilişkili bulunmuştur.

Aracılık analizleri, kişilik özellikleri ile yaya davranışları arasındaki ilişkiye değerlerin aracılık edip etmediğini incelemek için yapılmıştır. Analizler Process Macro kullanılarak yapılmıştır (2020). İlk aracılık analizlerinde kişilik özellikleri ile ihlaller arasındaki ilişkide değerlerin aracı rolü incelenmiştir. Uyumluluk kişilik özelliği ve ihlaller arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = -.28$). Özyönelim, evrensellik, uyma, güvenlik, muhafazakârlık ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = -.26$, $\beta = -.20$, $\beta = -.22$, $\beta = -.23$, $\beta = -.21$ ve $\beta = -.18$ bulunmuştur. Bu değerlerin, uyumluluk ve ihlaller arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Sorumluluk kişilik özelliği ve ihlaller arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = -.35$). Özyönelim, evrensellik, uyma, güvenlik, muhafazakârlık ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = -.32$, $\beta = -.30$, $\beta = -.29$, $\beta = -.28$, $\beta = -.28$ ve $\beta = -.30$ bulunmuştur. Bu değerlerin,

sorumluluk ve ihlaller arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Duygusal tutarsızlık kişilik özelliği ve ihlaller arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .13$). Özyönelim bu ilişkide aracı rolü üstlendiğinde direk etki $\beta = .11$ bulunmuştur. Özyönelim değerinin, duygusal tutarsızlık ve ihlaller arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur.

Uyumluluk kişilik özelliği ve dalgınlıklar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = -.22$). Özyönelim, uyma, güvenlik ve muhafazakârlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = -.18$, $\beta = -.17$, $\beta = -.18$ ve $\beta = -.16$ bulunmuştur. Evrensellik ve özaşkınlık değerlerinin istatistiksel etkisi kontrol edildiğinde ise, sorumluluk kişilik özelliği ve dalgınlıklar arasındaki ilişki anlamlılığını kaybetmiştir. Yani, evrensellik ve özaşkınlık değerleri sorumluluk kişilik özelliği ve dalgınlıklar arasındaki ilişkiye tam aracılık etmektedir. Bahsi geçen değerlerin uyumluluk ve dalgınlıklar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Sorumluluk kişilik özelliği ve dalgınlıklar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = -.33$). Özyönelim, evrensellik, iyilikseverlik, uyma, güvenlik, muhafazakârlık ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = -.27$, $\beta = -.28$, $\beta = -.29$, $\beta = -.29$, $\beta = -.27$, $\beta = -.28$ ve $\beta = -.28$ bulunmuştur. Bu değerlerin, sorumluluk ve dalgınlıklar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Duygusal tutarsızlık kişilik özelliği ve dalgınlıklar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .26$). Özyönelim bu ilişkide aracı rolü üstlendiğinde direk etki $\beta = .23$ bulunmuştur. Özyönelim değerinin, duygusal tutarsızlık ve dalgınlıklar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur.

Uyumluluk kişilik özelliği ve saldırgan davranışlar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = -.39$). Özyönelim, evrensellik, iyilikseverlik, geleneksellik, uyma, güvenlik, muhafazakârlık ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki

sırasıyla $\beta = -.36$, $\beta = -.28$, $\beta = -.24$, $\beta = -.36$, $\beta = -.35$, $\beta = -.35$, $\beta = -.32$ ve $\beta = -.22$ bulunmuştur. Bu değerlerin, uyumluluk ve saldırgan davranışlar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Duygusal tutarsızlık kişilik özelliği ve saldırgan davranışlar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .11$). Özyönelim, iyilikseverlik ve değişime açıklık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = .08$, $\beta = .08$ ve $\beta = .09$ bulunmuştur. Bu değerlerin istatistiksel etkisi kontrol edildiğinde ise, duygusal tutarsızlık kişilik özelliği ve saldırgan davranışlar arasındaki ilişki anlamlılığını kaybetmiştir. Yani, evrensellik ve özaşkınlık değerleri duygusal tutarsızlık kişilik özelliği ve dalgınlıklar arasındaki ilişkiye tam aracılık etmektedir. Bahsi geçen değerlerin uyumluluk ve dalgınlıklar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur.

Uyumluluk kişilik özelliği ve olumlu davranışlar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .28$). Güç ve evrensellik ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = .25$ ve $\beta = .22$ bulunmuştur. Bu değerlerin, uyumluluk ve olumlu davranışlar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Sorumluluk kişilik özelliği ve olumlu davranışlar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .19$). Evrensellik, özyetkinlik ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = .16$, $\beta = .22$ ve $\beta = .16$ bulunmuştur. Bu değerlerin, sorumluluk ve olumlu davranışlar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur. Deneyime açıklık kişilik özelliği ve olumlu davranışlar arasında değerlerin aracı rolü incelendiğinde, ilişkinin toplam etkisinin anlamlı olduğu bulunmuştur ($\beta = .20$). Güç, evrensellik, özyetkinlik ve özaşkınlık ayrı ayrı bu ilişkide aracı rolü üstlendiğinde direk etki sırasıyla $\beta = .23$, $\beta = .16$, $\beta = .23$ ve $\beta = .17$ bulunmuştur. Bu değerlerin, deneyime açıklık ve olumlu davranışlar arasındaki ilişkiye direk olmayan etkisi anlamlı bulunmuştur.

4. TARTIŞMA

Çalışmanın ana amacı Beş Faktör kişilik özellikleri ile yaya davranışları arasındaki ilişkide değerlerin aracı rolünün ilk kez alanyazında incelenmesidir.

Bu bölümde sonuçların değerlendirilmesi, çalışmanın sınırlılıkları, öneriler ve çalışmanın katkıları aktarılacaktır.

Sonuçların Değerlendirilmesi

Beş faktör kişilik özellikleri ile değerler ve yaya davranışları arasında anlamlı ilişkiler bulunmuştur. Genel olarak kişilik özellikleri ile benzer güdülere sahip değerler ilişkili bulunmuştur. Örneğin, dışa dönüklük kişilik özelliği heyecan arayışı ve enerji ile tanımlanmıştır (John & Srivastava, 1999). Bu özellikler özyönelim ve hazcılık değerlerinin güdeleri ile benzeşmektedir. Bu çalışmada ise önceki çalışmalarla tutarlı bir şekilde dışadönüklük ve özyönelim ve hazcılık değerleri ile pozitif bir ilişki bulunmuştur.

Aracı analizlere bakıldığında ise, uyumluluk ve sorumluluk kişilik özellikleri ihlaller ve dalgınlıklar ile negatif yönde ilişkilidir. Bu çalışmada ise sorumluluk kişilik özelliği güvenlik, başarı, uyma ve evrenselcilik değerleri ile ilişkili bulundu. Bu nedenle, bu bireylerin güvenli bir şekilde davranmaları ve diğer insanlara karşı olumlu davranış kalıpları göstermeleri beklenen bir sonuçtur. Uyumluluk kişilik özelliği, yardımseverlik, arkadaş canlısı, fedakârlık ve alçakgönüllülük olarak tanımlanmıştır (John ve Srivastava, 1999). Bu çalışmada bu kişilik özelliği evrenselcilik, iyilikseverlik ve uyma değerleri ile olumlu bir şekilde ilişkilendirilmiştir. Bu nedenle, bu bireylerin yayalar olarak olumlu davranış sergilemeleri ve başkalarına zarar vermemek için riskli durumlardan kaçınmaları beklenen bir sonuçtur. Uyumluluk ve sorumluluk kişilik özellikleri ve riskli yaya davranışları arasındaki ilişkide hemen hemen aynı değerler aracı rolü üstlenmiştir. Aynı zamanda bu kişilik özellikleri ve yaya davranışları benzer örüntüler göstermişlerdir.

Yüksek duygusal tutarsızlık ve düşük özyönelim değerine sahip insanlar, yayalar olarak daha fazla ihlal, dalgınlık ve saldırgan davranış gösterme eğilimindedirler. Bu sonuçlar, değerlerin kişilik-davranış ilişkisi üzerindeki önemli etkisine dair güçlü kanıtlar sunmaktadır. Duygusal tutarsızlığı yüksek olan kişiler için ise özyönelim değerinin yaya davranışları üzerindeki etkisine ve önemine ışık tutan bir çalışmadır.

Deneyime açıklık ise olumlu davranışlarla olumlu bir şekilde ilişkilendirilmiştir. Bununla birlikte, güç ve özyetkinlik bu ilişkiye tutarsız bir şekilde aracılık etmiştir, bu da bu değerlerin baskılayıcı bir rol oynadığı anlamına gelmektedir. Deneyime açıklık ile olumlu davranışlar, evrenselcilik ve özyetkinlik değerleri arasında pozitif bir ilişki bulunmuştur, ancak bu değerler pozitif davranışlarla negatif bir ilişki göstermiştir. Aynı zamanda uyumluluk ve sorumluluk kişilik özellikleri de olumlu davranışlarla pozitif bir ilişki göstermiştir. Evrensellik değeri bu ilişkilerde aracı rolü üstlenmiştir. Genel olarak ise, kişilik özellikleri ve olumlu davranışlar arasındaki ilişkide değerlerin aracı rolüne bakıldığında Schwartz (1992) modelinde belirtildiği gibi, güç ve evrensellik gibi karşılıklı değerler ilişkiler üzerinde zıt yönde bir etki göstermiştir.

Bunlara ek olarak ise, kişisel odak ve sosyal odak olarak değerlerin iki üst boyutu tanımlanmıştır (Schwartz, 2012). Bu çalışmada genel olarak sosyal odak boyunda yer alan değerlerin ilişkilere aracılık ettiği bulunmuştur. Sosyal odak boyutu muhafazakârlık ve özaşkınlık değer boyutlarını içermektedir. Sosyal odak boyutunun daha fazla aracı rolü üstlenmesi yaya olmanın kişiyi sosyal bir varlık haline getirmesi ve toplumun bir parçası yapmasıyla açıklanabilir.

Sonuç olarak, bu çalışmada ilk kez yapılan aracı analizleri, kişilik özellikleri ile yaya davranışları arasındaki ilişkiye değerlerin aracılık ettiğini göstermiştir.

Çalışmanın Sınırlılıkları ve Öneriler

Araştırmanın bulguları değerlendirilirken bazı durumlar göz önünde bulundurulmalıdır. Öz bildirim ölçeklerinin kullanılmış olması katılımcılarda sosyal

istenilirliğe sebebiyet vermiş olabilir. Bir diğer yöntemsel kısıtlama ise çalışmanın tek bir zaman diliminde yürütülmüş olmasıdır. Bu çalışmalarda nedensellik yorumu yapmak mümkün olmamaktadır. Gelecekteki çalışmalar tek bir zaman noktasında yürütmektense boylamsal olarak konuyu inceleyebilir. Son olarak bu çalışma bir kültürde uygulanmıştır. Daha kapsamlı ve genellenebilir sonuçlar elde etmek için kültürlerarası çalışmalar yürütülebilir.

Çalışmanın katkıları

Bu çalışma, değerlerin, kişilik özelliklerinin, yaya davranışlarının ve bu değişkenlerin ilişkilerinin kapsamlı bir şekilde incelenmesini sağlayarak alanyazına katkıda bulunmaktadır. Öte yandan, bilindiği kadarıyla, değerlerin aracı rolü kişilik özellikleri ve yaya davranışları arasındaki ilişkide daha önce incelenmemiştir. Bu çalışmaya değerler dahil edilerek, kişilik özelliklerinin yaya davranışları üzerindeki dolaylı etkileri de araştırılmıştır. Araştırmanın bulguları, daha güvenli bir trafik sistemi oluşturmak için bireylerin davranışlarını değiştirmeyi amaçlayan müdahale programları geliştirmek için kullanılabilir.

Daha genç yayaların güvenli olmayan davranışlar sergileme eğilimini azaltmak için bu yaş gruplarını hedefleyen özel müdahaleler veya eğitim programları geliştirilebilir. Bu müdahaleler, bireylerin yaya olarak risk faktörlerini tanımasına, yolu diğer yol kullanıcıları ile en iyi şekilde paylaşmayı öğrenmesine ve bu bilinçle daha güvenli davranışlar geliştirmesine yardımcı olabilir. Örnek vermek gerekirse, bu müdahaleler eğitim müfredatına yerleştirilebilir. Yaya kuralları, yoldaki risk faktörleri ve güvenli davranışlar hakkında bilgi sağlamak için okullarda yol güvenliğine yönelik eğitimler verilebilir.

Ek olarak, yaya güvenliğini artırmayı amaçlayan müdahaleler kişilik özelliklerine ve bunların yaya davranışları üzerindeki değerler aracılığıyla dolaylı etkilerine odaklanabilir. Değerlere odaklanmak, müdahale programlarının içeriğini zenginleştirebilir. Güvenli davranışlarla ilgili değerler daha belirgin hale getirilebilir ve vurgulanabilir. Bardi ve Goodwin (2011) değer değişimi kavramını incelemiştir ve beş değer değişikliği yönteminden bahsetmişlerdir. Bardi ve Goodwin (2011)

tarafından ortaya konulan bu yollar, kişilerde değer değişikliği yaparak güvenlikle ilgili davranışları arttırmak için müdahale programlarına yerleştirilebilir. Örneğin, Arieli, Grant ve Sagiv (2013), iyilikseverlik değerinin önemini artırmak için beş yöntemden üçünü birleştirerek 30 dakikalık bir müdahale programı tasarlamışlardır. Müdahale sonunda iyiliksever değerinin öneminin arttığı raporlanmıştır. Bu tür müdahaleler, mevcut çalışmanın bulgularına ile ilişkilendirilerek yaya davranışları için de düşünülebilir. Mevcut çalışmanın bulgularına göre, duygusal tutarsızlık kişilik özelliği ile ihlaller, dalgınlıklar ve saldırgan davranışlar arasındaki ilişkide özyönetim değeri baskın aracı değişken olarak bulunmuştur. Yüksek duygusal tutarsızlığa sahip bireylerde özyönetim değerinin artmasının bu sapkın davranışları azaltabileceği söylenebilir. Öte yandan, sapkın davranışları azaltarak ve olumlu davranışları artırarak genel olarak kişilik ve yaya davranışları arasındaki ilişkiye aracılık eden değerler olan özyönelim, evrenselcilik, özaşkılık değerlerinin önemini artırılması, güç değerinin önemini azaltılması, olumlu davranışlarda artış ve sapkın davranışlarda azalmaya yol açabilir. Bu değerler, okullarda ve üniversitelerde karayolu güvenliği eğitime veya medya mesajlarına da yerleştirilebilir. Eğitim programlarına veya medya mesajlarına yerleştirilerek bu değerlerin önemi artırılabilir. Bununla birlikte, değerlerde değişiklik yapma fikri, bu alandaki temel ilkenin hayatın en kutsal olduğu olmasına rağmen, bazı etik soruları gündeme getirmektedir. Değerlerin önemini değiştirmeye çalışmak etik midir? Değer şekillendirmede sınır nedir? Değerlerin önemi hangi oranlarda artırılıp azaltılabilir?

Mevcut çalışmanın bulguları, değerler, kişilik özellikleri ve yaya davranışları arasındaki ilişkileri göstermektedir. Bu çalışma, kişilik özelliklerinin yaya davranışları üzerindeki doğrudan ve değerler aracılığı ile dolaylı etkilerini incelemiştir. Trafikte güvenliği arttırmayı amaçlayan müdahale programları geliştirilirken bu değişkenler dikkate alınmalıdır.

APPENDIX I. 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 : BUDAK

Adı / Name : Nesrin

Bölümü / Department : Psikoloji / Psychology

TEZİN ADI / TITLE OF THE THESIS (İngilizce / English): The Relationship Between Personality Traits and Pedestrian Behaviors: Mediating Role of Individual Values

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.