

THE RELATIONSHIP BETWEEN STUDENT ENGAGEMENT AND
SATISFACTION IN HIGHER EDUCATION

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PANDEMIC**

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ABSTRACT

THE RELATIONSHIP BETWEEN STUDENT ENGAGEMENT AND SATISFACTION IN HIGHER EDUCATION

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Student engagement is vital for achievement in higher education, and it is a direct way to academic success, cumulative learning, and constructive behavior in the long term. However, there is limited empirical research that has not yet been fully explored. Moreover, student satisfaction, which is directly influenced by student engagement, has been used as a strategy to improve the quality of services, facilities, and instruction provided by higher education institutions. Besides the complexity of higher education, the COVID-19 pandemic has had debilitating effects on student engagement and satisfaction. Therefore, the study was constructed to investigate the relationship between student engagement and student satisfaction in higher education.

Within the frame of this goal, the study was designed as a correlational study. The sample of the study consisted of 766 participants studying at state universities located in Ankara. The convenience sampling method was used to collect data through questionnaires administered online. Instruments included Student Engagement Questionnaire and Student Satisfaction Questionnaire. Simultaneous multiple linear

regression was applied to analyze the collected data. The results indicated that student engagement and student satisfaction have a relationship with dimensions under these terms. This study, therefore, is expected to be of value to researchers, instructors, administrative staff, policymakers, and higher education institutions wishing to increase student engagement, satisfaction, success, and quality of institutions.

Keywords: Student Engagement, Student Satisfaction, Higher Education, COVID-19 Pandemic

ÖZ

YÜKSEKÖĞRETİMDE ÖĞRENCİ KATILIMI VE MEMNUNİYETİ ARASINDAKİ İLİŞKİ

ÇALIŞKAN, Zehra

Yüksek Lisans, Eğitim Bilimleri, Eğitim Yönetimi ve Planlaması Bölümü
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Öğrenci katılımı, yükseköğretimde başarı için hayati öneme sahiptir ve uzun vadede akademik başarı, kümülatif öğrenme ve yapıcı davranış için doğrudan bir yoldur. Bununla birlikte, henüz tam olarak araştırılmamış sınırlı ampirik araştırma vardır. Ayrıca, öğrenci katılımından doğrudan etkilenen öğrenci memnuniyeti, yükseköğretim kurumları tarafından sağlanan hizmetlerin, imkanların ve öğretimin kalitesini artırmak için bir strateji olarak kullanılmıştır. Yükseköğretimin karmaşıklığının yanı sıra, COVID-19 pandemisinin öğrenci katılımı ve memnuniyeti üzerinde zayıflatıcı etkileri de oldu. Bu nedenle çalışma, yükseköğretimde öğrenci katılımı ile öğrenci memnuniyeti arasındaki ilişkiyi araştırmak üzere yapılandırılmıştır.

Bu amaç çerçevesinde, araştırma korelasyonel bir araştırma olarak tasarlanmıştır. Araştırmanın örneklemini Ankara ilinde bulunan devlet üniversitelerinde öğrenim gören 766 katılımcı oluşturmuştur. Çevrimiçi olarak uygulanan anketler aracılığıyla veri toplamak için kolaylıkla bulunabilen örneklem yöntemi kullanılmıştır. Araçlar arasında Öğrenci Katılımı Anketi ve Öğrenci Memnuniyeti Anketi yer aldı. Toplanan

verileri analiz etmek için eşzamanlı çoklu doğrusal regresyon uygulandı. Sonuçlar, öğrenci katılımı ve öğrenci memnuniyetinin bu terimler altındaki boyutlarla bir ilişkisi olduğunu göstermiştir. Bu nedenle, bu çalışmanın öğrenci katılımını, memnuniyetini, başarısını ve kurum kalitesini artırmak isteyen araştırmacılara, öğretim elemanlarına, idari personele, politika yapıcılara ve yükseköğretim kurumlarına değer katması beklenmektedir.

Anahtar Kelimeler: Öğrenci Katılımı, Öğrenci Memnuniyeti, Yükseköğretim, COVID-19 Pandemisi

To new beginnings

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LIST OF ABBREVIATIONS

CFA	Confirmatory Factor Analysis
COHE	Council of Higher Education
EFA	Exploratory Factor Analysis
GPA	Grade Points Average
ICT	Information Communication Technologies
MLR	Multiple Linear Regression
SE	Student Engagement
SS	Student Satisfaction
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UniAr	Üniversite Araştırmaları Laboratuvarı
ÜAK	Üniversiteler Arası Kurul
YÖK	Yükseköğretim Kurumu
YÖDEK	Yükseköğretim Kurumları Akademik Değerlendirme ve Kalite Geliştirme Komisyonu
YÖKAK	Yükseköğretim Kalite Kurulu

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The world has been gone through many changes lately. It became more integrated and interconnected of social, economical and cultural changes. These changes can be named as globalization, which drives the growth in interchange of services, goods, and stocks. In the environment of internationalization, competition is arisen as an important role for global economy, and it drives to increase in the number of highly skilled individual, and knowledge-based workforce. Higher education plays the main role in this point in the aspect of not only contributing globalization, but also enhancing the productivity worldwide by raising well-qualified individuals. Students in higher education are remarkably supported to mobilize all around the world to study or continue their programmes in another country. China may be count as a leading country of student mobility in higher education, and it doubles the number of students nearly 130 thousand from 2000 to 2010 (Korobova & Starobin, 2015). U.S. and European countries also welcome many international students over years, and countries collaborate to produce academic research by funding them, at the same time, compete each other for international rankings. Students may have the opportunity to expand their knowledge, conduct academic research, and experience career prospect globally. Besides that, they became the key actor to designate the visibility of higher education institutions by noticing their opinion for the university experiences. It is crucial to participate in educational activities and ensure their academic experiences sufficiently because institutions focus on academic success for students, consequently institutional achievement globally.

COVID-19 has also caused an irreversible change on every domain of life, including education. Many institutions worldwide have transitioned from face-to-face education to distance online learning due to dealing with the pandemic (Altbach & De Wit, 2020), and over one billion learners, which represent 68% of total enrolled learners, were affected by this closure until the end of 2020 (UNESCO, 2020a). It was difficult to predict the extent of the process in regard to the first time in history, so this shift needed to be rapid to eliminate potential future problems (Babacan & Yuvarlakbas, 2021). Precautions like social distancing, isolation, and quarantine for reducing personal contact became crucial to be taken because schools are socially dense environments. Preventing the spread of any epidemic has been accepted before as an effective way (Öçal, Halmatov & Ata, 2021).

Turkey followed a similar process in response to the COVID-19 crisis in its educational practices. Albeit certain minor differences, higher education followed minor differences. At the end of the postponement of three weeks for each level of education, the Council of Higher Education (COHE) announced that universities could decide the way which technological tools and techniques they use for distance learning and all academic and educational activities in higher education (courses, meetings, exams, etc.) started to be conducted through online on March 26, 2020 (Karadag, Su & Kocaturk, 2021). Remote teaching was done synchronously or asynchronously through different platforms such as Zoom, Google rooms, or video recorded lectures, and the communication was preceded by using WhatsApp or Email services (Harsha & Bai, 2020). Higher education institutions, academics, students, and personnel needed to adapt to this mandatory situation in a short time (Karadag, Su & Kocaturk, 2021). However, this period was difficult because of insufficient materials, experience, technological orientations, and technical support (Stone & Springer, 2019). During the process, teachers played significant roles in using their skills for keeping the learning process steady (Ting et al., 2020) because they needed to adapt to new situations by using different teaching and learning approaches for distance learning (Stone & Springer, 2019). Huang and colleagues emphasized the importance of working together to develop technological solutions to provide continuity of learning and teaching (2020a, b). UNESCO also indicated that students suffered from difficult circumstances, including not getting enough support and real teaching from their

teachers (2020b). To achieve this, such characteristics, including having an interactive environment between students and instructors, being available for meetings, the ability to prepare the course content, user management, holding exams, etc., are required (Abushamleh & Qusef, 2021).

UNESCO (2020a) also emphasized the psychological effects of COVID-19 on students, and there have been several studies conducted about the issues that students have trouble psychologically. For instance, Cao et al. claimed that anxiety symptoms emerged in students due to delays in academic activities, economic distress, and lack of social support (2020). These psychological challenges bring about poor mental health (Zhai & Du, 2020). Moreover, the isolation of online learners produced challenges to expressing verbally and using body language; a lack of sense of belongingness to the community; an inability to recognize students' needs by teachers; insufficiency of technological tools that slow down interaction (Gillett-Swan, 2017). Students who have poor socioeconomic status and along with students who are also working or parents have experienced online learning worsen in this process (Ezra et al., 2021). Ezra and colleagues specified common concerns as student concentration, teaching quality for instructors, technical issues in the learning environment, and the institution's attention to student difficulties and courses (2021). Student motivation and learning are affected negatively by lack of competence in using technology and technical challenges they experienced (Ozaydin Ozkara & Cakir, 2018). Islam and his colleagues (2015) discussed those technological constraints, lack of their adaptability to requirements of the academic context, and pedagogical difficulties in the interaction between students and instructors was discussed. Therefore, it is crucial to consider the effect of the pandemic to evaluate students' experiences at any time there after.

Student Engagement

Many studies suggested that student performance and outcomes are affected positively when they participate in the online learning environment. For instance, Myyry and colleagues (2022) found that students' anxiety level reduces long after the usage of Information and Communication Technology (ICT), and they start to connect subjects studied in the schools relevant to daily life (2017). Online learning has many benefits

for students' performance and outcomes in terms of flexible learning time, place, and learning modes, so they can follow their path and pace of the instruction process. Using technology also has the potential to improve their learning experience, control the learning environment individually, and motivate their own learning (Lin & Hsieh, 2001), especially for adult learners (MacDonald et al., 2001). However, these studies were before the COVID-19 crisis. The Covid-19 crisis influences students' engagement negatively because it leads to increase inequality and threatening their digital privacy of participants' online learning and teaching process (Khlaif, Salha, Fared & Rashed, 2021). The design of the course, teaching strategies, and assessments were made for face-to-face teaching, so it is different than online learning. Moreover, educational institutions, faculty, personnel, and students are not well-prepared for this urgent situation, so they are dragged into uncertainty, stress, and anxiety. Educational tools in urgent situations affect the learning environment, by doing so, student engagement is reshaped by these technologies, allowing stakeholders to communicate synchronously and asynchronously (Kurt, Atay & Öztürk, 2021). It is pivotal for institutions to switch to the online platform because student learning and satisfaction are highly dependent on student engagement (Martin & Bolliger, 2018). Educational equity in higher education institutions became more evident during the pandemic (Maloney & Kim, 2020) due to differences in access to educational tools. Inequality between students became a concerning issue as all students do not have access to similar resources when engaging in distance learning (Bakker & Wagner, 2020).

Student engagement surveys are conducted to measure their involvement in activities and conditions that are related to the high quality of learning. They help to understand the complex relationship between students' behaviors, thoughts, and emotions due to the strong relationship between engagement and academic success (Garcia & Pintrich, 1996). Institutions, personnel, and academics are responsible to stimulate students' involvement, as well as students, who play a significant role in engaging cognitively, constructing their knowledge, and learning (Reilly, Turcan & Bugaian, 2016). Finn (1993) also mentioned different dimensions of engagement as feeling part of a class and school and belonging to school values, which are called behavioral and emotional engagement, respectively. Moreover, Appleton and colleagues (2006) added a

psychological dimension, but it is less easy to observe by surveys. The main purpose of getting data from students is to understand how students participate in educationally purposeful activities and how their learning is affected by them (Raine & Gretton, n.d.). Therefore, by collecting students' opinions through surveys, student engagement can be measured by the data obtained from students.

Student engagement surveys have become increasingly implemented in Turkey as more research has been conducted on this topic. Studies on student engagement have gained popularity, especially during the pandemic because the sudden shift to online learning limits engagement in many aspects of learning. Turkey has responded to the pandemic successfully. In the previous two decades, the Turkish educational system has encountered noteworthy changes. A number of large-scale technological projects have been developed to improve K-12 education quality (Kurt, Atay & Öztürk, 2021). Ministry of National Education (MoNE) launched the FATİH Project, which helps to increase technological opportunities and to improve technological tools in education, and access to them. In the sight of the project, by 2019, almost 50.000 schools received technological infrastructure, nearly half a million Interactive White Board were set up, over a million tablet computers were delivered to students and teachers, and around one million teachers were trained in the usage of these tools online or face-to-face (Kurt, Atay & Öztürk, 2021). Besides these technical tools, K-12 students still face challenges with their engagement in their learning activities during the pandemic (Khlaif et al., 2020). Students typically spend at least 6 hours a day at school in Turkey and it is a known fact that some of them participate in the educational process, while some do not in the same way (Eryilmaz, 2013). With the pandemic, it has become increasingly difficult to monitor and track student participation and attendance due to many issues such as navigating educational tools, accessing the internet, parental guidance, protecting them from possible risks of online platforms, etc (Ocal et al., 2021).

Higher education in Turkey has similar issues with student engagement during the pandemic, for instance, pedagogical issues in technological constraints, group interaction (Singh, 2020), responding to different learning styles and course requirements, (Ezra et al., 2021). Nonetheless, in the higher education context, online

learning has been considered a feasible option for learners to satisfy their specific demands of them, especially for adult learners such as working adults, single parents, and economically disadvantaged adults (MacDonald et al., 2001). It is motivational to control their own learning, self-control the time they spend on education, and manage the pace and sequence of learning (Lim & Morris, 2005). There are still few empirical research studies to identify the effects of online learning and teaching, particularly during this type of a big crisis like COVID-19. For the past two decades, Turkey has also faced rapid massification in its higher education system and there has not been any engagement survey implemented in the national context recorded, and in addition, the number of surveys that measures student engagement in higher education has been inadequate and insufficient (Öz & Boyacı, 2021). The COHE launched “The Regulation of Student Council of the Universities” with the aim to homogenize universities and include participation from students in university administration. This council has the objective of gathering student perspectives regarding their health, sports, cultural and educational expectations. The council has the oversight of the correspondence between students and the administrative boards according to the Inter-university Council (ÜAK) in accordance with Higher Education Law no. 2547 (Kuruuzum, Asilkan & Cizel, 2005). After participation in the decision-making process in higher education institutions in Turkey, measuring the overall satisfaction and success of students gained more recognition (Kuruuzum, Asilkan & Cizel, 2005).

Student Satisfaction

Students are considered as the main internal stakeholders in the education process (Çınkır & Yıldız, 2019), and the importance of higher education for students is an indisputable fact in terms of having essential experiences, learning various types of knowledge, and socializing. At the same time, students are the main input of the educational process while also output indicators in terms of major representatives of higher education due to the evaluation of the quality of education. It is crucial to identify students' satisfaction levels for revealing deficiencies in higher education institutes and eliminating them. Educational quality and standards of education are highly related to the determination of the level of satisfaction of students in terms of enhancement (Şimşek, İslim & Öztürk, 2019). The quality of educational institutions

has a great impact on the quality of students. Student opinions on all aspects of academic life by conducting satisfaction surveys are identified by educational institutions while universities also increase their interest in student satisfaction practices (Şimşek, İslim & Öztürk, 2019).

Distance learning capacity is critical to investigate because it directly affects the quality of remote teaching and student satisfaction (Karadag, Su & Kocaturk, 2021). The researchers emphasized that with the evaluation of distance learning, lecturers will integrate technology into their courses, and students' experiences and expectations will reshape during the pandemic. Student experience survey work helps students to be heard more which increases their satisfaction, at the same time institutions can discuss quality enhancement and assurance for the institutions internally and to improve their rankings externally (Williams & Cappuccini-Ansfield, 2007; Hazelkorn et al., 2018). For this purpose, debating the term "student satisfaction" has become more common, especially after seeing the 'student as a customer/consumer' model emerging, which triggered radical changes for new models of funding and regulation within higher educational institutions (Tight, 2013). Moreover, institutions realized the importance of marketing and gathering information from students with regard to the student customer/consumer model, which emphasizes bottom-up data collection to further improve student satisfaction (Alden, 2011).

In Turkey, quality assessment and strategic planning in higher education have begun to be used by measuring student satisfaction since 2015 (Teixeria et al., 2020). Before using it as an important data resource for the advancement of student satisfaction, it was seen as a research preference for the institutions. All public institutions started to develop five-year strategic plans after delegating institutions to adopt strategic management by The Public Financial Management and Control Law, executed in 2006 (Gunay & Dulupcu, 2015). Then, higher education institutions started to focus on improving service quality for their stakeholders and preparing strategic plans in consideration of legal regulations introduced by the COHE. As it is known, the Higher Education Academic Evaluation and Quality Improvement Commission was established in 2006 and it was aimed to implement quality assurance systems in higher education institutions (Zineldin, Akdag & Vaischeva, 2011). These strategic planning

activities include measuring the effectiveness of teaching programs and student satisfaction, determining learning outcomes and workloads on a course basis, determining program qualifications, etc, (YODEK, 2007). This arrangement formed the basis of the academic evaluation and quality improvement system in Turkish higher education institutions, the identification of which areas need to improve in there, and the continuity of advancement of educational quality and management functions (YODEK, 2007). Then, the COHE initiated to set goals for accreditation and perform efficient quality studies by publishing the Higher Education Quality Assurance Regulation (Teixeria et al., 2020). Furthermore, University Assessment and Research Laboratory (UniAr) was established to conduct research in higher education and to contribute to the improvement of the Turkish higher education system (Karadag, Su & Kocaturk, 2021).

Accountability of educational outcomes is a growing concern due to the increase in the number of higher education institutions across the country. Many shortcomings such as lack of high-quality academics, inadequate facilities, and limited funds are causing institutions to be restrained from enhancing their overall pedagogical quality. Universities also have difficulties meeting the demand of the rising number of students who are eligible to attend the universities. This led to a decrease in the quality of education due to institutions' tendency to give priority to dealing with growth in number instead of in quality. According to the COHE report, over 8 million students are enrolled in 207 higher education institutions, and 15 of them accommodate over 50,000 students (Teixeria et al., 2020). Therefore, it is crucial to provide decent service to all students and satisfy their various needs for higher education institutions, which are considered a service industry to attract and retain the attention of successful students in the competition.

The experiences of students and teachers have been tough as the administration and operation of the majority of higher education institutions around the world were disrupted due to the pandemic. It is vital to gather information and understand what students encountered and faced during that period in order to be well equipped in case of future interruptions to higher education institutions, and particularly, how the pandemic has affected students in regards to their overall well-being (White & Van

Der Boor, 2020). In light of this, it is critical to comprehend and sustain student engagement, i.e. social engagement with peers and teachers, as it has been largely neglected, as well as their satisfaction in the ‘recovery’ phase of the post-pandemic era. Student engagement has a variety of effects on student satisfaction (Astin, 1999). Student engagement has been linked to student satisfaction in a variety of ways, according to existing studies (Abrahamowicz, 1988; Ertl & Wright, 2008; Berger & Milem, 1999). For instance, according to Gray and Diloreto (2016) students were more likely to give satisfactory ratings to courses and instructors if they believed their lecturers communicated effectively, facilitated or encouraged their engagement in learning activities. Whereas in online courses, Jaggars and Xu (2016) discovered that the quality of engagement within the course parameters was linked positively with overall student satisfaction. It is crucial to analyze and investigate student engagement while considering their satisfaction so that instructors can further successfully organize classes and activities that will inspire students to be more active and engaged in the coursework (Jennings & Angelo, 2006; Mandernach, Donelli-Sallee & Dailey-Hebert, 2011). The pandemic has imposed enormous limitations on billions of individuals around the world, and it has had a significant impact on educational systems globally, including temporary closures in educational institutions. Numerous countries have adopted remote virtual education as a method to deliver lectures as a result of school closures and to ensure educational continuity (Black, Ferdig & Thompson, 2020). Concerned about the possibility of future COVID-19 or the risk of other pandemics, there is a pressing need for greater research into the dynamics of student engagement and student satisfaction in such a context.

1.2 Purpose of the Study

This pandemic plunged the education sector into disarray and crisis. Due to its highly infectious nature and the need to maintain social distance, and the confinement measures that were put in place to slow down the rapid spread of COVID-19, institutions of higher learning around the world were forced to close down and shift their pedagogy and administration affairs online. The study was conducted after the crisis, during the hybrid period. Consequently, this limits student engagement which in turn impacts their satisfaction. The purpose of this study is to investigate the level

of student engagement and student satisfaction and document the relationship between these two variables at state universities in Ankara.

This study will be guided by the following research questions:

The research questions are:

1. How well does the student engagement predict “student satisfaction with social and cultural activities” dimension in higher education?
2. How well does the student engagement predict “student satisfaction with research and development activities” dimension in higher education?
3. How well does the student engagement predict “student satisfaction with process and application of education” dimension in higher education?
4. How well does the student engagement predict “student satisfaction with environment and resources of education” dimension in higher education?

The variables among the relationships are hypothesized and demonstrated in the figure below.

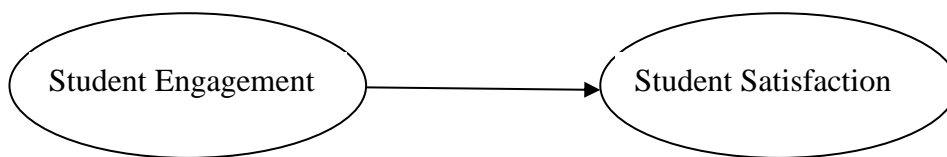


Figure 1. The model of expected relationship between two variables

The study’s hypotheses are below:

Hypothesis 1: Dimensions of student engagement such as academic engagement, social engagement, behavioral engagement, and emotional engagement significantly predict “student satisfaction with social and cultural activities” dimension in higher education.

Hypothesis 2: Dimensions of student engagement such as academic engagement, social engagement, behavioral engagement, and emotional engagement significantly predict “student satisfaction with research and development activities” dimension in higher education.

Hypothesis 3: Dimensions of student engagement such as academic engagement, social engagement, behavioral engagement, and emotional engagement significantly predict “student satisfaction with process and application of education” dimension in higher education.

Hypothesis 4: Dimensions of student engagement such as academic engagement, social engagement, behavioral engagement, and emotional engagement significantly predict “student satisfaction with environment and resources of education” dimension in higher education.

1.3 Significance of the Study

This study contributes to literature of student engagement in terms of adapting the Student Engagement Survey in Turkish context. Although this study will not heavily contribute to the literature of student satisfaction theoretically in terms of establishing new concepts, it will support existing literature by investigating the relationship between student engagement and student satisfaction in the higher education context. This study will also facilitate current literature by examining those variables in times of post-crisis like the pandemic in educational institutions.

The findings of this research could have significance for the enhancement of applications at the institutional level to be used as a data source on issues such as strategic planning and quality evaluation in higher education institutions by investigating the relationship between student engagement and their satisfaction at state universities in Ankara. It is vital for institutions to access the present predicament of their distance education programs and investigate areas that require improvement in order to improve student satisfaction, achieve the educational process's goals, and improve the quality of service of distance education for students. This study can also determine the level of student satisfaction and bring awareness to instructors in reevaluating their pedagogy strategies to optimize student engagement on online platforms after the COVID-19 crisis. It is crucial to investigate the relationship between two variables for instructors because instructors directly influence students' motivation, engagement, attitude, and satisfaction in general (Mandernach et al., 2011). Additionally, acknowledging the relationship between the two variables can be

supplementary in strengthening students' cognitive development, academic performance, and psychosocial skills during the pandemic circumstance.

Although a significant amount of research was conducted about student engagement and student satisfaction, it is still an issue that has not yet been fully explored especially in the context of the post-pandemic (Harvey, 2001; Lee, Jolly, Kench & Gelonesi, 2000). The complexity of higher education such as problems of structure, management, communication, etc. makes it difficult to measure how students perceive the quality of education, how these can be improved, and how well they are satisfied (Zineldin et al., 2011). In addition to that complexity, the pandemic has had debilitating effects on limiting student engagement and student satisfaction in higher educational institutions. Furthermore, the majority of studies have focused on behavioral and cognitive engagement as well as the institutional environment. Studies on the effects of emotional engagement on student satisfaction seem to be rather scarce, as academics argue that there is a lack of studies on other engagement dimensions in education (Pekrun et al., 2002a). Pekrun and colleagues (2002a) noted that emotional engagement has only recently begun to become increasingly relevant in educational studies. Besides from the frequently observed dimensions, behavioral and cognitive engagement, this study will cover other dimensions in the context of the pandemic such as academic engagement, social engagement, peer engagement, beyond-class engagement, affective engagement, and social engagement with teachers pertaining to student satisfaction in higher education.

1.4 Definition of Terms

Engagement: refers to when students are learning or being taught, whether they show a level of attention, curiosity, enthusiasm, and excitement, which transcends to their determination to learn and develop in their education (Zhoc et al, 2019).

Academic engagement: refers to visible activities that are closely related to the learning practice, such as class attendance, arriving prepared for class, putting up effort, and remaining committed to learning. This includes online engagement, which pertains to students' use of information technologies (such as the internet and other digital technologies) to help them study (Finn & Zimmer, 2012).

Cognitive engagement: entails devoting reflective energy to grasp complex concepts in order to go above the bare minimum. It focuses on the psychological involvement in learning, comprehending, and mastering the subject (Newmann, Wehlage & Lamborn, 1992).

Social engagement: the degree to which a student adheres to both stated and unstated classroom norms (Finn & Zimmer, 2012).

Peer engagement: collaboration among peers for the purpose of learning and knowledge development (Kuh, 1995).

Beyond-class engagement: involves students interacting with one another outside of the classroom and participating in extracurricular activities (Juvonen, Espinoza & Knifsend 2012).

Social engagement with teachers: the interaction between students and teaching staff that takes place in the academic setting of the institution (Zhoc et al., 2019).

Affective engagement: a form of emotional response characterized by a sense of belonging to the institution as a place and a set of important activities (Finn & Zimmer, 2012).

Satisfaction: is defined as student disposition based on subjective evaluation of educational experiences and outcomes, so it is a function that demonstrates the level of performance and experience regarding educational services during the study period (Elliot & Shin, 2002).

Satisfaction with social and cultural activities: refers to student satisfaction with regard to the institutions' social, cultural, art, and sports facilities, student clubs, cafeteria, psychological counseling services, and daily services such as banks, stationery, and security services (Simsek et al., 2019).

Satisfaction with the management of research and development activities: refers to student satisfaction with the information regarding opportunities to study abroad, exchange programs, receiving encouragement about graduate education, awareness about potential support, and funding of research projects (Simsek et al., 2019).

Satisfaction with process and application of education: refers to student satisfaction with the transmission of the necessary information about the internship process, active and transparent communication with instructors in regards to the purpose and content of the course, and personnel with regards to activities and educational support for personal and professional development (Elliot & Shin, 2002).

Satisfaction with the environment and resources of education: is defined as student disposition based on their subjective evaluation of the institution's quality of the classroom resources such as pedagogical tools, other physical facilities such as laboratory and library, amenities such as campus electricity and heating, as well as campus accessibility (Simsek et al., 2019).

CHAPTER 2

LITERATURE REVIEW

The researcher reviewed various literature related to student engagement and student satisfaction. This chapter is divided into four sections: student engagement, student satisfaction, bridging student engagement and student satisfaction in higher education institutions, and lastly, a summary of the literature review. The first section discusses the concepts and definitions of student engagement, the antecedents and consequences of student engagement, student engagement surveys, and student engagement in Turkey. The second section reviews the concepts and definitions of student satisfaction, the antecedents and consequences of student satisfaction, student satisfaction surveys, and student satisfaction in Turkey. The third section explores the relationship between student engagement and student satisfaction in higher education institutions. Finally, a summary of the literature review is presented at the end of this chapter.

2.1 Student Engagement

Student engagement is a term that encompasses more than participation, involvement, and integration. It entails both either feeling and making sense, including being active (Wimpenny, 2016). Pace (1980), Newmann (1992), Astin (1984), and Kuh et al. (1991) are early researchers in the field that discuss student engagement. Newmann described engagement as the students' psychological investment towards learning, mastering knowledge, and skills academically (Christenson et al., 2012). It is defined as a desire, need to learn, and participate in the learning process to be successful (Gunuc, Artun, Yigit & Keser, 2022); a feeling of belongingness to school, and value

to school (Voelk, 1996) while Marks (2000) explains the psychological process by emphasizing effort in the part of learning, the student's interest, and investment. Similarly, Zhoc and colleagues (2020) refer to the effort and time devoted to educational activities to contribute to outcomes, which are desired by students. Pressley and McCormick (1995) also focused on student engagement in terms of interesting deeply in academic content, concentrating on their work, and being enthusiastic about it. It was defined as the amount of time spent on assignments, and the desire to participate in activities by Stovall (2003). McCarthy & Kuh (2006) focused on the mastering of knowledge and skills, comprehending by defining while Rotermund (2011) just active participation in the school. It is described the term and summarized the concept of student engagement as concerning the interplay between the time, effort, and other necessary resources provided by both students and their institutions in order to improve student learning outcomes and development, as well as the institution's performance and reputation (Zhoc et al., 2018). It is limited the definition of engagement as "the behavioral manifestation of motivation" (Christenson, Christenson, Reschly & Wylie, 2012). Finn and Zimmer (2012) mostly discourse engagement in terms of academic motivation that students have a general drive or tendency to succeed in academic work or other school-related duties.

Some definitions include the polar opposite of engagement, using terms such as disaffection, disengagement, burnout, and alienation (Christenson, Christenson, Reschly & Wylie, 2012). Skinner and colleagues (2008) examined disaffection either as an opposite term of engagement. Martin (2007) also categorized engagement by concerning opposite terms such as adaptive and maladaptive behaviors. Still, it is still a complicated term in regards to forming a clear definition, operationalizing, and measuring (Bryson, 2014; Lam et al., 2012). Finn and Zimmer (2012) claimed that student engagement can be defined in any way wanted to be measured.

Furthermore, the quality and quantity of psychological, emotional, cognitive, behavioral, academic, and social participation in the learning process in order to gain successful learning outcomes were mentioned by Gunuc and Kuzu (2014). There is no

agreement on the conceptualization of engagement about which components should be taken into consideration—some consist of academic outcomes such as performance and achievement, while others include a sense of belongingness or social interaction with peers and teachers. Deci defined engagement in the psychological aspects by mentioning human action's *energy, purpose, and durability* (1992a). Engagement does not have only intuitive holistic meaning that focuses on the measurement of the quality of students' involvement but also includes various distinctive features, such as cognitive, psychological, behavioral, and emotional engagement.

2.1.1 Antecedents and Consequences of Student Engagement

The assumption that students can accurately report on their own engagement and environments, as well as that their perspectives are important in the preference, application, and observing of interventions is inherent in student engagement theory, conducted by Christenson and colleagues (2012). The perspectives of students such as whether they believe the class is relevant to his/her future are critical to fitting the school environment and putting effort to enhance student engagement (Christenson et al., 2012; Ćirić & Jovanović, 2016). Ćirić and Jovanović (2016) considered parental support, peer acceptance, teacher expectations, and student perception about their own abilities as antecedents. The perception of peers, academic performance, retention in grade, mobility, and drug and alcohol use are also appraised as antecedents (Luckner, Englund, Coffey & Nuno, 2006). In addition to these, the appropriateness of the tests, feelings of safety in the school, fairness of school rules, and the extension of relatedness of school facilities with student autonomy are considered antecedents of student engagement (Appleton, Christenson & Furlong, 2008; Luckner et al., 2006). Students are actively engaged in learning activities if they are careful about “time on task” (Anderson, 1973; Fisher et al., 1980). The appropriateness of class materials, in general, has also another antecedent for behavioral engagement (Finn et al., 1995). Besides these, female students have a tendency to engage in their institutions more than male peers (Ní Fhloinn, Fitzmaurice, Mac an Bhaird & O'Sullivan, 2016); students' engagement rate is higher with high-level income (Dahill-Brown, Witte & Wolfe, 2016); and the level of student engagement decreases when their class grades increase (Rissanen, 2018; İkiz & Sağlam, 2017). Campus and class engagement

processes gain much more attention, especially in higher education because education levels of society and the instructional quality of educational institutions are highly dependent on student engagement (Ergün & Kurnaz, 2017; Kuh, 2001).

Student engagement is highly affected by teachers, family, peers, and the community (Elffers, 2013). Students are more engaged when their families support students academically and motivationally, monitor or supervise their learning, have learning resources at home, and have clear goals and expectations from students. The engagement level increases if students establish connectivity with their peers in relation to sharing common values of school, educational expectations, academic reliance and efforts, and aspirations for learning. The perceived teacher and student relationship and school climate are indicators of engagement, especially affectively (Appleton et al., 2006). Positive feedback and support from teachers promote student engagement (Reschly, 2010) as well as the quality of instruction, goal structure, and clear and appropriate expectations from teachers. Teacher warmth and supportiveness have directly linked to engagement (Klem & Connell, 2004). Engagement is also facilitated by the encouragement of discussion, and expression of students' points of view (Johnson et al., 1985) promoting metacognition and inquiry deeply (Newmann et al., 1992). Organizational features, including support of mental health and services, academic support, community service learning, disciplinary climate, and authority are other antecedents of student engagement. School size is related to the level of engagement of students, for example, the small size of schools is associated with the extension of participation, attendance, and satisfaction (Lindsay, 1984). On the contrary, school features such as negative school sanctions and an unsafe environment led to student disengagement (Marks, 2000; Voelkl, 1996). Disengagement arises with too strict discipline at schools (Hyman & Perone, 1998), and unfairness (Marks, 2000). Furthermore, students who have delinquent behaviors tend to exhibit lower levels of engagement in schools, and lower attachment to schools (Hindelang, 1973; Hirschi, 1969).

When it comes to consequences, the achievement of students cannot be considered without engaging in academic work in the classroom and participation in the academic activities at school even though they feel attached to a school or undertake

extracurricular activities. Therefore, engagement is the only and direct way to academic success, behavior, achievement in the long term, achievement test scores, retention, cumulative learning, graduation, and high GPA (Fredricks, Blumenfeld & Paris, 2004; Klem & Connell, 2004; Lei, Cui & Zhou, 2018; Sinclair, Christenson, Lehr & Anderson, 2003). Students feel more competent academically and connected to schools if their engagement is at high levels, resulting in success and learning. Studies emphasized a positive relationship between student engagement and learning outcomes such as cognitive and psychological development, academic performance, general abilities, and student satisfaction (Kuh, Kinzie, Schuh & Whitt, 2005; Lam et al., 2012). The behavioral perspective of student engagement has also been approached in the higher education context. The quality of effort to engage in educationally purposeful activities has a strong link with desired learning outcomes (Hu & Kuh, 2002). The success gap between high achievers and disadvantaged students diminishes if there is an increase in engagement (Connell et al., 1994). Successful performance outcomes also led students to develop a feeling of belonging and valuing (Finn, 1989). On the contrary, it is a fact that students become alienated, disconnected, ineffective, and perform insufficiently if they engage poorly in academic activities (Finn, 1989). Their social interactions with teachers weaken with the decrease in support or increase in coercion from teachers, and they tend to make friends with students who are less friendly and disengaged. Disengaged students do not maintain a sense of belongingness in a school, do not exhibit appropriate behaviors, and/or do not develop a positive attitude about participating in class. These behaviors led them to drop out and affect their graduation negatively (Rumberger, 1987). Moreover, it is a great indicator of students' academic achievement, learning, socialization, and satisfaction (Lewis, 2010).

Student engagement also has a crucial impact on teachers and peers. Teachers have closer relationships with students (Ladd, Birch, & Buhs, 1999), and become more supportive (Furrer & Skinner, 2003) when they are more behaviorally engaged; the autonomy level of teachers increases when students engage emotionally (Altermatt, et al., 1998); they elicit greater responsiveness when students participate in class at a higher level (Fiedler, 1975). Similarly, more engaged students tend to select or be

selected by other students who participate in friendship groups with peers, who are also more engaged (Steenbetghs, Soenens & Verschueren, 2021).

Researchers claimed that school settings are mediators for student engagement, which is, in turn, crucial for learning (Alp Christ et al., 2022; Siddiqi, 2018). Wehlage & Rutter, (1986) examined dropout prevention to develop a strong sense of community in schools, which in turn students' achievement. Moreover, some basic needs such as autonomy, competence, and relatedness are connected with engagement or disaffection, which affect social behaviors, improvement of skills, and adjustment (Skinner, Kindermann & Furrer, 2009). Students have higher levels of success and engagement if schools support autonomy, competence, and relatedness (Kurt & Tas, 2018). Student motivation is also highly dependent on student engagement (Skinner, Kindermann & Furrer, 2009; Skinner & Pitzer, 2012). Academic accomplishments, dropping out, and graduation is also considered as consequences by Fredricks and colleagues (2004). Recent studies also indicate that affective engagement is directly linked to persistence and student behavior, and indirectly related to academic achievement. Academic engagement is essential for the occurrence of learning, attentiveness of students, completing homework assignments in class, time on tasks, and participation in academic extracurricular activities. Social engagement is a moderator between academic engagement and achievement, and the consequences of social (behavioral) engagement are self-reported or observed attendance and social and attentive behaviors. Cognitive engagement facilitates complex learning and challenging material, including verbalization of cognitive process during the activity, and developing strategies while solving problems, whereas affective engagement provides the incentive for participation regularly, persisting in school endeavors, valuing in school, and feeling of acceptance.

In the literature, several studies demonstrate the positive relationship between school climate and student engagement (Matthews, Dwyer, Russell & Enright, 2019). It is also a key concept to understand social effects like absenteeism is considered an indicator of unhappiness and disengagement in institutions (Christenson et al., 2012), or dropping out of school which is a factor that is influenced by student engagement due to students who do not have any future plans or goals educationally (Bargmann,

Thiele & Kauffeld, 2022). Student engagement was also found that it has a great influence on students' dropout rate, that is if their level of engagement is low, the dropout rate increases dependently (National Research Council, 2004). The dropout and completion are the consequences of engagement or disengagement, which makes engagement both mediator and outcome. For instance, engagement is considered an outcome of attendance or skipping classes, while it can be an indicator of graduation or enrollment in the next grade. Engagement is considered as an outcome and process, as well as a interdependence between contextual enhancers and learning outcomes that are expected in the context of academic, emotional, and social (Lam, Wong, Yang & Liu, 2012). Christenson and colleagues (2012) also claimed that cognitive and affective engagement are also mediators as they precede students' engagement behaviorally and academically. At a more particular level, is important to exhibit antecedents and consequences of the details of engagement to understand the term deeply. It is also important to observe the evaluation of the term by different researchers and which dimensions were mostly focused on them. Thus, it is critical to concentrate on both previous research and survey about student engagement to picture a timeline.

2.1.2 Previous Research and Student Engagement Surveys

The term was developed in the 1980s to acknowledge what student engagement is and how to reduce dropping out, alienation, and boredom (Christenson, Christenson, Reschly & Wylie, 2012). Elliot and Voss (1974) studied school isolation and normlessness, while Newmann (1981) emphasized six guiding principles for showing the importance of school reforms in increasing student engagement and reducing alienation. The “theory of dropout prevention” was asserted to develop a sense of belongingness for students (Wehlage et al., 1989). Connell (1990) proposed a “self-system process model”, on the basis of humans' basic needs for autonomy, capability, and accordance, and revealed their relationships with engagement or disaffection (Connell & Wellborn, 1991). Finn (1989) also explained the “participation-identification model”, which shows the interaction of affect and behavior with academic success. The behavioral component refers to participation and involvement in school activities such as responding to questions, doing more work than required, and engaging in extracurricular activities.

In recent years, engagement models consist of four, or more components (Christenson et al., 20012; Fredricks et al., 2004; Luckner et al., 2006; Rumberger & Lim, 2008), and are repeatedly practiced. A multidimensional concept includes academic, behavioral, cognitive, psychological, or emotional realms (Christenson, Christenson, Reschly & Wylie, 2012). Researchers put a different complexion on the dimensions. For instance, perception bearing upon the matter of school is classified as cognitive engagement (Greene et al., 2004), while Finn (2006) characterized it as affective engagement, whereas Ben-Eliyahu and colleagues (2018) as motivation. It is also defined as affective engagement, including a feeling of belongingness, and communication with peers and teachers (Appleton et al., 2006), whereas Yazzie-Mintz and McCornick (2012) emphasized mostly feelings of connections and interaction with others as emotional engagement. Academic achievement is heavily influenced by engagement as it has been associated with educational performance and outcomes. Hu & Kuh (2002) explained that student engagement is traditionally centered on enhancing the students' sense of belonging, positive behavior, and performance in order for them to continue enrolled in school. Levesque, et. al. (2004) suggested that students' autonomy and competence have to be encouraged in order to attain student engagement. Gibbs & Poskitt (2010) summarized multiple definitions and concluded that student engagement involves the following: students' closeness and connectedness to their teachers' peers and school; includes students' potential, autonomy, and motivation in their school work and after-school recreational activities; incorporates students' degree of participation, commitment, concentration and their enthusiasm in subject learning; the degree to which learning is regarded as something that must be experienced in order to be granted a recompense or avoid punishment; a fluctuating condition of being impacted by a variety of external and internal elements such as the perceived worth or significance of the education and the opportunity and possibility for students to encounter difficulty and success in regards to their education; and lastly, students' opinion of their teachers' behaviors.

Academic engagement involves behaviors such as attentiveness, completing tasks, and augmenting learning by participating in extracurricular activities (Christenson, Christenson, Reschly & Wylie, 2012). Social engagement refers to written and unwritten behaviors that students exhibit, for instance, interacting appropriately in the class, and presenting social behavior in learning activities. Cognitive engagement, which is loosely defined in the literature is a deliberate effort to embrace complicated ideas in order to move above the bare minimum (Fredericks et al., 2004). Cognitively engaged students use strategies and regulative processes, as well as the extent to which their attentiveness and value perceptions motivate their attention and concentration on the learning process (Christenson, Christenson, Reschly & Wylie, 2012). Indicative behaviors of it include reading materials more than required, asking questions to clarify the concepts, persevering with difficult tasks, and reviewing previously learned materials. Affective engagement is the extent that which students' emotional response to school and persistently participation in a set of school activities such as developing feelings of belonging to the school and valuing accomplishments. Marks (2000) used the term "investment" for the first three dimensions to indicate dynamism, whereas affective engagement is mostly about the motivation for the investment of required energy. These components help to predict profoundly students' achievement and persistence, but it is still complicated to identify students' engagement or disengagement by analyzing them.

The attention to engagement scales has been increased by researchers, policymakers, and university administrators in the late 1970s with the College Student Experience Questionnaire (CSEQ), and the National Survey of Student Engagement (NSSE) following this at the beginning of the 2000s in the US. After the progression, engagement surveys began to be implemented at a national level in different countries, such as Australia and New Zealand (AUSSE), Ireland (ISSE), Canada (NSSE), China (NSSE-China/CCSS), and South Africa (SASSE), however, NSSE is the most adopted one for cross-institutional level (Öz & Boyacı, 2021). Additionally, Japan, Mexico, Lebanon, South Korea, Qatar, and Egypt was also applied to the NSSE survey at an institutional level (Nauffal, 2012) while some countries such as UK and Germany

designed their own engagement surveys, National Student Survey (NSS) and Studierenden Survey, respectively.

Christenson and colleagues (2012) explains that student self-report is a common survey method for evaluating student engagement. Students are given items that represent diverse dimensions of engagement and are asked to choose the response that accurately describes them. Most of these self-reported engagement indicators are broad in scope and are not related to a particular subject. One rationale for utilizing self-report survey methods is that it is important to gather data on students' subjective experiences rather than only gathering objective data on behavioral criterion like punctuality or assignment submission rates, which are already being obtained by schools. Self-report surveys are especially beneficial for measuring cognitive and emotional engagement, which aren't readily visible and must be interpreted from actions and behaviors (Li, 2021; Wiggins et al., 2017). Self-report surveys are extensively employed in classrooms since they are by far the most feasible and simple to perform. They can be given to a wide and varied population of children for a minimal cost, allowing data to be collected over numerous periods and outcomes to be compared across schools. Nevertheless, one drawback with self-report surveys is that, in some circumstances (e.g., if conducted by their teacher without any anonymity guaranteed), students may not give an honest answer, and so therefore self-reports might not always represent their real behaviors (Appleton et al., 2006).

There are methods for measuring student engagement besides from surveys such as interviews. Interviews consist of structured and semi-structured predetermined questions where students are asked to share their experiences in an open-ended manner. Interviews provide a better understanding of the differences in engagement levels, allowing readers to better understand why some students remain in school while other students drop out (Fredricks & McColskey, 2012). Interviews can also produce detailed explanations of how students formulate meaning from their educational experiences, and which way these experiences correlate to participate. However, the clarity, volume, and sort of responses can all be influenced by the interviewer's

expertise, abilities, and prejudices. There are also concerns regarding the validity and reliability of the results of the interview. Moreover, interview tactics raise problems regarding social desirability (Fredricks & McColskey, 2012).

Self-report instruments that researchers have developed to measure engagement are important for the history of student engagement (Appleton, Christenson & Furlong, 2008). These tools contribute to making the operational definition of engagement and exploring critical issues in this field. Recently, student engagement surveys were designed in New Zealand to measure perception of self-experience levels of engagement, which is called *Me and My School*. The motivators of developing the survey were that there is no standardized tool before; positive educational and health outcomes are associated with a high level of student engagement (Gunuc, Artun, Yigit & Keser, 2022); the fact that the teaching style, socioeconomic status, and academic success in the past years influence engagement of students (Appleton, Christenson & Furlong, 2008). According to the results, ethnicity, class levels, and gender have significance in determining the engagement level of students.

Student Engagement Instrument (SEI) was developed to examine outcomes of engagement (Zhoc, Webster, King & Chung, 2018). In the context of Check & Connect implementations, participation in extracurricular activities, completion of homework, earned credits, and attendance are some of the indicators of academic or behavioral engagement. Emotional aspects were commented to be assisted in broadening dimensions by Sinclair and colleagues (2015), and with the consideration of ongoing comments from researchers in the field, SEI was constructed with four subtypes as cognitive, academic, behavioral, and affective engagement. It helps to identify students who are alienated, marginalized, and disengaged, and more focus on cognitive and psychological perspectives of engagement. Results show that reading and GPA have a positive relationship with engagement.

In a qualitative study conducted at a primary school level, Lee (2012) found that instructors' support and encouragement, along with respect, are significant in fostering students' engagement and participation. In a study conducted at a secondary school level, Snijders and colleagues (2020) emphasized on the behavior of teachers and suggested that examining teacher-student interactions could be valuable in assessing students' opinions on their relationship with their teachers. Whereas, in the context of higher education, it was investigated the relationships between student-faculty communication, academic engagement, and cognitive skill development using structural equation models (Snijders, Wijnia, Rikers & Loyens, 2020). According to their findings, student-faculty communication is associated with academic engagement in higher levels.

2.1.3 Student Engagement in Turkey

In the context of the Bologna Process, the concept of the social dimension is the process of achieving the goals of reflecting the diversity of societies for groups of students who access, participate in, and graduate from higher education. Although this process depends on societies and countries, the main goals are to provide equal opportunity to access higher education, access quality of higher education, ensure students engage in higher education administration, etc (Christenson et al., 2012). In the light of this, the Regulation on Higher Education Institutions Student Councils and National Student Council was published officially in Turkey on September 20, 2005 (Çinkır & Yıldız, 2019). During the discussion of matters pertaining to students, students started taking part in the senate and managerial board meetings of the relevant higher education institution. Furthermore, it has been decided to participate as a member of the student representative with the amendment made in the Regulation of the Academic Evaluation and Quality Improvement Commission of Higher Education Institutions (YÖDEK). One of the most important steps taken to ensure the quality of higher education in Turkey is the establishment of the Higher Education Quality Board (YÖKAK). YÖKAK, which was created within the scope of the “Higher Education Quality Assurance Regulation” was published officially on 23 July 2015 and operates under the YÖK. It is a private institution that performs internal and external quality assurance, accreditation procedures, and authorization of independent external

evaluation institutions. It evaluates educational and research activities as well as managerial services in accordance with national and international quality standards. (YÖKAK, n.d.). One of the most important stakeholders of quality affirmation studies in higher education is students, and ensuring that students reach the targeted qualifications is one of the crucial dimensions of the system. YÖKAK attaches the importance to student engagement in quality assurance processes, and in this context, a Student Commission was established within the body of YÖKAK on October 1, 2019. The engagement of students in the quality processes has many contributions to students and higher education institutions in Turkey, such as the enhancement of studies by identifying the aspects of the systems that are open to development with students' perspectives, and improvement of communication networks, knowledge and skills for students.

When it comes to the term of student engagement, in the last two decades, Turkey has abided by rapid massification in the higher education system, and there is no national student engagement survey implemented. The number of surveys that measure student engagement is also limited at an institutional level. It was developed a student engagement scale based on Fredricks and colleagues' surveys by adding an emotional engagement dimension (Öz & Boyacı, 2021). The emotional dimension of engagement is mostly connected to K-12 education, and it differs from the higher education context due to different theoretical backgrounds and based on the college impact models. Capa Aydın and colleagues constructed an engagement scale by using Kuh's definition of engagement (Öz & Boyacı, 2021). Yet, this scale was applied in a highly selective university where English is the medium of instruction. The scale developed by Oz and Boyacı (2021) is applicable in the higher education context based on Kuh's definition, and practicable for less-selective universities, where Turkish is the medium of instruction, unlike Capa Aydın et al. (2015).

2.2 Student Satisfaction

An attitude toward an object is an indicator of satisfaction (Hamner & Organ, 1978). If a person has a positive attitude toward something, he/she is considered as satisfied

with this (Khine & Areepattamannil, 2016). Satisfaction is a pleasant attitude that occurs after a person's needs and desires have been fulfilled (Weerasinghe, Lalitha & Fernando, 2017). It is a feeling that a person experiences performance or fulfills his or her expectation of outcomes (Ilyas & Arif, 2013; Hon, 2002). Contentment is an outcome of a willful accomplishment for the reason that he or she feels satisfaction due to the achievement of the expectation (Rad & Yarmohammadian, 2006). Satisfaction may refer to the feeling of disappointment as well as pleasure that results from comparing perceived performance to expectation (Weerasinghe, Lalitha & Fernando, 2017). It is a reflection of people's perceptions and their relative amount of expectations (Mukhtar, Anwar, Ahmed & Baloch, 2015). Hence, satisfaction is the feeling of receiving a service that is pleasant (Oliver, 1997).

Student satisfaction is a term that evaluates students' educational experiences (Elliot & Healy, 2001). Indeed, there is no clear agreement on what student satisfaction really is due to a complicated concept. Elliot and Shin (2002) defined student satisfaction as subjective assessment by students in terms of educational experiences and outputs. Mukhtar and colleagues (2015) remarked it as a function that indicates related experiences and perceived performance in the context of educational service. It is a short-term attitude that provides an understanding of educational services, facilities, and experiences of students. A notable observation when reviewing the existing literature on student satisfaction is that there is a lack of a unified denotation of the concept: student satisfaction and student learning experience. However, El Ansari, (2002) maintain that a crucial part of the student learning experience is student satisfaction. According to Karadag and colleagues (2021), student satisfaction is explained as a momentary change in perspective stemming from an appraisal of an educational experience. This description focuses on the students' action of assessing their own experiences in the institution. Whereas Elliot and Shin (2002) implied that student satisfaction refers to the degree to which a student's subjective opinion of various educational outcomes and experiences is favorable. Munteanu, Ceobanu, et al. (2010) provide a rather more market-oriented approach, defining student satisfaction as an evaluated summary of first-hand educational experience, centered on the disparity between prior prospect and execution recognized after having passed through the education cycle. Furthermore, some scholars (Hill, 1985; Yüksel & Yüksel, 2001)

proposed a definition based on presupposition and recognized achievement in higher education.

There are elements that influence student satisfaction levels such as students' dedication (Salinda Weerasinghe, Lalitha & Fernando, 2017), and students' demographic characteristics (sex, grand point average, etc.) (Appleton-Knapp & Krentler, 2006), and quality of services (Zineldin et al., 2013). Studies show that the quality of services heavily impacts student satisfaction, thus emphasis has been put on the quality of education and institutional facilities. Higher education institutions underwent a shift to a focus on the excellence of the student. Since the early 1980s, businesses have been bombarded with a slew of regulations that required auditing such as financial, environmental, value for money, administration, argumentative, data, intellectual belongings, medical, teaching, and technology auditing (Elliot & Shin, 2002). A number of monitoring and evaluation systems have been implemented in higher education. Universities were expected to act in accordance with the systems and submit a variety of reports of audit under these regulations. The audit report includes university quality audits, satisfaction surveys, and graduate pursuing surveys (Power, 1997). Simultaneously, in the 1990s, there was a growing interest in evaluating higher education quality (Ansari, 2002). The quality of educational institutions concerns directly with internal stakeholders, consisting of students, teachers, personnel, etc., and external stakeholders, including society, government agencies, private corporations, etc. These stakeholders push the institutions to enhance their capacities, explore new resources and increase the attractiveness of institutions due to the consideration of quality as an indicator of distinction in the ranking (Baykal & Sahin, 1999). Moreover, student satisfaction is considered as a measure of the quality of how learning and teaching processes are conducted (Ansari, 2002), so it is crucial to identify expectations and create favorable conditions for students as internal stakeholders to increase the quality of educational institutions (Yıldız & Ardiç, 1999). As higher education institutions are also under market pressure to compete for resources, they are willing to recognize and acknowledge the position of the student as a customer (Furedi 2011).

2.2.1 Antecedent and Consequences of Student Satisfaction

In higher education contexts, the terms student satisfaction and quality education are often used interchangeably, and there is considered acceptance of a cause-and-effect link between those variables. This view can be traced back to service literature that discusses the systematic process of customer satisfaction and quality of service concepts. Cheng (2016) explained the relationship between satisfaction and quality of education in the book by giving historical development of the concepts. Satisfaction from a service was accepted as criterion of quality and the quality of it was perceived as a mindset formed by evaluation. That is, customer satisfaction as a determining factor, and an outcome of service quality. Service quality, on the other hand, is described as an antecedent of satisfaction since it does not guarantee that customers receive the high standard of service, even though it affects their buying behavior. Availability, affordability, and accessibility can all have an impact on their satisfaction (Zeithaml, Bitner & Gremler, 2006). Although the concept of student satisfaction as an antecedent of quality is strongly mentioned in the literature, the usage of it expands mostly as an outcome measure to analyze the educational quality. For example, Arnaiz- Sánchez and colleagues (2022), utilized the diverse approach to explore the way that students build their learning perceptions based on some characteristics, such as a sense of inclusion in the institutions. Some instances include the implement of student satisfaction measurement as a form of course evaluation, as a guide for students, administrators, and achievement of universities, and to ensure pedagogy benchmarks (Cheng, 2016). Besides these implementations, measuring student satisfaction for the quality of education may have issues to be assured of dependability. For example, students may be affected negatively by a certain type of behavior, or positively by a particular time in accordance with the relationship with their instructors. Students' perceptions of quality education are influenced not just by essential services like instruction, research, and training, but also by amenities like recreational facilities and the university's reputation and image (Vauterin, Linnanen & Martilla, 2011). Based on these viewpoints, it is highly subjective how students use various forms of assistance or service offered by lecturers, administrators, and the university.

Universities aspire to be students' first choice and to be ranked first in universities. Numerous concepts from the marketing and services sectors have been established and put in higher educational institutions. Hermans et al. (2009) stated that one of those concepts that received acceptance and were given importance to was customer satisfaction or in this context, student satisfaction. As noticed by Weerasinghe and colleagues (2017), for the previous few decades higher education institutions have been applying customer satisfaction concepts, theories, paradigms, and literature in their operations and administrative activities to boost the satisfaction of their student's educational experiences. As of the late 1970s, higher education institutions globally underwent major changes in their operation in terms of marketization (Ghori, 2016). After the markets were liberalized, institutions, which focus on making more profits, were recognized in the higher education sector. Tuition fees were then implemented and are projected to increase continuously, meanwhile higher education grants and financing have been drastically lowered and are anticipated to continue to decline in the next several years (Brown, 2013). The policy shift toward the marketization of higher education is partly to blame for these trends (Furedi, 2011). Some scholars argue that higher education should be driven by market forces such as supply and demand, which are influenced by price. Students should then be able to select from a variety of university courses depending on quality, availability, and fee (Brown, 2011). Institutions have become more like businesses, advertising courses in a global marketplace for higher education. The status of universities might also have an impact on student satisfaction due to the university rankings. Students at prestigious universities reported that they are more satisfied after experiencing high-quality education and learning from high-quality of academics compared to those from less prestigious universities (Ma, Han, Yang & Cheng, 2015). At the same time, student satisfaction is believed as a consequence in the international higher education market because higher levels of student satisfaction allow institutions to receive top academics and students, along with an increase in external funding (Wilkins & Huisman, 2011). Additionally, institutions with satisfied students are more able to strengthen their financial positions by embracing students who more likely to participate in educational activities (Kuh et al., 2006), and are expected to take part in oral positive interaction about their institutions (Helgesen & Nessel, 2007). From the individual perspective, student satisfaction encourages students to attain practical abilities and intellectually

development corresponding with academic achievement and teaching effectiveness (Cheng, 2016). As a result, universities create an action plan, mission, targets, and purpose statements, along with implementation strategies, and performance evaluation systems, in order to accomplish their purpose, targets, and objectives (Lomas, 2007).

Age, part-time working or full-time working status, perception of students, and the general institutional atmosphere are just a few examples of the student characteristics that have an impact on the level of student satisfaction. Academic and non-academic factors both contribute to student satisfaction at the institutional level. These components comprise of teaching method of the instructor (Dana et al., 2001), receiving a response from the instructor and interaction with peers (Fredericksen, Shea & Pickett, 2000), the content of the course, and the effectiveness of instruction (DeBourgh, 2003), infrastructural facilities and personnel attitude (Helgesen, 2007). In addition, student satisfaction can occasionally be linked to psychosocial dimensions such as emotional and cognitive responses from students in relation to their expectations or actual experiences. According to Hartman & Schmidt (1995) and Webb & Jagun (1997), student satisfaction is also influenced by value perceived by students which involves aspects associated with the quality received by educational services, institutional image, and emotional values. There are also other antecedents to identify student satisfaction levels such as faculty members (Lampton, 1993; Ulusoy, Arslan, Öztürk & Bekar, 2010; Wilson & Gaff, 1975), attentiveness of the teaching staff (Douglas et al., 2015), excellent teaching skills and instructor flexibility (Hart & Coates, 2010), university campuses and physical conditions of them (Gatfield et al., 1999; Erdogan & Usak, 2005; Ulusoy, Arslan, Öztürk & Bekar, 2010), characteristics of the institutions (Appleton-Knapp & Krentler, 2006), friendliness (Hart & Coates, 2010), enthusiasm (Hart & Coates, 2010). Moreover, administrative personnel, socio-cultural opportunities, research opportunities, value given to students, and incorporation of students into administrative processes were specified by Ulusoy and colleagues (2010).

Understanding the dissatisfaction of students is critical because people have a tendency to recall unfavorable experiences as opposed to positive experiences. Magolda and Astin mentioned that lack of financial aid services, and career and academic advising

drive students dissatisfied (1993). Moreover, students feel dissatisfied when administrators or faculty respond insufficiently and communicate poorly (Douglas et al., 2006). Hart and Coates indicated a lack of teaching skills and expertise, unfairness and insufficient empathy aid in student dissatisfaction (2010). Some experiences including high workload, financial difficulties, lack of harmony between progress and tiredness, as well as deadlines, have an impact on how satisfied or unsatisfied students are (Barlett & Mercer, 2001; Haynes et al., 2012).

Along with the antecedents, there are consequences to student satisfaction. In particular, higher levels of satisfaction among students have a positive and productive impact on their emotional resilience, learning outcomes, and confidence (Cheng et al., 2016). Satisfied students comfortably deal with stress and anxiety, and address intellectual challenges straightforwardly as well as taking responsibility for their own education. According to Alves and Raposo (2007), loyalty is one of the effects of student satisfaction in higher education, complaints, word of mouth actions, namely if students are satisfied with their knowledge gained at university, they exhibit loyalty towards their institution by displaying repetitive purchasing behavior, and participate in positive communication regarding their institutions. Higher level of student satisfaction was also found to lead to student retention and increased enrollment, in other words, drop out rate amongst students will decrease (Clemes et al., 2008). In a global context, competition for students in higher education grows as a result of measuring student satisfaction. Harvey (2006) identified the investigation of student satisfaction as an opportunity to improve institutional management to support students directly.

2.2.2 Previous Research and Student Satisfaction Surveys

Service quality is a measure of how well an organization meets its customers' expectations as regards providing services. Gronroos (2000) specified two dimensions as technical quality, referring to if the service meets its practical standards and requirements, and functional standards, relating with how service product is provided. In the education context, it was created a student-driven satisfaction perspective that helps to reflect students' concerns because interaction between both sides, the provider

and the receiver is crucial for the environment where they operate and cooperate (Zineldin, 2004). Nevertheless, student satisfaction and quality in education may not be limited just by investigating technical and functional quality (Harvey, 2001; Williams & Kane, 2008) because service quality is affected by academic and administrative staff, classrooms, and laboratories. All of the policies and strategies aim to improve higher education institutions' technical and functional quality. In this respect, Zineldin (2000) developed the 5Qs model to set quality strategies for higher education institutions to measure their overall perception and satisfaction. This model includes dimensions to measure like quality of object (technical quality, education itself), quality of process (functional quality, efficiency of educational activities), quality of framework (basic resources for the service), quality of interconnection (quality of knowledge change), and quality of environment (interaction and relationship between peers) (Talib, Azam & Rahman, 2015).

Despite the disparities in educational systems, student satisfaction was generally steady across 11 European countries, according to a study conducted by Garcia-Aracil (2008). Interactions with other students, subject content, educational materials, academic library stocks, quality of pedagogy activities all have a major impact on students' satisfaction, as per the study. Students' satisfaction at an international higher education institution in the United Arab Emirates is influenced by the quality of teachers, the accessibility and quality of materials, and the efficient use of technology, according to Çinkır and Yıldız (2019). The study also discovered that satisfaction levels range significantly amongst undergraduate and postgraduate students. In Finland, Karna and Julin (2015) conducted research on staff and student satisfaction towards university amenities. Key university functions, such as research and teaching infrastructures, have a stronger impact on general student and employee satisfaction than supportive ancillary services, according to the study. Furthermore, the survey discovered that tangible infrastructure is more valuable to both students and instructors than general facilities, with library facilities being the highest predictor of overall satisfaction. Moreover, the study found that students were content with elements such as a good working environment, public spaces, and campus proximity, and that faculty members were satisfied with laboratory and classroom services. Finally, the overall findings revealed that characteristics related to research and teaching have the

strongest influence on both students' and staff overall satisfaction in Finland (Weerasinghe, Lalitha & Fernando, 2017).

It was assessed satisfaction levels at Liverpool John Moores University (Weerasinghe, Lalitha & Fernando, 2017). The study discovered that while university physical amenities are not considerably essential in terms of student satisfaction, they are a critical factor of students' university selection. In Portugal, Alves and Raposo (2006) examined the impact of institutional image on student loyalty and satisfaction. According to the study's findings, institutional image has a direct important effect on student satisfaction and loyalty. At Lebanese Catholic College, it was evaluated students' understanding of services and programs offered in the college in connection to their satisfaction (Weerasinghe, Lalitha & Fernando, 2017). According to the findings, students who have a strong understanding of college procedures, rules, and regulations may have a higher educational value and consequently higher levels of satisfaction. Lyasukah (2021) investigated the effect of service quality on satisfaction of students in universities and discovered that cooperation, managerial staff compassion, and institutional responsiveness all play a significant role in influencing students' satisfaction. In a Malaysian higher education system, it was identified twelve elemental features that strongly affect student satisfaction (Weerasinghe, Lalitha & Fernando, 2017). Students' satisfaction is affected by a many factors, including professional convenience, student performance and studying experiences, classroom setting, pedagogical tools, class books and school fees, student ancillary services, practices of the organization, associations with the faculty and staff, informed and approachable faculty, staff supportiveness, feedback, and classroom sizes. The study also discovered that student support facilities and classroom sizes are influenced by the year of study, program of study, and GPA. Andrea and Benjamin (2013) explored how satisfied students were with their university's geographical location in Dunedin, New Zealand. According to the study, the most essential features of university location for students at the University of Otago are dormitory facilities, networking, spirit of community, security, and vibrant culture. Shopping and dining, overall attraction and public transportation were also highlighted as major factors of satisfaction with the university location in the survey.

There are three key reasons for applying to gathering data of student satisfaction: documentation confirmation that students are given the chance to remark on their educational satisfaction and experience, facilitation of learning feedback, and comparison for universities (Çıknır & Yıldız, 2019). Moreover, it was identified as five primary reasons for higher education institutions to participate in student satisfaction: a pledge to empathize with students, an acknowledgment that the student experience is crucial for learning, the required conditions of practices and methods for improving quality, strategic planning counseling, and performance analysis. According to a Higher Education Funding Council for England (HEFCE) report, collecting student satisfaction data about their learning experience is essential for monitoring teaching and learning, maximizing teaching and learning quality, and counseling prospective students about learning and teaching quality (Kandiko Howson & Matos, 2021).

The National Student Survey (NSS) began in Australia and was introduced to the United Kingdom in 2005 (Kandiko Howson & Matos, 2021). The UK Government agreed that the industry will provide critical quality information to assist potential candidates in making more informed decisions in where to study, and indeed contribute to the accountability requirement of an industry that receives huge sums of public money (Richardson, 2007). The NSS is distributed to full and part-time undergraduate higher education students in their final year nationwide. Students are asked about their course's teaching, evaluation and comment on their work, support academically, organization and administration, learning resources, self-improvement, general pleasure, and satisfaction with their students' clubs in the NSS, which consists of 23 Likert-scale questions in these eight areas (Christenson, Christenson, Reschly & Wylie, 2012). The NSS results are published annually on the Teaching Quality Information (TQI) website, as well as in printed sources such as "The Times Good University Guide" published in collaboration with national newspapers.

Parasuraman and colleagues (1985) developed SERVQUAL, which consists of two parts as expectation and perception in the questionnaire. Cronin and Taylor added a performance dimension in it and created SERVPERF (1992). They were developed to assess service quality, which in turn is a great indicator of customer satisfaction

(Mattah, Kwarteng & Mensah, 2018; Stranjančević & Bulatovic, 2015). In this scale, there are only five dimensions: assurance, dependability, tangibles, affinity, and reactivity when viewing student satisfaction from an institutional aspect. However, student satisfaction is also affected by such factors like commitment, attitude, apprehension, so Abdullah (2006) utilized the SERVPERF scale and created HEDPERF with a 41 item scale to measure service quality. In order to measure, student satisfaction in the institutions of higher education, it was developed a more thorough questionnaire that had 11 categories and 116 criteria (Elliot & Shin, 2002). Some of the dimensions were effectiveness of academic advising, climate of campus, life in campus, effectiveness of classes, recruitment and efficacy of financial support, sufficiency of registration, safety and security in campus, service perfection, and student domination. These dimensions include academic and non-academic services offered to students, as well as physical facilities and other associated services influencing students in a university aspect. It was developed the "Service Product Bundle" method to examine effects on student satisfaction in higher education institutions, considering twelve dimensions such as professional and pleasant environment, student evaluations and studying experiences, classroom settings, facilitating materials for lecture and tutorial, course books and lecture fees, facilities for supporting students, business procedures, relationship with instructors, knowledgeable and accessibility of faculty, supportive staff, constructive comments and number of students in classes. The four variables that were used to structure the dimensions were physical goods, service goods, implicit facilities, and explicit amenities. The Service Product Bundle approach, in contrast to SERVQUAL, takes a wider variety of elements into account that impact student satisfaction in higher education (Weerasinghe, Lalitha & Fernando, 2017).

The College Student Experiences Questionnaire (CSEQ) was created and implemented in the 1980s in the United States (Kandiko Howson & Matos, 2021). CSEQ is a flexible tool that evaluates the level of effort students put forth in utilizing university resources and opportunities for their learning and growth. Student satisfaction, determination, and the outcomes of participating college are all impacted by the effectiveness of student effort. Students that complete the CSEQ gain from reflection and self-evaluation in addition to contributing useful information to the

university. These are examples from international student satisfaction surveys, however, it will be also useful to examine student satisfaction in the local context.

2.2.3 Student Satisfaction in Turkey

In Turkey, student satisfaction surveys have become a crucial data source for quality assessment and strategic planning since 2015. Students' satisfaction and demands of institutions are widely acknowledged as major contributions into higher education institutions' strategies (Simsek et al., 2019). The institutions recognize their strengths and weaknesses by measuring student satisfaction as well as obtaining data for facilitational quality improvement initiatives. The Higher Education Quality Assurance Regulation was established to initiate quality studies by YÖK aimed at universities set accreditation targets (Higher Education Quality Assurance Regulation, 2015). It contributes to the consideration of student satisfaction in the higher education institutions as well as student engagement mentioned above. In parallel with these quality studies performed by YÖK, Turkish University Satisfaction Research (TÜMA) was conducted by Karadag and Yucel in 2016 under the University Research Laboratory (ÜniAr). The main purpose of TÜMA is to conduct research every year since then to identify the satisfaction level of students in higher education in Turkey, rate universities in Turkey according to the satisfaction level, and share the results to open access to be helpful for universities, candidate students, or policymakers. It consists of results of student satisfaction levels at the departmental level, satisfaction dimensions, and levels, student satisfaction in learning experiences, academic support and relevance, personal growth and career support, university rankings, satisfaction dimensions at the state and foundation universities, etc.

Some initiatives, which were taken by measuring student satisfaction in Turkey have gained more attention, for example, quality committees have been established by the senate in Ahi Evran University with 29 members from different educational specializations (Şimşek, İslim & Öztürk, 2019). In measuring satisfaction, universities take into account two significant groups as students, having a crucial place in terms of competition, and personnel or academics, regarded as the service presentation (Simsek et al., 2019). Furthermore, Aldemir and Gulcan (2004) conducted research to

demonstrate factors and their relationships with student satisfaction from the Faculty of Business at Dokuz Eylul University. The conceptual substructure of factors, which are related to university student satisfaction was constructed by considering institutional, extracurricular, demographic factors, and expectations. Furthermore, a student satisfaction survey was also developed by Erdogan and Bulut (2015) to evaluate the satisfaction of students studying in the Business Administration program at Ondokuz Mayıs University. The survey was categorized into four factors as physical facilities, relationships, support services, and educational resources. There are various studies conducted on student satisfaction that prioritizes other components such as quality level (Altas, 2006), demographic information, including gender, age, income, the residence of the family, etc. (Uzungoren & Uzungoren, 2006), the purpose of life, educational goal, expectations from the university (Sahin et al., 2011), trust to instructors, education, class arrangement, the relationship between peers (Onursal, Cömert & Akman, 2011).

2.3 Bridging Student Engagement and Student Satisfaction

Student engagement and involvement are positively connected with student satisfaction with their studying experience, based on vast comprehensive research (Cheong & Ong, 2016). Students at universities that encourage full involvement in pedagogy activities as well as campus activities tend to be satisfied (Korobova & Starobin, 2015). This is because "student involvement promotes institutional commitment and leads to deeper integration in the university's academic and social networks" (Berger & Milem, 1999). Some features of the students' learning experience, such as comment on homework, distance learning, and learning teams, resulted in significant satisfaction and improved job quality (Rush & Balamoutsou 2006). Furthermore, there are substantial links between students' effort, time they spend, and enthusiasm in educational tasks and improved satisfaction and performance (Ertl & Wright, 2008).

A variety of factors involving student engagement and involvement, including the quality of programs, personal interaction with lecturers, and the quality of teaching, are also positively and significantly linked with satisfaction and success (Turley & Graham, 2019). Students who are heavily immersed in academic study distance

themselves because of the amount of effort and time they devote to their studies, but academic success neutralizes this isolation, and these students have a high level of satisfaction (Dhaqane & Afrah, 2016). Furthermore, peer interaction has been linked to higher levels of student satisfaction (Pike, 1991).

Student engagement and participation foster a sense of self-identification and inclusion (Christenson, Christenson, Reschly & Wylie, 2012) as well as institutional loyalty (Berger & Milem 1999), all of which contribute to a lively educational environment and effects student learning, as well as overall satisfaction with the experience. Furthermore, participation in extracurricular activities adds to student satisfaction and their development and learning. Non-traditional students had higher levels of satisfaction due to the value they have in regard to experiences, purpose orientation, and dedicating more time to their education (Greenfeig & Goldberg, 1984).

Student satisfaction is a critical factor in online learning as higher education institutions globally adopted e-learning due to the pandemic (Younas et al., 2022). According to Gray and DiLoreto (2016), student satisfaction in online learning was considered as a crucial factor in measuring the quality of online courses and the engagement of students. A number of factors, such as a student's degree of digital competence, supporting facilities for students, constructive feedbacks, curriculum, professional and social participations, all have an impact on how satisfied students are (Chiu, 2021). Characteristics such as the usage of strategies, challenges, group support, ability to implement the information, and completion of learning outcomes are some of the aspects that influence students' overall satisfaction with online learning. Therefore, it is important to be assure that students are successfully and constructively participated in the educational process (Rajabalee & Santally, 2020). As shown by research, activities that promote online and social presence enhances and strengthens student confidence, and thus improve their performance through engagement which increases their satisfaction with the education received (Rajabalee & Santally, 2020). This is further confirmed by Korobova and Starobin (2015) who explained that the pace of learning and engagement with educational materials are measures of their productivity and predictors of their learning experience and satisfaction.

2.4 Higher Education Institutions in Turkey

The function and aim of higher education are designated in the Law on Higher Education as preparing students for the future and career life, and developing them in a balanced way, emotionally, mentally, physically, psychologically, morally, carrying out research and studies of high academic levels, disseminating scientific knowledge, cooperating with national and international level, encouraging members to be recognized in the academic world, and to contribute to the contemporary process in the universal level.

Universities were defined in 1982 Constitution (Amd 130) as consisting of several units, including faculty, institute, college, etc, with public legal entities and scientific autonomy in order to conduct scientific research, publication, and consultancy, and serve the country and society with the aim of raising labor force proper for the need of the nation and the country in an order based on contemporary education and training principles. Higher education is also defined in Amd 3 as within the national education system, education, and training at every level, based on secondary education, covering at least four semesters. It is categorized into four types as formal, open, distance, and non-formal education. In today's world, higher education is considered as a center generator of socio-economic development and perfection. In this sight, developed or developing countries identify their strategic plans in terms of concentrating on research and development studies, contributing technological knowledge to social and economical progress, and increasing the schooling rate. This global trend has led to the reorganization of Turkey's higher education policies in line with the new strategic goals from time to time and to the search for a model.

Significant quantitative growth has occurred in higher education in Turkey, especially after 2006 (Gunay & Gunay, 2017). There have been notable leaps in the number of students and thus in the rate of enrollment through the many state and foundation universities established. For instance, 77 universities were established in our country in the seventy years from 1933 to the end of 2003, but the number of universities established in the last fourteen years from 2004 to 2017 has reached 104. Additionally, since the establishment of CoHE in 1981, which aimed to collect all universities under one roof to supervise, envision, and coordinate, the turning points in terms of the

expansion of higher education in Turkey are in 1992 and 2006. 24 universities (23 state and 1 foundation) were established in 1992 and 16 universities (15 state and 1 foundation) were established in 2006 (Gunay & Gunay, 2017). In 2008, every city in Turkey have at least one university. However, 15 universities around the country have been closed due to the July 15 coup attempt in 2016, and the number started to increase again to 208 in 2021.

Although the growth rate in the number of higher education students varies from year to year, there is a continuous increase since 1981. According to the statistics of CoHE, while the number of students in higher education was 237.205 in 1981, the number was 810.781 in 1992, 3.529.224 in 2010, then it increased to 3.761.637 in 2021. There is a drastic increase of approximately 30 times from 1981 to 2017. In particular, the growth experienced in the number of students in open education is also remarkable since 2008. While the rate of students enrolled in open education and distance education was 10.4% in 1984, 35.7% in 1992, and 44.1% in 2010, it reached 54.7% in 2021. Additionally, in face-to-face education between 2003 and 2017, the number of students increased by 3.3 times for associate degrees, 2.6 times for bachelor's degrees, 5.5 times for master's degrees, 3.9 times for doctoral degrees, and 3 times in total.

Besides massification, which broke the domination of elitists in the metropolitan universities previously, Turkish higher education is a hugely centralized system in which the government utilized close and strict control. In the 1990s, the concept of autonomy has been changed in a major way because the control is mostly in the hand of the government, and there is no financial independence. Consequently, academic freedom in teaching and research is inevitable to be jeopardized by a lack of autonomy in the institutions. The manpower and labor market plaining considerations have been significantly impacted by technological advancement; however, it caused the rising of the educational level unemployment.

2.5 Summary of the Literature Review

This literature review discussed the antecedents and consequences, the surveys, the local and global context of student engagement, and student satisfaction. From this literature review, on the whole it is evident that student satisfaction and their

engagement are necessary elements in determining their learning experiences. Although there were several other factors such as socio-cultural factors that affect learning experience which are not explored in this study, student satisfaction and student engagement based on studies have been proven to be crucial and therefore should be explored in circumstances like the post-pandemic.

As discussed, student engagement in the quality processes has benefitted students and higher education institutions in Turkey, such as the enhancement of studies by identifying the aspects of the systems that are open to development with students' perspectives, and improvement of communication networks, knowledge and skills for students. Similarly, student satisfaction surveys have become a crucial data source for quality assessment and strategic planning since 2015. Students' satisfaction and demands of institutions are widely acknowledged in Turkey as major contributions into higher education institutions' strategies (Simsek et al., 2019). Institutions across Turkey reflect on their strengths and weaknesses by measuring student satisfaction as well as obtaining data for service quality improvement policies which in turn serves as an opportunity to improve institutional management to support students directly. On one hand, data collected on student engagement and student satisfaction are used to help students make informed decisions in the market context. On the other hand, they are mainly used for measuring student experience based on student activities linked to their success in higher education. Based on vast comprehensive research discussed in this chapter, student engagement has a tremendous impact on students' learning and satisfaction (Martin & Bolliger, 2018). When students interact socially and intellectually with peers at their institutions, it has a positive impact on how satisfied they are with the university (Zhoc et al., 2016). On this note, this study is intended to explore the relationship between those variables in the context of higher educational institutions in Turkey, so data was collected from students studying at state universities located in Ankara to analyze this relationship discussed in the next chapter.

CHAPTER 3

METHOD

Comprehensive information regarding the methodology of this study is presented in this chapter below. Firstly, the design of the study is reported. Next, the sampling procedure and background characteristics of the participants are given. Furthermore, data collection procedures and data analysis are described. Additionally, details on the instruments used for data collection are explained. Lastly, the limitations of the study are presented.

3.1 Design of the Study

This study was designed as a correlational study. The relationship between student engagement and satisfaction during the pandemic was investigated using a quantitative approach. Quantitative research is a method for gathering data, evaluating and interpreting them, and writing the results of a study (Creswell, 2009). Babbie (2010) claim that quantitative research employs a system for precise measurement to analyze phenomena due to basing on numbers and accuracy. It is functional to generalize findings due to the large sample (Hinkle & Oliver, 1983). Sandelowski (1995) also claimed that quantitative research supplies the researcher overall idea about findings from large sample. Establishing relationships between variables and attempting to identify the underlying reasons of these relationships are the goals of quantitative design, which uses numerical data in a formal and systematic research process (Coghlan & Brydon-Miller, 2014). Thus, the research question of the study is needed to be investigated with a correlational design.

The study specifically investigates the relationship between student engagement (SE) and student satisfaction (SS) in higher education. This research method is appropriate for providing a context for dealing with many variables and studying their

relationships and differences (Allen, 2017). It is instrumental for investigating the relationships without the intention of manipulating the variables, and it helps to find out how the predictor variable conveys its effect on the outcome variable (Bhandari, 2021). This design is appropriate for investigating the relationship among quantitative variables.

The aim of the study is to determine how well student engagement variables, including academic, social, behavioral, and emotional engagement predict student satisfaction with social and cultural activities, research and development activities, process and practices of education, and environment and resources of education. Therefore, the most suitable approach for the study is correlational research due to evaluating the relationship between quantitative variables with no manipulation. Furthermore, since the study aims to estimate the relationship between exploratory variables (independent) and response (dependent) variables, Simultaneous Multiple Linear Regression (MLR) is appropriate statistical technique for testing the hypothesized relationships. In addition to that, the scale of student engagement was originally designed for foreign contexts and adapted to the Turkish language by the researcher. Therefore, exploratory factor analysis (EFA) was carried out to assess and adaptation of the scale in Turkish context before operating the analysis for the main study. This study also utilized confirmatory factor analysis (CFA), and how well the variables of student satisfaction survey represent the number of construct was tested.

3.2 Sampling

This study was conducted in the province of Ankara, and the data was collected from three state universities located in the city. According to the report conducted by the Higher Education Council (2017), there are 208 universities (state: 129, private: 75, vocational school of higher education: 4) with 8,240,997 students (associate degree: 3,114,623; bachelor's degree: 4,676,657; master's degree: 343,569; doctoral degree: 106,148) in Turkey. In Ankara, there are 22 universities (state: 8, private: 14), and 336,119 students (associate degree: 33,156; bachelor's degree: 234,012; master's degree: 36,126; doctoral degree: 32,825). Private universities and vocational schools of higher education differ from state universities in terms of their mission, vision,

facilities, services, student recruitment policy, staff, faculty, etc. Therefore, these school types were eliminated from the sample.

In this study convenience sampling method was utilized, due to the pandemic, its restriction practices, and time constraints. This method helps to gain information from participants who are convenient for the researcher to access by internet services or being location around. In this study's context, along with the restrictions of the pandemic on data collection, three state universities in Ankara were selected with a non-random sampling method. The sample includes undergraduate and graduate students studying at Ankara University, Gazi University, and Middle East Technical University (METU).

3.3 Demographic Characteristics of Participants

The participants of this study were bachelor's, master's, and doctoral students from 3 state universities in Ankara. A total number of 1,851 students were reached through the METUSurvey service provided by METU. A sample of 766 students responded to the questionnaire.

Table 1 below illustrates the demographic characteristics of the participants. The average age of 766 participants, ranging from 18 years to 45 years, was considerably the low average of age ($M = 23.08$, $SD = 4.17$). Whereas the GPA of the participants, ranging from 0.00 to 4.00 ($M = 3.13$, $SD = .61$). 34.1% of the respondents were students from Middle East Technical University ($n = 261$). While 33.2% of the respondents were students from Gazi University ($n = 254$) and 32.8% of the respondents were students from Ankara University ($n = 251$). The majority of the respondents, 74.5%, were students from the Faculty of Education ($n = 571$). Whereas 15.3% of the respondents were students from the Faculty of Engineering ($n = 117$), 5.1% of the respondents were students from the Faculty of Arts and Sciences ($n = 39$), 2.2% of the respondents were students from the Faculty of Language, History and Geography ($n = 17$), 1.2% of the respondents were students from the Faculty of Economics and Administrative Sciences ($n = 9$), 1% of the respondents were students from the Faculty of Pharmacy ($n = 8$), 0.3% of the respondents were

Table 1 (continued)
Descriptive Statistics for Demographics of the Participants (N = 766)

Faculty	Ankara University (n=251)			Gazi University (n=254)			Middle East Technical University (n=261)			Total (n=766)				
	f	%	M	SD	f	%	M	SD	f	%	M	SD		
Art and Science	9	3.6			0	0.0			30	11.5			39	5.1
Communication	1	0.4			0	0.0			0	0.0			1	0.1
Dentistry	1	0.4			0	0.0			0	0.0			1	0.1
Economics and Administrative	1	0.4			5	2.0			3	1.1			9	1.2
Sciences														
Education	218	86.9			240	94.5			113	43.3			571	74.5
Engineering	1	0.4			1	0.4			115	44.1			117	15.3
Health Sciences	1	0.4			0	0.0			0	0.0			1	0.1
Language, History and	17	6.8			0	0.0			0	0.0			17	2.2
Geography														
Pharmacy	0	0.0			8	3.1			0	0.0			8	1
Theology	2	0.8			0	0.0			0	0.0			2	0.3

Table 1 (continued)

Descriptive Statistics for Demographics of the Participants (N = 766)

	Ankara University (n=251)			Gazi University (n=254)			Middle East Technical University (n=261)			Total (n=766)				
	f	%	M	SD	f	%	M	SD	f	%	M	SD		
Education Level														
Undergraduate	226	90.0			248	97.6			189	72.4			663	86.6
Master's degree	13	5.2			5	2.0			48	18.4			66	8.6
Doctoral degree	12	4.8			1	0.4			24	9.2			37	4.8
Grade Level														
English preparation	0	0.0			0	0.0			1	0.4			1	0.1
Scientific preparation	3	1.2			0	0.0			0	0.0			3	0.4
1 st year	33	13.1			121	47.6			26	10.0			180	23.5
2 nd year	42	16.7			58	22.8			76	29.1			176	23
3 rd year	66	26.3			65	25.6			81	31.0			212	27.7
4 th year	88	35.1			7	2.8			56	21.5			151	19.7
5 th year	19	7.6			3	1.2			21	8.0			43	5.6

Table 1 (continued)

<i>Descriptive Statistics for Demographics of the Participants (N = 766)</i>												
Ankara University (n=251)			Gazi University (n=254)			Middle East Technical University (n=261)			Total (n=766)			
	<i>f</i>	%	<i>M</i>	<i>SD</i>	<i>f</i>	%	<i>M</i>	<i>SD</i>	<i>f</i>	%	<i>M</i>	<i>SD</i>
Gender												
Male	68	27.1			41	16.1			105	40.2		
Female	183	27.1			213	83.9			156	59.8		
GPA			3.40	0.35			3.11	0.54			2.91	0.76
Age			23.80	4.85			20.79	2.35			24.60	3.91
											3.13	.61
											23.08	4.17

students from the Faculty of Theology ($n = 2$), 0.1% of the respondents was a student from the Faculty of Dentistry ($n = 1$), 0.1% of the respondents was a student from the Faculty of Communications ($n = 1$), and Lastly, 0.1% of the respondents was a student from the Faculty of Health Sciences ($n = 1$). 86.6% of the respondents were bachelor's degree students ($n = 663$), 8.6% of the respondents were master degree students ($n = 66$) and 4.8% of the respondents were doctoral degree students ($n = 37$). 27.7% of the respondents were third-year students ($n = 212$), 23.5% of the respondents were first-year students ($n = 180$), 23% of the respondents were second year students ($n = 176$), 19.7% of the respondents were fourth year students ($n = 151$), 5.6% of the respondents were fifth year students, 0.4% of the respondents were scientific preparation students ($n = 3$) and lastly 0.1% of the respondents were English preparation students ($n = 1$). The majority of the respondents, 72.1% were female students ($n = 552$), whereas 27.9% of the respondents were male students ($n = 214$).

3.4 Instrumentation

The data collection instrument involves Higher Education Student Engagement Scale (HESES) developed by Zhoc and colleagues (2019), the Student Satisfaction Survey developed by Simsek, Islim, and Ozturk (2019), and the demographic information form developed by the researcher.

3.4.1 Student Engagement Scale

The variable of student engagement was measured by Higher Education Student Engagement Scale developed by Zhoc and colleagues (2019). The factor structure, internal consistency, and criterion validity were all psychometric evaluations of the scale evaluated. The First Year Engagement Scales (FYES) (Krause & Coates, 2008) served as the basis of the development of the measure, which had its conceptual underpinnings established on the five-factor model of the student engagement scale. It was constructed using an updated version of the comprehensive student engagement model introduced by Finn and Zimmer (2012), with adjustments made to account for the distinctive characteristics of higher education.

The multidimensional Likert-type scale aims to measure students' engagement levels by taking into consideration academic, cognitive, social engagement with teachers, social engagement with peers, and affective engagement through 28 items that range between 1 to 5. The minimum scores obtained from the scale indicate a lower level of engagement, while the higher ones show a higher level of student engagement. The CFA findings of the original scale demonstrated the viability of the correlated 5-dimensional model (RMSEA =.05; GFI =.91; CFI =.93, NFI =.90; NNFI =.92). All of the dimensions had factor loadings that ranged from .42 to .89, indicating that all of the items were accurate predictors of their respective factors. Additionally, all of the dimensions were internally consistent, according to the Cronbach's alpha coefficients (= .70 to .87).

The translation of all items in Turkish was done by the researcher and corrected by the expert in the field. The researchers conducted an Exploratory Factor Analysis (EFA) and decided to delete two items (Table 2).

Table 2 (continued)

Factors and Items of Student Engagement Scale

Factor	Item	Sample Item
	1	Regularly study on the weekends.
	2	Spend a lot of time to study on my own.
	3	Rarely skip classes*
	4	Usually come to class having completed readings or assignments
1	5	Regularly use web-based resources and information designed specifically for the course
	6	Regularly use email and/or other electronic means (such as WhatsApp, WeChat and Facebook) to contact friends in my course
	7	Regularly use the internet for study purpose
	8	Online resources (e.g. course notes, free software and materials on the web) are very useful for me

Table 2 (continued)*Factors and Items of Student Engagement Scale*

Factor	Item	Sample Item
2	9	Enjoy the intellectual challenge of courses studying
	10	Get a lot of satisfaction from studying
	11	Finding my course intellectually stimulating
	12	Usually motivated to study
3	13	A real effort to understand difficulties in my work*
	14	Academic staff take an interest in my progress
	15	Given helpful feedback on my progress
	16	Usually available to discuss my work
4	17	Regularly work with other students on course areas I have problems
	18	Regularly get together with other students to discuss courses
	19	Regularly study with other students
	20	Feel part of a group of students committed to learning
	21	Tend to mix with other students at university
	22	Have made at least one or two close friends at university
	23	Actively involved in university extra-curricular activities
	24	Interested in the extra-curricular activities or facilities provided by university
5	25	Really like being a university student
	26	University has lived up to my expectations
	27	Feel belong to the university community
	28	Really like being on my campus

* *items deleted.*

3.4.2 Student Satisfaction Scale

To measure student satisfaction levels in the higher education context, the Student Satisfaction Scale (Appendix 2) was developed by Simsek, Islim, and Ozturk (2019). The scale was constructed at Ahi Evran University to contribute to the process of

enhancing the quality of research, education, social and cultural activities, and other services offered by the university. A committee for the development of the scale was formed from different faculties, and a pilot study was completed to determine scale items and examine the analysis.

The Student Satisfaction Scale (SSS) is a multidimensional Likert-type scale and consists of factors, including satisfaction with social-cultural activities, the management of research and development, monitoring, evaluation, and quality management of education and training, the process and practices of education and training, the design of education and training, the environment and resources of education and training. The scale has 45 items with a range between 1 to 5, which shows the lower scores indicating lower satisfaction levels and vice versa. Sample items of the scale include “The cafeteria services offered by the university are sufficient”, “Students are encouraged to prepare research projects”. The researchers conducted Exploratory Factor Analysis (EFA) on SSS to ensure the factor structures and items, so all 6-factors received item loadings of more than .40, which shows that these factors are suitable for the student satisfaction scale. The first factor is satisfaction with social and cultural activities; the second factor is satisfaction with the management of research and developmental activities; the third factor is satisfaction with monitoring, evaluation, and quality management of education; the fourth factor is satisfaction with the processes and practices of education; the fifth factor is satisfaction with the design of education; and the sixth factor is satisfaction with the environment and resources of education. The third and fifth factors were removed from the original scale, which are demonstrated in the Table 3, and explained in the analysis part. Furthermore, the CFA was conducted for this survey, and the Cronbach’s Alpha coefficient score is more than .70 for all factors, thus the results of the survey have high reliability.

Table 3 (continued)*Factors and Items of Student Satisfaction Scale*

Factor	Item	Sample Item
	1	Social and sports facilities for students are sufficient in the university.
	2	Cultural and artistic activities are organized for students in the university.
	3	Sports activities are organized for students in our university.
	4	Student clubs of the university carry out adequate social and cultural activities.
	5	The services of the canteens in the university are sufficient.
	6	Adequate level of psychological counseling service is provided in the university.
1	7	There are services (bank, stationery, canteen, etc.) at the university where I can meet my daily needs.
	8	The graduate monitoring system of the university is used effectively.
	9	The security services offered at the campuses of the university are sufficient.
	10	There are student clubs in the university that are suitable for my field of interest.
	11	The cafeteria services offered by the university are sufficient.
	12	The university encourages students for academic success.
	13	Students are informed about educational opportunities of studying abroad.
	14	Students are informed about exchange programs (Erasmus, Farabi, Mevlana, etc.).
2	15	Students are encouraged to pursue postgraduate studies.
	16	Research projects developed by students are supported.
	17	Students are encouraged to prepare research projects.

Table 3 (continued)*Factors and Items of Student Satisfaction Scale*

Factor	Item	Sample Item
	18	Exam announcements are made on time.*
	19	Exams are held in appropriate environment and conditions (number of students, lighting, ventilation, etc.).*
	20	At the beginning of the semester, students are informed about the criteria of passing courses.*
	21	Exams are prepared in accordance with the aims and contents of the course.*
3	22	Objections to the exam results are taken into account by the instructors.*
	23	Announcements about students are shared on time. *
	24	Exam results are announced on time.*
	25	The university units respond to student complaints and wishes in a timely manner.*
	26	The institute/faculty/college management that I am registered with values the opinions of the students.*
	27	Necessary information and guidance about internship processes are provided by my department.
	28	The institution where I do my internship contributes to the development of my skills related to my profession.
	29	Students can communicate with the instructors.
	30	Administrative staff (department secretary, student affairs, etc.) provides the necessary support in matters related to education.
4	31	The general cleaning services of the university are sufficient.
	32	Students are informed about the aims and contents of the courses they take at the beginning of the semester.
	33	Training and activities are offered to support my professional/individual development.

Table 3 (continued)

Factors and Items of Student Satisfaction Scale

Factor	Item	Sample Item
5	34	The elective courses I take have qualifications that will contribute to my professional/personal development.*
	35	The compulsory courses I take have qualifications that will contribute to my professional/individual development.*
	36	The weekly course schedule is planned in a balanced way.*
	37	There is sufficient activity for orientation.*
	38	My consultant provides the necessary consultancy service.*
	39	The weekly course schedule is announced before the semester starts.*
	40	Student opinions are taken into account in educational activities.*
6	41	The teaching materials (projector, board, experimental setups, etc.) in the classrooms / laboratories students use are sufficient for education.
	42	The printed resources of the university library are sufficient.
	43	The electronic resources of the university library are sufficient for education.
	44	The physical facilities (lighting, heating, ventilation, etc.) of the classrooms/laboratories we use are sufficient for education.
	45	The physical conditions of the university are suitable for disabled individuals.

* *items deleted.*

3.4.3 Demographic Information Form

The participant information was obtained through a demographic information form (Appendix 4) at the end of the survey. The form consisted of questions about participants' university, faculty, educational level, grade level, age, gender, and Grade Point Average (GPA).

3.5 Data Collection Procedure

Firstly, consent was taken from Middle East Technical University Human Subjects Ethics Committee (Appendix 4) in order to conduct this study as this study involves collecting data from human participants through the means of the survey, thus requiring consent. Next, the researcher created an electronic version of the survey using LimeSurvey through the university's service METUAnket as it ensures the protection of personal data. Online data collection also has advantages over the paper-and-pencil data collection method (Ward, Clark, Zabriskie & Morris, 2012). The researcher preferred online surveys as they can be distributed to a wide and diverse population in a short amount of time and effort and is cost efficient as well as convenient. Data collected by online surveys can be transferred easily to other programs for data analysis with minimal risk of data loss. Furthermore, gathering data online also permits respondents to complete the survey at their convenience and minimizes disruption of schoolday activities (Ward, Clark, Zabriskie & Morris, 2012).

Afterward, the researcher distributed the survey through METU's internal communication channels (e.g., e-mail lists, WhatsApp groups, and Facebook groups). The researcher also went to Gazi University and Ankara University to distribute the survey through QR codes and asked students on campus to forward the survey link to their class WhatsApp groups. While at these universities, the researcher also asked permission from lecturers to share the survey link with their students in class. The data collection period was four weeks in the spring semester of the 2021-2022 academic year. The data collected from the survey were all anonymous, and this was conveyed to the participants regarding confidentiality. The participants voluntarily completed the survey and were informed of their rights to withdraw from the study should they wish, but they were not allowed to drop out any questions unanswered. Students are requested to fill out the student engagement and student satisfaction survey in the random order provided by LimeSurvey after they confirm that they participate voluntarily. After the survey, the demographic information form page appears to be filled. At the end of the survey, the e-mail of the researcher was provided to the participant for further information. The average time to finish the survey was 7 minutes.

3.6 Data Analysis

In the data analysis process, the researcher processed data cleaning and checked if there was missing data. The data in the study were then analyzed using both descriptive statistics and inferential statistics. The software IBM SPSS 28 was used to run the analyses. Descriptive statistics of frequencies, standard deviations, and means were calculated for the demographic information of participants such as university, faculty, education level, grade level, age, gender, and GPA. Before the main analyses, exploratory factor analysis (EFA) was conducted for the student engagement scale to validate measurement by adapting the previous survey in the Turkish language. Next, confirmatory factor analysis (CFA) was applied to test how well the measured variables the number of constructs and confirm the factor structure of SS scale by using the software IBM SPSS AMOS 26 Software Package. The study aims to investigate how well SE dimensions predict SS dimensions, and simultaneous multiple linear regression (MLR) analyses were executed. Assumptions for the regression were validated. In accordance with Bonferroni correction (Napierala, 2012), the alpha level for the outcomes analysis was set at 0.0125 (0.05/4).

3.6.1 Exploratory Factor Analysis (EFA)

A data reduction technique called exploratory factor analysis (EFA) takes a large number of variables and groups, summarizes, and reduces them to reflect different factors or components. It was investigated whether the assumptions of EFA were met or not before conducting the analysis. The assumptions and sample size adequacy were checked before moving to EFA. 5 cases for 1 item is the suitable ratio to run EFA according to Hair et al. (2006); however, 10:1 is claimed more ideal one. Kaiser-Mayer Olkin (KMO) and Barlett's Test of Sphericity, metric variables proof like correlation above .30, absence of outliers, univariate normality such as histograms, Kolmogorov-Smirnov test, Shapiro-Wilk test and Skewness-Kurtosis, multivariate normality, and lastly inter-reliability for each factor were conducted for the assumption of EFA (Hair et al., 2006). The factor loadings and dimensions were tested using principal axis factor analysis with varimax rotation, and no factor number was fixed.

In order to ensure robustness against non-normality, principal axis factoring was used as a factor extraction method (De Winter & Dodou, 2012) due to Mardia's test result was $p < .05$, therefore violating the multivariate normality and Direct Oblimin (DO) as the rotation method. Additionally to the proposed theory, different criteria were applied, such as scree plot, which explained variance to be greater than 60% in order to consider in deciding the number of factors. Hair et al. (2006) recommended the minimum acceptable values of item loading within the range of .30 to .40 for the interpretation of the rotated pattern matrix. Content validity of the scale is also considered while eliminating the items from the scales.

The Student Engagement Scale has 5 dimensions, which are 8-item Academic Engagement, 4-item Cognitive Engagement, 4-item Social Engagement with Teachers, 8-item Social Engagement with Students, and 4-item Affective Engagement. An exploratory factor analyses were conducted in order to assess construct validity; therefore, EFA assumptions were checked for each dimension separately.

Assumptions

For Student Engagement Scale, for the sampling adequacy assumption, this data set has an appropriate sample size ($n = 766$) according to MacCallum, Widaman & Zhang (1999), which requires at least 250 participants as per the standards set by Cattell (1978).

Next, the researcher checked for the absence of univariate outliers to ensure no data misentry and missing value coding. Univariate normality is violated by Kolmogorov-Smirnov.

EFA Results for Student Engagement Scale

EFA was performed with the data obtained to extract the factor structure of the Student Engagement scale and to examine its construct validity. Since the analyzed data did not fit the multivariate normal distribution, the factors were created using the principal axis factors method (Costello & Osborne, 2005) and the varimax rotation method was

used. The number of factors was decided by considering the cumulative variance, interpretability and Guttman-Kaiser criteria (Guttman 1954, Kaiser 1960, 1961). As a result of the EFA, it was observed that the total variance rate explained with the 4-factor model increased to 53.90%.

Table 4 (continued)

Total variance ratios revealed as a result of EFA in the Student Engagement Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variances	Cumulative %	Total	% of Variances	Cumulative %	Total
1	10,91	40,417	40,417	10,48	38,805	38,805	6,587
2	2,162	8,007	48,424	1,766	6,542	45,346	5,365
3	1,718	6,361	54,785	1,313	4,864	50,21	5,37
4	1,415	5,242	60,027	0,995	3,686	53,896	6,868
5	1,125	4,166	64,192	0,728	2,697	56,593	6,402
6	0,808	2,992	67,185				
7	0,771	2,855	70,04				
8	0,692	2,565	72,604				
9	0,588	2,178	74,782				
10	0,533	1,975	76,758				
11	0,509	1,887	78,645				
12	0,494	1,829	80,474				
13	0,464	1,72	82,194				
14	0,434	1,606	83,8				
15	0,421	1,558	85,358				
16	0,405	1,502	86,86				
17	0,4	1,481	88,341				
18	0,385	1,425	89,766				
19	0,376	1,393	91,158				
20	0,351	1,298	92,456				
21	0,335	1,241	93,697				
22	0,317	1,173	94,87				
23	0,31	1,148	96,019				
24	0,301	1,114	97,133				
25	0,287	1,064	98,197				

Table 4 (continued)*Total variance ratios revealed as a result of EFA in the Student Engagement Scale*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
26	0,249	0,923	99,12				
27	0,238	0,88	100				

Before the exploratory factor analysis (EFA), the Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test were performed to examine the suitability of the data for factor analysis. Accordingly, the KMO sample fit was 0.949 and the result of Bartlett's sphericity test (*Chi-square value* 11,457,731 and *sd.* 351) with p-value less than 0.001. These results show that the data are suitable for the factor analysis (Kaiser 1974).

In order to determine the factor analysis method to be applied, whether the variables fit the normal distribution was tested with the Kolmogorov-Smirnov test. According to the test results, the variables used in the Student Engagement scale do not fit the multivariate normal distribution (Table 4).

The EFA was performed using principal axis due to Mardia's test result was p -value < .05. The minimum criteria were set to .32 to accept factor loadings meaningful. The communality indicates the amount of variance in each dimension, and it was also assessed to ensure acceptable levels of explanation. The results showed that all communalities, except for two items, were less than .32 (Table 5).

The item "I rarely skip classes" was removed as it has a communality of .28. Item "I enjoy the intellectual challenge of courses studying" had a communality value of .48 but the item was not removed as it was close to the criteria set, and it is satisfied the factor loading criteria for the 4-factor model, which is discussed below.

Table 5 (continued)

Kolmogorov-Smirnov test results for the normal distribution of the variables used in the 5-Factor Student Engagement Scale

	Normal Distribution Parameters				Normal Distribution Parameters				p-value
	N	Mean	SD	Absolute	Positive	Negative	D-value		
Regularly study on the weekends.	766	2,99	1,084	0,189	0,189	-0,182	0,189	<0,001	
Spend a lot of time to study on my own.	766	3,64	1,064	0,294	0,178	-0,294	0,294	<0,001	
Rarely skip classes	766	3,61	1,242	0,267	0,132	-0,267	0,267	<0,001	
Usually come to class having completed readings or assignments	766	3,54	1,069	0,273	0,168	-0,273	0,273	<0,001	
Regularly use web-based resources and information designed specifically for the course	766	3,69	1,014	0,311	0,197	-0,311	0,311	<0,001	
Regularly use email and/or other electronic means (such as WhatsApp, WeChat and Facebook) to contact friends in my course	766	4,14	1,052	0,303	0,208	-0,303	0,303	<0,001	
Regularly use the internet for study purpose	766	3,67	1,118	0,269	0,141	-0,269	0,269	<0,001	
Online resources (e.g. course notes, free software and materials on the web) are very useful for me	766	4,05	0,986	0,313	0,176	-0,313	0,313	<0,001	
Enjoy the intellectual challenge of courses studying	766	3,63	1,065	0,269	0,162	-0,269	0,269	<0,001	
Get a lot of satisfaction from studying	766	3,56	1,062	0,281	0,176	-0,281	0,281	<0,001	

Table 5 (continued)
Kolmogorov-Smirnov test results for the normal distribution of the variables used in the 5-Factor Student Engagement Scale

	Normal Distribution Parameters				Normal Distribution Parameters				p-value
	N	Mean	SD	Absolute	Positive	Negative	D-value		
Finding my course intellectually stimulating	766	3,50	1,051	0,266	0,171	-0,266	0,266	<0,001	
Usually motivated to study	766	3,17	1,104	0,195	0,140	-0,195	0,195	<0,001	
A real effort to understand difficulties in my work	766	3,53	0,964	0,260	0,182	-0,260	0,260	<0,001	
Academic staff take an interest in my progress	766	3,46	1,057	0,250	0,163	-0,250	0,250	<0,001	
Given helpful feedback on my progress	766	3,54	1,017	0,300	0,197	-0,300	0,300	<0,001	
Usually available to discuss my work	766	3,56	0,975	0,286	0,193	-0,286	0,286	<0,001	
Regularly work with other students on course areas I have problems	766	3,27	1,085	0,250	0,151	-0,250	0,250	<0,001	
Regularly get together with other students to discuss courses	766	3,10	1,145	0,218	0,172	-0,218	0,218	<0,001	
Regularly study with other students	766	3,17	1,110	0,220	0,166	-0,220	0,220	<0,001	
Feel part of a group of students committed to learning	766	3,57	1,068	0,289	0,179	-0,289	0,289	<0,001	
Tend to mix with other students at university	766	3,63	1,113	0,289	0,161	-0,289	0,289	<0,001	
Have made at least one or two close friends at university	766	4,19	1,129	0,281	0,237	-0,281	0,281	<0,001	
Actively involved in university extra-curricular activities	766	3,21	1,110	0,199	0,152	-0,199	0,199	<0,001	

Table 5 (continued)

Kolmogorov-Smirnov test results for the normal distribution of the variables used in the 5-Factor Student Engagement Scale

	Normal Distribution Parameters			Normal Distribution Parameters			p-value	
	N	Mean	SD	Absolute	Positive	Negative		D-value
Interested in the extra-curricular activities or facilities provided by university	766	3,47	1,067	0,263	0,165	-0,263	0,263	<0,001
Really like being a university student	766	4,02	1,120	0,270	0,190	-0,270	0,270	<0,001
University has lived up to my expectations	766	3,30	1,168	0,227	0,134	-0,227	0,227	<0,001
Feel belong to the university community	766	3,49	1,154	0,257	0,146	-0,257	0,257	<0,001
Really like being on my campus	766	3,95	1,140	0,280	0,179	-0,280	0,280	<0,001

Table 6

Eigenvalues, Percentages of Variance and Cumulative Percentages for Factors of the Student Engagement Scale – 5-Factor Model

Factor	Eigenvalue	Percentage of variance	Cumulative percentage
1	11.07	39.52	39.52
2	2.17	7.75	47.27
3	1.77	6.32	53.59
4	1.42	5.06	58.65
5	1.13	4.02	62.67

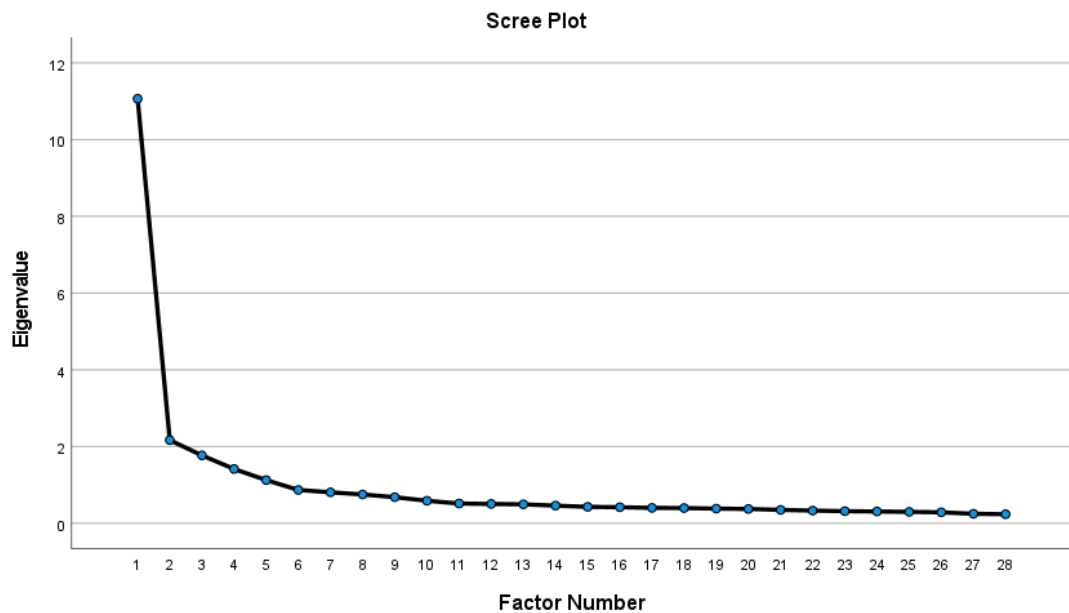


Figure 2: *Scree Plot for Student Engagement Scale – 5-Factor Model*

The pattern matrix shows that there is a problem in the item loading because most of the items in the student engagement survey are included under the different factors, and most of them are cross-loaded. The researcher also checked the linear relationships among the variables by inspecting the scatterplots and it indicates 4-factor solution for the model (Figure 2). Therefore, it was decided to narrow down the factors into 4 factors after eliminating one item. The item is “A real effort to understand difficulties in my work”, item 13, because the item also failed to be loaded on the 4-factor model. This could most probably be translated poorly; therefore it was ultimately dropped.

The result of KMO was .95, while the value for Barlett’s Test of Sphericity was found to be significant, $\chi^2(378) = 11650.009$, $p\text{-value} < .001$. There are correlation coefficients that were less than .30 (Tabachnick & Fidell, 2007).

In the 4-factor solution (Appendix 3), the factors were considered by the items included in the factors, namely Academic Engagement, Social Engagement, Behavioral Engagement, and Emotional Engagement. According to factor loadings, with the sight of the literature, the items of the factors are listed below;

Factor 1: Academic Engagement

Factor 2: Social Engagement

Factor 3: Behavioral Engagement

Factor 4: Emotional Engagement

Table 7 (continued)

Factor loadings generated as a result of EFA in the 4-Factor Student Engagement Scale

	Factor			
	1	2	3	4
Spend a lot of time to study on my own.	0,710			
Usually come to class having completed readings or assignments	0,666			
Get a lot of satisfaction from studying	0,617			
Regularly use the internet for study purpose	0,595			
Regularly use web-based resources and information designed specifically for the course	0,571			
Online resources (e.g. course notes, free software and materials on the web) are very useful for me	0,546			
Usually motivated to study	0,544			
Regularly study on the weekends.	0,502			
Enjoy the intellectual challenge of courses studying	0,430			
Feel part of a group of students committed to learning	0,322			
Really like being on my campus		-0,624		
Have made at least one or two close friends at university		-0,596		
Interested in the extra-curricular activities or facilities provided by university		-0,576		

Table 7 (continued)

Factor loadings generated as a result of EFA in the 4-Factor Student Engagement Scale

	Factor			
	1	2	3	4
Regularly use email and/or other electronic means (such as WhatsApp, WeChat and Facebook) to contact friends in my course		-0,555		
Really like being a university student		-0,554		
Actively involved in university extra-curricular activities		-0,534		
Feel belong to the university community		-0,530		
Feel belong to the university community		-0,522		
Regularly study with other students			0,719	
Regularly get together with other students to discuss courses			0,704	
Regularly work with other students on course areas I have problems			0,674	
Academic staff take an interest in my progress				-0,865
Given helpful feedback on my progress				-0,754
Usually available to discuss my work				-0,647
University has lived up to my expectations				-0,530
Finding my course intellectually stimulating				-0,501

Table 8

Eigenvalues, Percentages of Variance and Cumulative Percentages for Factors of the Student Engagement Scale – 4-Factor Model

Factor	Eigenvalue	Percentage of variance	Cumulative percentage
1	10.64	39.41	39.41
2	2.17	8.03	47.43
3	1.77	6.56	53.99
4	1.42	5.24	59.23

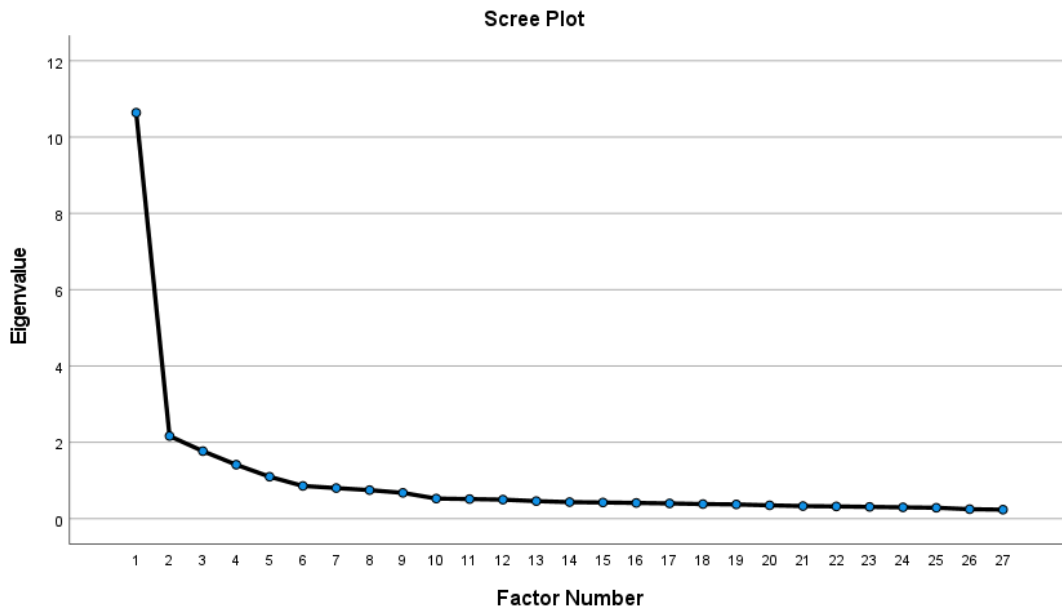


Figure 3: *Scree Plot for Student Engagement Scale – 4-Factor Model*

3.6.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is a statistical method used to prove the factor structure of a set of observed variables. CFA enables the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. It is also used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (Orcan, 2018). CFA is a technique that examines how well the indicators measure the unobserved constructs and if the unobserved constructs are uniquely different from one another. In this study, CFA was employed student satisfaction scale. The assumption of CFA, including sample size, missing data, normality, linearity, outliers, homoscedasticity, and multicollinearity were checked (Wan, 2015). After controlling the assumptions, AMOS 18 Software Package was used to conduct CFA for each scale. The Root Mean Square of Error of Approximation (RMSEA), the Bentler Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and Tucker-Lewis Index (TLI) were applied with chi-square (χ^2) in order to interpret the results of CFA.

Univariate outliers help to identify extreme values and unusual combinations of scores (Tabachnick and Fidell, 2007). Standardized z-scores were checked, and there are no

cases exceeding the recommended value of 3.29 by Tabachnick and Fidell (2007). Furthermore, the researcher checked for the absence of multivariate outliers, which include Mahalanobis distance, Cook's distance, centered leverage value, and standardized DFBeta value. Multivariate outliers were identified with the help of Mahalanobis distance values, which are based on a critical chi-square table. In order to detect any outliers according to cut-off values, Cook's Distance and standardized DFBeta values were checked. Cook's distance values indicate outliers higher than 1 and should be removed, and DFBeta values indicate outliers higher than 1 and should be removed. The centered leverage value also should be less than $3(k+1)/n$, where k stands for the number of independent variables, and n stands for sample. If there are any outliers in the data set, it was determined whether they should be kept in the data set or not.

Linearity of residuals shows that linear relationship between predicted dependent variables and errors of prediction. The partial regression plots were checked in this study. Homoscedasticity of residuals helps to determine that for each level of predictor variables, the variance of the residual terms is constant. It is checked by a scatter plot of predicted value and residual in the study. Furthermore, the absence of multicollinearity was checked because if variables are highly correlated, this indicates that they are redundant and are needed in the analysis. A higher correlation (.90 and higher) indicates multicollinearity and, therefore, is considered to be removed (Tabachnick & Fidell, 2007). According to Field (2009), Tolerance values less than .20 indicate a problem with multicollinearity, whereas Variance Inflation Factor (VIF) values of more than 4.0 indicate a problem with multicollinearity.

The fit indexes criteria are inspected to further understand the result; therefore the chi-square should be insignificant and small to ensure a perfect fit (Kline, 2010). RMSEA values display both the population fit of the most recent statistics and the comparison of sample statistics to population. Browne and Cudeck (1992) asserted that another cut-off value for RMSEA is $RMSEA < .05$, indicating a good fit, whereas $RMSEA < .08$ indicates a reasonable fit. Furthermore, the values between .08 and .10 show average fit, while the values above .10 represent a poor fit (MacCallum, Browne & Sugawara, 1996). Additionally, the confidence interval cut-off scores should be $CI \leq$

.05 and $CI \leq .10$ (Kline, 2011). The closeness of fit (PLOSE) is likewise calculated by Amos, and non-significant values are accepted, $PClose > .05$. The cut-off value is .95 (.90 is acceptable), and CFI and TLI values should range from 0 to 1 (Hu & Bentler, 1999). Kline (2011) suggested that SRMR values should be less than .10, while Hu and Bettler (1999) claimed less than .08.

Assumption Checks for CFA of Student Satisfaction

Student satisfaction scale was analyzed over 29 questions. The compatibility of the factor structure, which was created based on previous study, with the collected data was examined using Confirmatory Factor Analysis (CFA). In the original scale, it was seen that the item-total correlation was .40 and above for each item, and the mean difference of the upper and lower groups for each item was significant. As a result of the analysis of the data obtained with the Student Satisfaction Scale, the KMO coefficient was calculated as .97 and it was seen that the Barlett Sphericity Test was significant at the expected level. Six factors that emerged as a result of the exploratory factor analysis explained 62.01 of the total variance. Six factors in the Student Satisfaction Scale, which were obtained as a result of the exploratory factor analysis and consisted of 45 items in total, were named as follows: Satisfaction with social and cultural activities (Factor 1), Satisfaction with the management of research and development activities (Factor 2), Monitoring and evaluation, and quality management of education (Factor 3), Satisfaction with the processes and practices of education (Factor 4), Satisfaction with the design of education (Factor 5), Satisfaction with the environment and resources of education (Factor 6). The factor 3 and 5 was removed from the Student Satisfaction Survey because the participant was expected mostly undergraduate students, so they were expected to have limited knowledge to answer the items in these factors.

Table 9 (continued)

Test results of the normal distribution of the variables used in the Student satisfaction scale.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Test Statistics	sd	p-value	Test Statistics	sd	p-value
Social and sports facilities for students are sufficient in the university.	0,228	766	<0,001	0,901	766	<0,001
Cultural and artistic activities are organized for students in the university.	0,296	766	<0,001	0,855	766	<0,001
Sports activities are organized for students in our university.	0,261	766	<0,001	0,880	766	<0,001
Student clubs of the university carry out adequate social and cultural activities.	0,261	766	<0,001	0,882	766	<0,001
The services of the canteens in the university are sufficient.	0,286	766	<0,001	0,866	766	<0,001
Adequate level of psychological counseling service is provided in the university.	0,202	766	<0,001	0,908	766	<0,001
There are services (bank, stationery, canteen, etc.) at the university where I can meet my daily needs.	0,332	766	<0,001	0,759	766	<0,001
The graduate monitoring system of the university is used effectively.	0,264	766	<0,001	0,869	766	<0,001
The security services offered at the campuses of the university are sufficient.	0,291	766	<0,001	0,855	766	<0,001
There are student clubs in the university that are suitable for my field of interest.	0,278	766	<0,001	0,865	766	<0,001
The cafeteria services offered by the university are sufficient.	0,237	766	<0,001	0,876	766	<0,001
The university encourages students for academic success.	0,302	766	<0,001	0,854	766	<0,001

Table 9 (continued)

Test results of the normal distribution of the variables used in the Student satisfaction scale.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Test Statistics	sd	p-value	Test Statistics	sd	p-value
Students are informed about educational opportunities of studying abroad.	0,198	766	<0,001	0,906	766	<0,001
Students are informed about exchange programs (Erasmus, Farabi, Mevlana, etc.).	0,208	766	<0,001	0,903	766	<0,001
Students are encouraged to pursue postgraduate studies..	0,249	766	<0,001	0,888	766	<0,001
Research projects developed by students are supported.	0,256	766	<0,001	0,877	766	<0,001
Students are encouraged to prepare research projects.	0,259	766	<0,001	0,885	766	<0,001
Necessary information and guidance about internship processes are provided by my department.	0,232	766	<0,001	0,897	766	<0,001
The institution where I do my internship contributes to the development of my skills related to my profession.	0,216	766	<0,001	0,880	766	<0,001
Students can communicate with the instructors.	0,326	766	<0,001	0,821	766	<0,001
Administrative staff (department secretary, student affairs, etc.) provides the necessary support in matters related to education.	0,255	766	<0,001	0,878	766	<0,001
The general cleaning services of the university are sufficient.	0,261	766	<0,001	0,880	766	<0,001

Table 9 (continued)

Test results of the normal distribution of the variables used in the Student satisfaction scale.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Test Statistics	sd	p-value	Test Statistics	sd	p-value
Students are informed about the aims and contents of the courses they take at the beginning of the semester.	0,315	766	<0,001	0,827	766	<0,001
Training and activities are offered to support my professional/individual development.	0,294	766	<0,001	0,854	766	<0,001
The teaching materials (projector, board, experimental setups, etc.) in the classrooms / laboratories students use are sufficient for education.	0,261	766	<0,001	0,886	766	<0,001
The printed resources of the university library are sufficient for education.	0,292	766	<0,001	0,859	766	<0,001
The electronic resources of the university library are sufficient for education.	0,274	766	<0,001	0,872	766	<0,001
The physical facilities (lighting, heating, ventilation, etc.) of the classrooms/laboratories we use are sufficient for education.	0,256	766	<0,001	0,888	766	<0,001
The physical conditions of the university are suitable for disabled individuals.	0,204	766	<0,001	0,904	766	<0,001

The univariate assumption is also checked first. There was a violation on histograms as they were not all normally distributed, and a violation of the values of skewness and kurtosis. For the multivariate normality check, Mardia's test shows significance ($p < .05$), so the assumption of the result was violated.

For all of the variables, z-scores were computed to decide the univariate outliers. There were no violations detected. Multivariate outliers including Mahalanobis distances were computed 69 were detected at the critical $\chi^2 = 194111558350954$ for $df = 366$,

$p\text{-value} < .001$. Cook's distance and standardized DFBeta values indicate that there were no outliers because all of their values were less than 1. The centered leverage value indicates there are no outliers because the value of centered leverage for this study, the equation is $3(29+1)/766$ which gives us the value of .12. The Leverage values for this study range from .00 to .03, which are all less than .12 indicating that there are no outliers.

For the linearity, it is not violated as it shows correlation, and the plots are grouped together. Whereas the homoscedasticity assumption is not violated, and there is no apparent pattern in the scatter plot. The researcher examined the correlations and found no initial indicators of multicollinearity existed as all the values were under the set criteria of .90 (Tabachnick & Fidell, 2007).

3.7 Descriptions of the Demographic Variables

The variables for this study are as follows:

1. University – refers to the state university that the participant attends. '1' indicates Ankara University, '2' indicates Gazi university and '3' indicates Middle East Technical University. The scale of measurement for this variable is nominal scale since it is a categorical variable and has no order.
2. Faculty – refers to the faculty of the participants. '1' indicates Faculty of Education, '2' indicates Faculty of Arts and Science, '3' indicates Faculty of Engineering, '4' indicates Faculty of Economics and Administrative Sciences, '5' indicates Faculty of Dentistry, '6' indicates Faculty of Language, History and Geography, '7' indicates Faculty of Theology, '8' indicates faculty of Communication, '9' indicates Faculty of Health Sciences and '10' indicates Faculty of Pharmacy. The scale of measurement for this variable is nominal scale since it is a categorical variable and has no order
3. Education Level – refers to the education level of the participants. '1' indicates undergraduate level, '2' indicates master's degree level, and '3' indicates doctoral degree level. The scale of measurement for this variable is nominal scale since it is a categorical variable and has no order.

4. Grade Level – refers to the grade level of the participants. ‘1’ indicates English Preparation, ‘2’ indicates Scientific Preparation, ‘3’ indicates first year, ‘4’ indicates second year, ‘5’ indicates third year, ‘6’ indicates fourth year, and ‘7’ indicates fifth year. The scale of measurement for this variable is nominal scale since it is a categorical variable.
5. Age – refers to the age of the participants, which ranges from 18 to 45. Age of the participants is a discrete and continuous variable.
6. Gender – refers to the gender of the participants. ‘1’ indicates males and ‘2’ indicates females. The scale of measurement for this variable is nominal scale since it is a categorical variable.
7. GPA – refers to the grade point average of the participants. GPA, which ranges from 0.01 to 4.00, is a discrete and continuous variable. The scale of measurement for this variable can be interval-ratio.

3.8 Limitations of the Study

As this research utilizes convenience sampling, the sample has a risk of biased results from participants who were available to take part in the survey. This brings an issue about generalizability as this sample may not represent the whole population. The participants include mostly undergraduate students, women, and from education faculty. The result may differ for different population than the existing one. Another possible issue regarding generalizability was the limited number of universities included in the study. This study limited the number of universities due to restrictions caused by the pandemic and time constraints. The three universities that were explored have a reputation of having high achieving students, thus causing another issue for generalizability. Data collection procedure may have some limitations in the context of the pandemic. Data were collected in only online environment, and larger sample size may be reached if restrictions had not emerged.

Additionally, the nature of quantitative research does not depend on notes, observations, or quotes by the participants, therefore, the results only represent output and interpretation of data from participants.

The Student Engagement Survey was translated into Turkish, and after the results of EFA, two items were removed due to factor loading. The translation of one of these items may be also done improperly, so it is a limitation of the study. The factors of the survey were not loaded than expected and 5-factor model was changed to 4-factor model by considering content validity and the literature. The researcher also removed two factors from the original Student Satisfaction Survey because participants may not concern the two factors due to grade level.

CHAPTER 4

RESULTS

4.1 Confirmatory Factor Analysis

4.1.1 The Result of CFA for Student Satisfaction Scale

4-factor model was tested for the student satisfaction scale. The initial model consists of 6-factors and two factors were removed from the original scale. The researchers who created this survey did not construct a CFA analysis. The modification indices were checked, and error covariances were added between the errors of items 2 and 4 (e2-e4), 6 and 7 (e6-e7), 10 and 11 (e10-e11) belonging to the satisfaction with social and cultural activities dimension; 13 and 14 (e13-e14) belonging to satisfaction with research and development activities dimension; 25 and 28 (e25-e28) belonging to satisfaction with environment and resources of education dimension. After re-run the model, the final model indicates that $\chi^2(366) = 1941.1$, $p = .001$, CFI = .85, TLI = .83, RMSEA = .075, which indicates good model. The standardized regression weights range from the lowest value, .40 to the highest value, .74, and they were all significant. The Cronbach Alpha coefficients computed for each dimension indicated good reliability: satisfaction with social and cultural activities $\alpha = .85$, satisfaction with research and development activities $\alpha = .89$, satisfaction with the management of practices and applications of education $\alpha = .87$, and satisfaction with the environment and resources of education $\alpha = .89$ as can be seen in Figure 17.

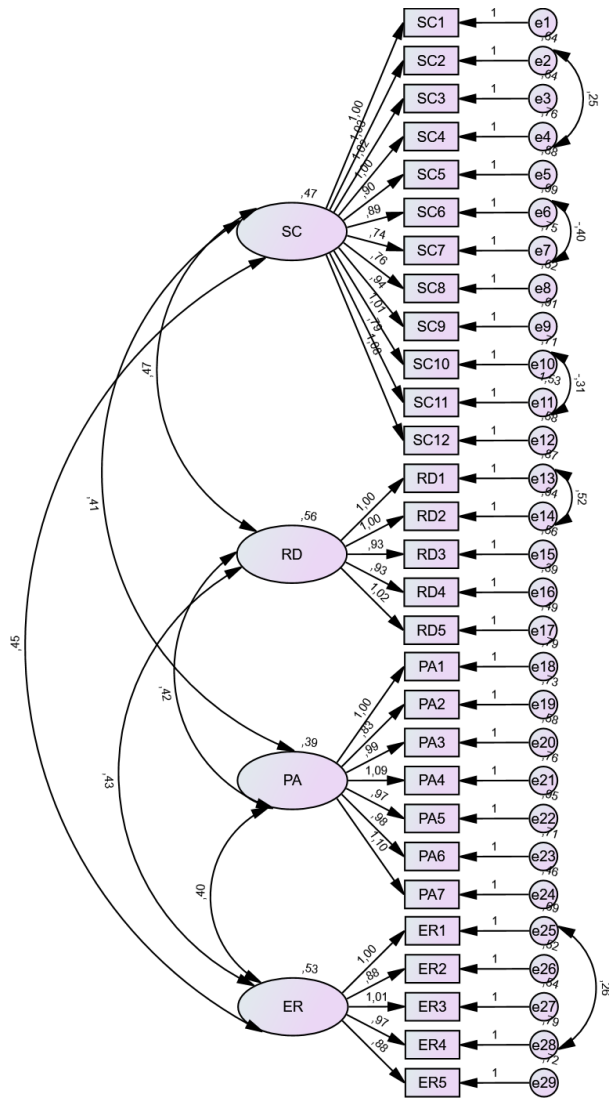


Figure 4. Path Diagram belonging to SSS

4.2 Simultaneous Multiple Linear Regression Analysis

Simultaneous Multiple Linear Regression (MLR) Analysis is conducted to investigate the extent to which a single continuous dependent (criterion) variable is predicted by several continuous or categorical independent (predictor) variables.

Assumption Checks For the First Dependent Variable “Satisfaction with Social and Cultural Activities”

For sampling adequacy, this data had 766 respondents which was more than the required sample size according to Hair et al (2010) which states that the study must have 15 ($N = 75$) to 20 ($N = 100$) observations for each predictor.

According to Myers (2013) as cited by Field (2009), the first indicator of substantial multicollinearity (high correlation $>.90$) is checked in the correlation matrix table. The researcher examined the correlation and found no initial indicators of multicollinearity. To further identify the presence of a multicollinearity issue, the researcher checked the collinearity statistics of the variables. According to Field (2009), Tolerance values less than .20 indicates a problem with multicollinearity whereas Variance Inflation Factor (VIF) values more than 4.0 indicates a problem with multicollinearity. The tolerance values for this study range from .432 to .698, and the VIF values range from 1.433 to 2.314. Based on these findings, we can assume that there is no multicollinearity issue. These assumptions are also relevant for Satisfaction with Research and Developmental Activities in Table 11, Satisfaction with Process and Practices of Education in Table 12, and Satisfaction with Environment and Resources of Education in Table 13.

Table 10

Correlations for Satisfaction with Social and Cultural Activities

	Social and Cultural Activities	Academic Engagement	Social Engagement	Behavioral Engagement	Emotional Engagement
Social and Cultural Activities	1.000				
Academic Engagement	.518*	1.000			
Social Engagement	.505*	.652*	1.000		
Behavioral Engagement	.362*	.513*	.444*	1.000	
Emotional Engagement	.583*	.658*	.581*	.465*	1.000

* $p < .05$

Next, the researcher examined the histogram and P-P plot for univariate normality (Figure 4 & Figure 5). The histogram produced for this data set indicated that normality is not violated as it approximately follows the shape of the normal curve.

Similarly, the P-P plot produced for this data shows that the residuals are closely following the 45-degree line which indicates that the normality is not violated. These assumptions also relevant for Satisfaction with Research and Developmental Activities in Figure 7 and Figure 8, Satisfaction with Process and Practices of Education in Figure 10 and Figure 11, and Satisfaction with Environment and Resources of Education in Figure 13 and Figure 14.

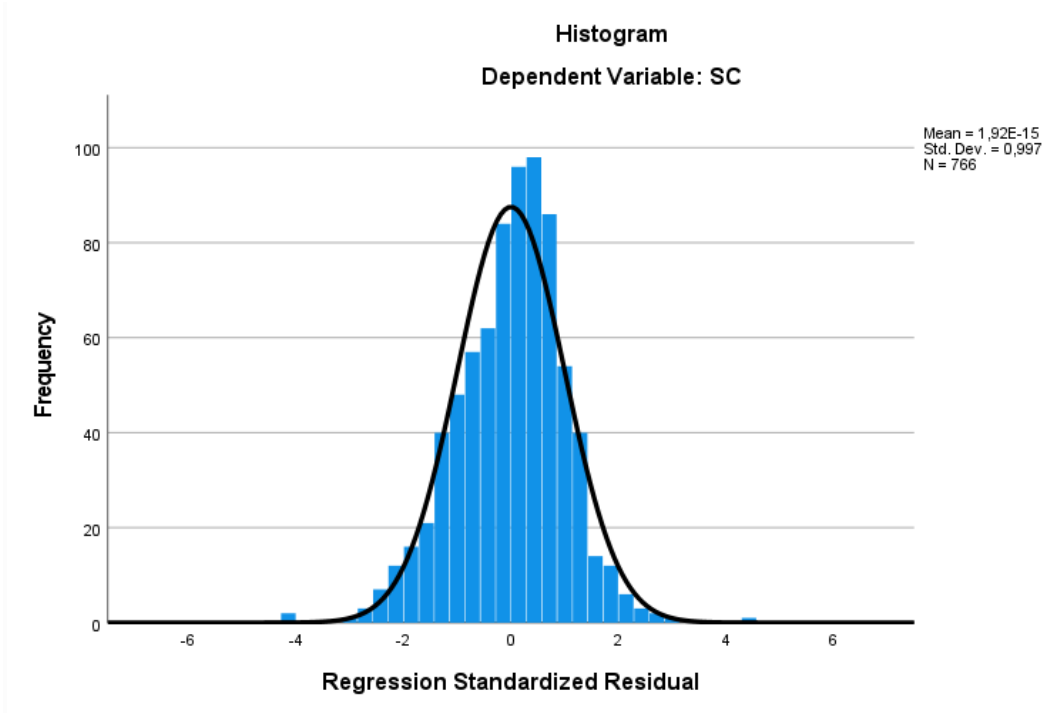


Figure 5: *Histogram of Satisfaction with Social and Cultural Activities*

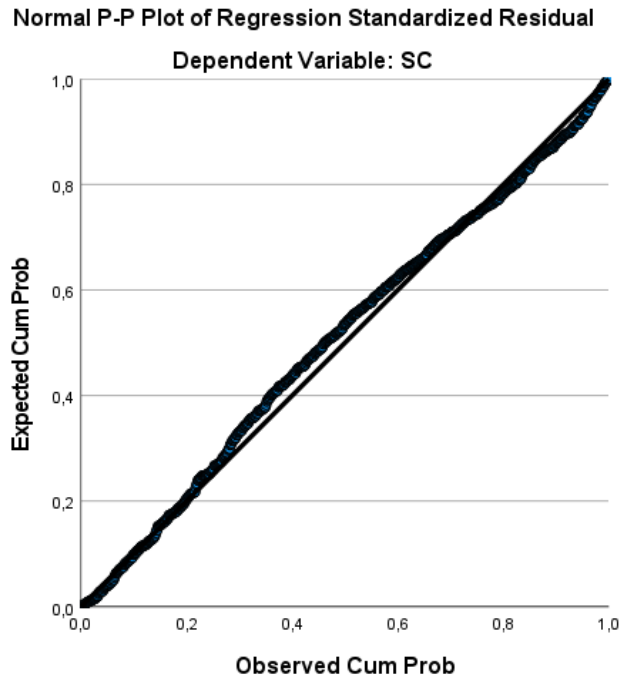


Figure 6: *P-P Plot of Satisfaction with Social and Cultural Activities*

The researcher then checks the homoscedasticity of residuals. The scatterplot of the predicted value and residuals do not show a pattern that indicates that the variance of the error term is constant across each value of the predictor.

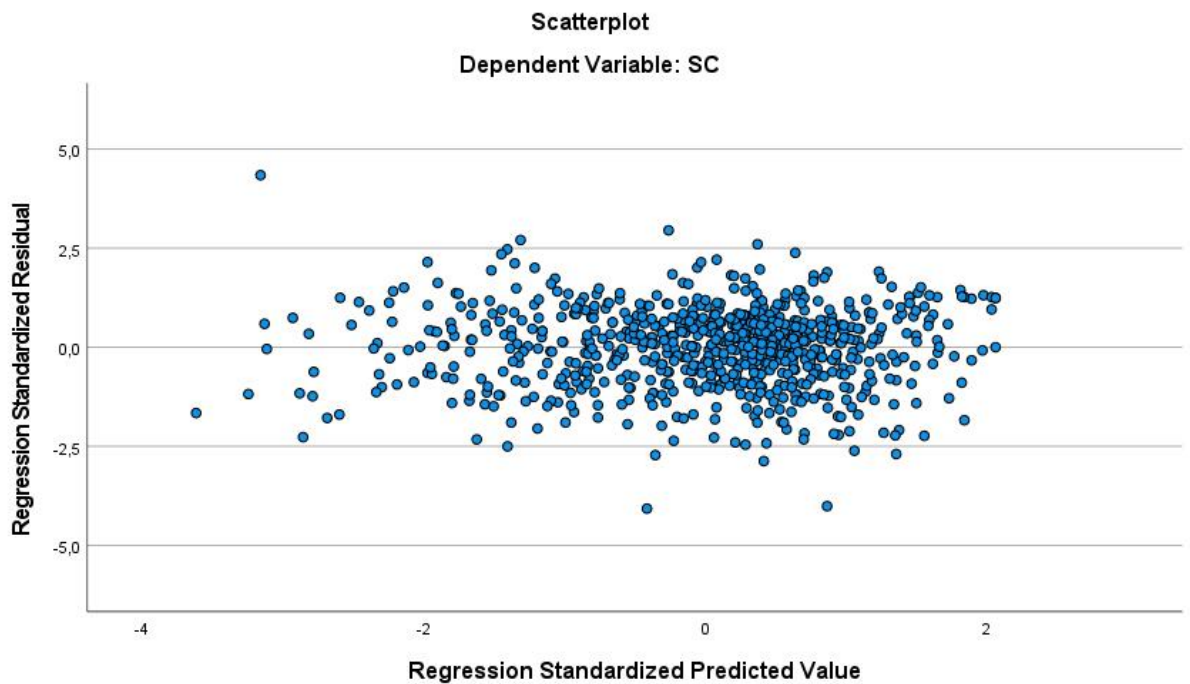


Figure 7: *Scatterplot of Satisfaction with Social and Cultural Activities*

As for the assumption of independence of errors, to indicate independence of observations, the Durbin-Watson Coefficient value should range between 1 to 3 (Durbin & Watson, 1951). The Durbin-Watson Coefficient value for this data set is 1.952; therefore, this assumption is not violated.

Assumption Checks for the Second Dependent Variable “Satisfaction with Research and Developmental Activities”

Table 11

Correlations for Satisfaction with Research and Development Activities

	Research and Development Activities	Academic Engagement	Social Engagement	Behavioral Engagement	Emotional Engagement
Research and Development Activities	1.000				
Academic Engagement	.402*	1.000			
Social Engagement	.357*	.652*	1.000		
Behavioral Engagement	.257*	.513*	.444*	1.000	
Emotional Engagement	.535*	.658*	.581*	.465*	1.000

* $p < .05$

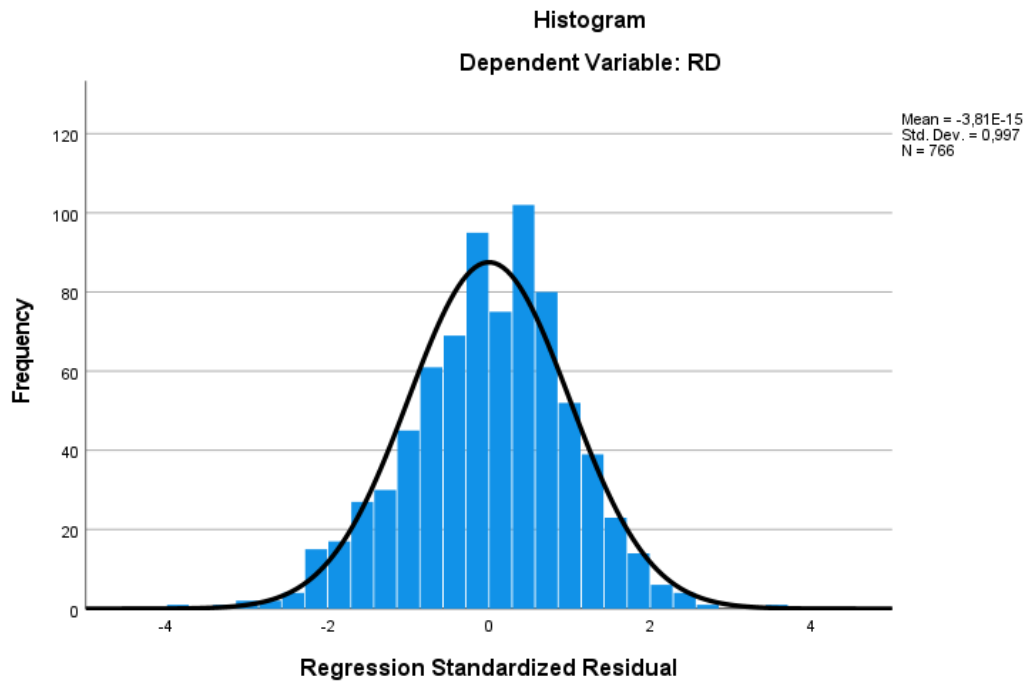


Figure 8: *Histogram of Satisfaction with Research and Development Activities*

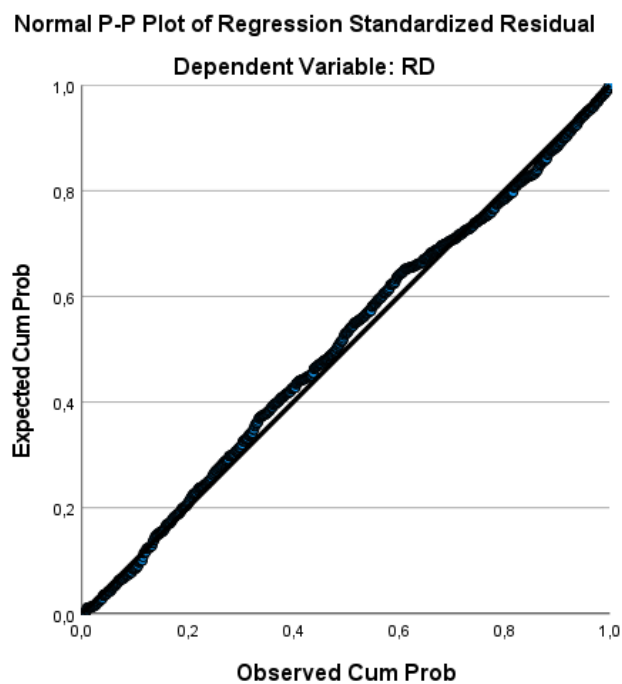


Figure 9: *P-P Plot of Satisfaction with Research and Development Activities*

The researcher then checks the homoscedasticity of residuals. The scatterplot of the predicted value and residuals does not show an oval shape scatter plot which indicates that there was some deviation in the assumption (Figure 9). The same assumption is

relevant for Satisfaction with Process and Practices of Education in Figure 12, and Satisfaction with Environment and Resources of Education in Figure 13.

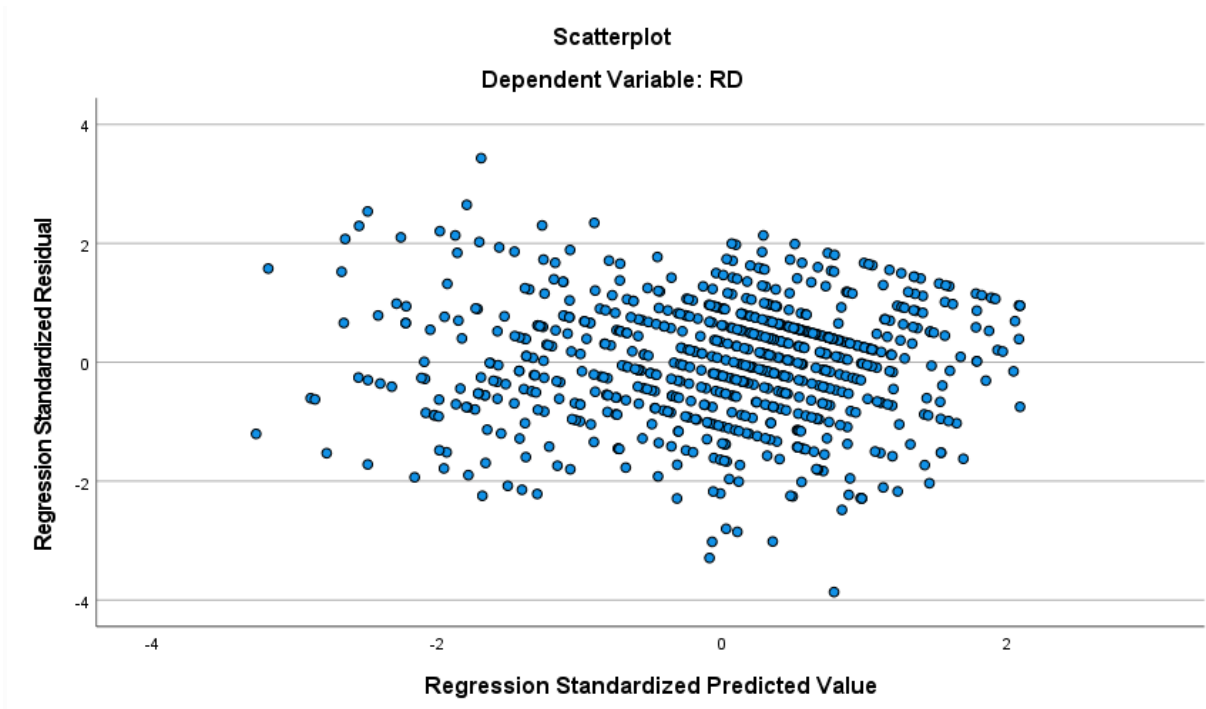


Figure 10: *Scatterplot of Satisfaction with Research and Development Activities*

The Durbin-Watson Coefficient value for this data set is 1.851, therefore this assumption is not violated.

Assumption Checks for the Third Dependent Variable “Satisfaction with Process and Practices of Education”

Table 12

Correlations for Satisfaction with Process and Practices of Education

	Practices and Applications of Education	Academic Engagement	Social Engagement	Behavioral Engagement	Emotional Engagement
Practices and Applications of Education	1.000				
Academic Engagement	.543*	1.000			
Social Engagement	.511*	.652*	1.000		
Behavioral Engagement	.368*	.513*	.444*	1.000	
Emotional Engagement	.673*	.658*	.581*	.465*	1.000

* $p < .05$

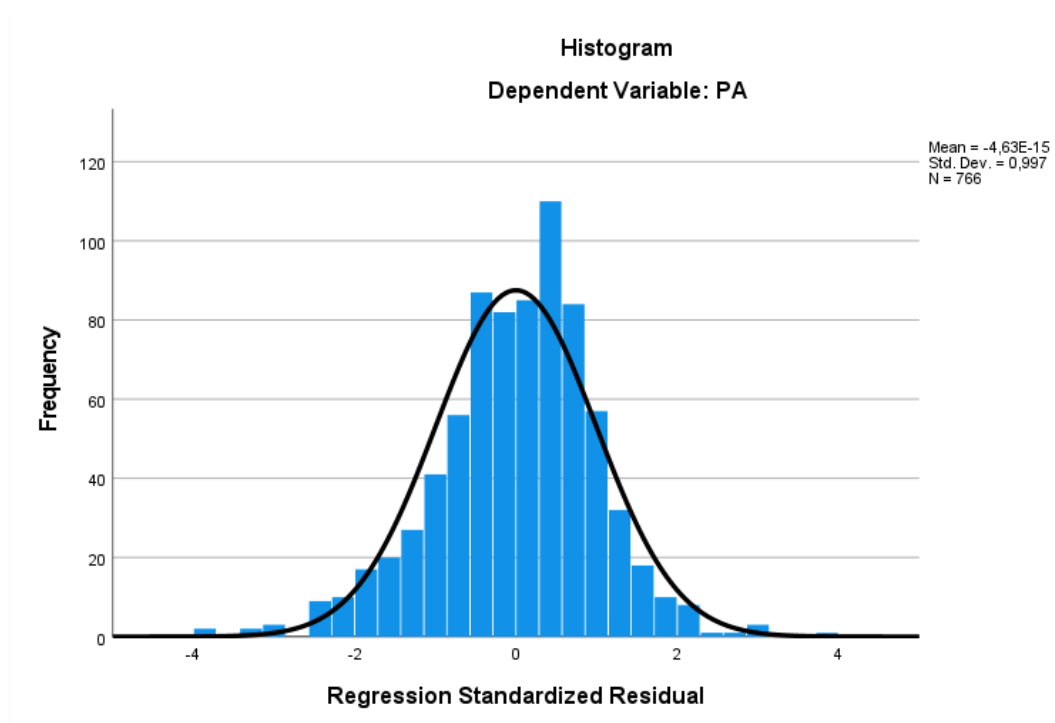


Figure 11: *Histogram of Satisfaction with Process and Practices of Education*

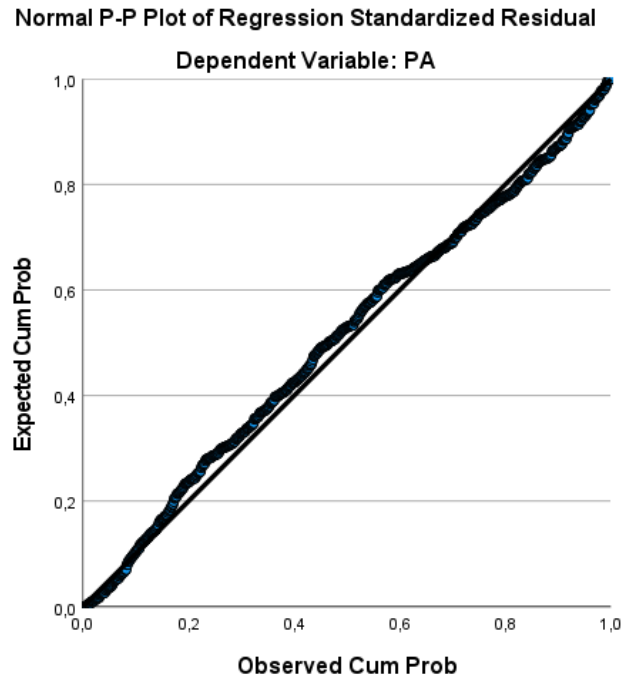


Figure 12: *P-P Plot of Satisfaction with Process and Practices of Education*

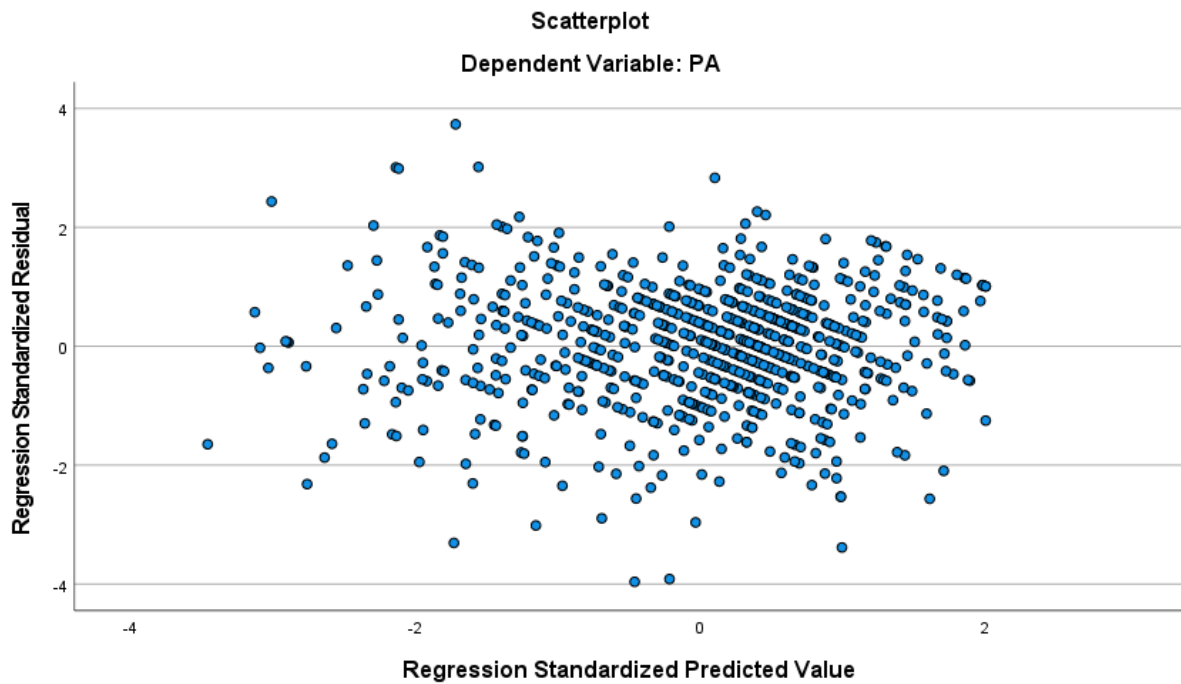


Figure 13: *Scatterplot of Satisfaction with Process and Practices of Education*

The Durbin-Watson Coefficient value for this data set is 2.130, therefore this assumption is not violated.

Assumption Checks for the Fourth Dependent Variable “Environment and Resources”

Table 13

Correlations for Satisfaction with Environment and Resources of Education

	Environment and Resources of Education	Academic Engagement	Social Engagement	Behavioral Engagement	Emotional Engagement
Environment and Resources of Education	1.000				
Academic Engagement	.427*	1.000			
Social Engagement	.401*	.652*	1.000		
Behavioral Engagement	.256*	.513*	.444*	1.000	
Emotional Engagement	.484*	.658*	.581*	.465*	1.000

* $p < .05$

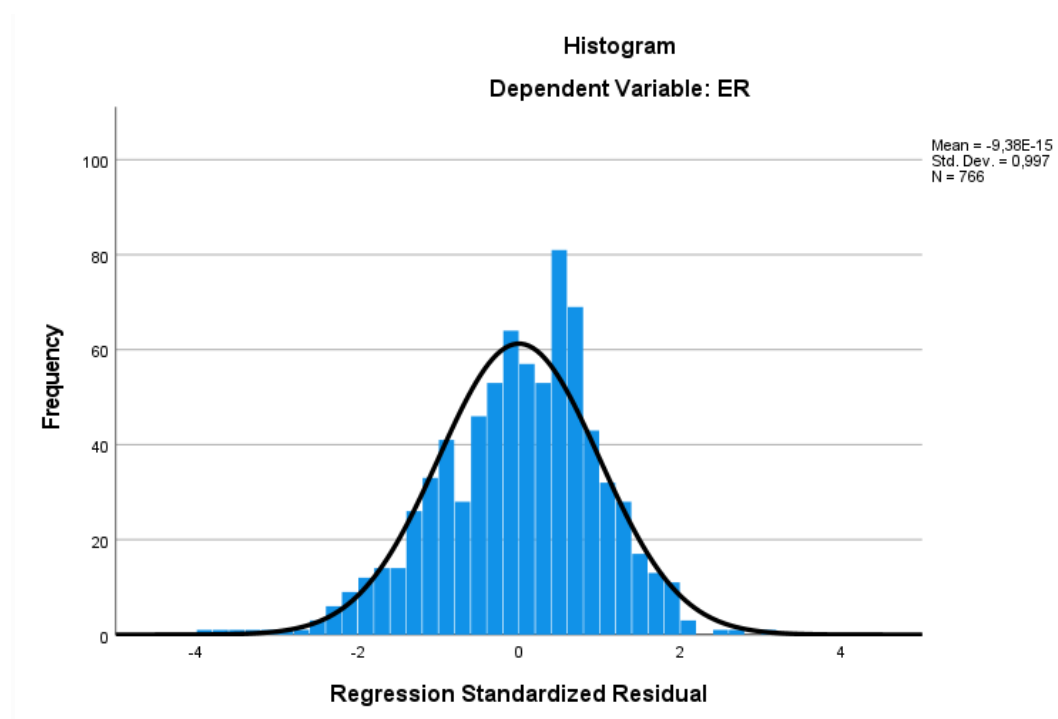


Figure 14: *Histogram of Satisfaction with Environment and Resources of Education*

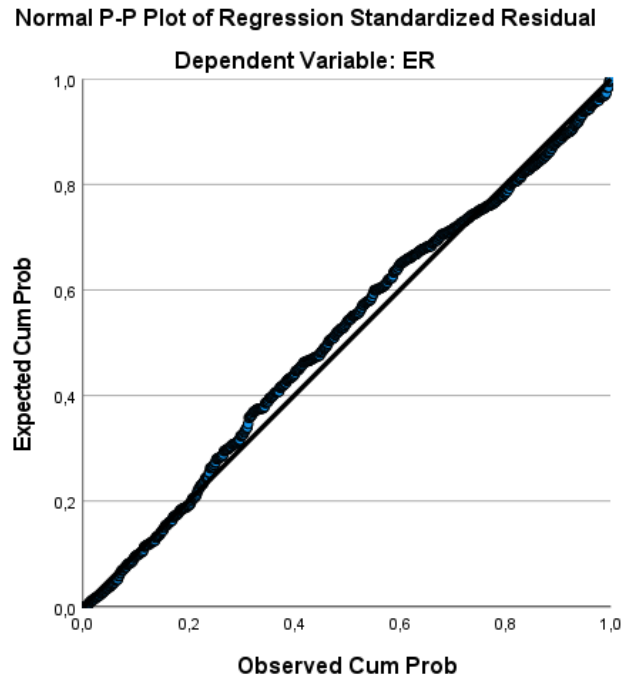


Figure 15: *P-P Plot of Satisfaction with Environment and Resources of Education*

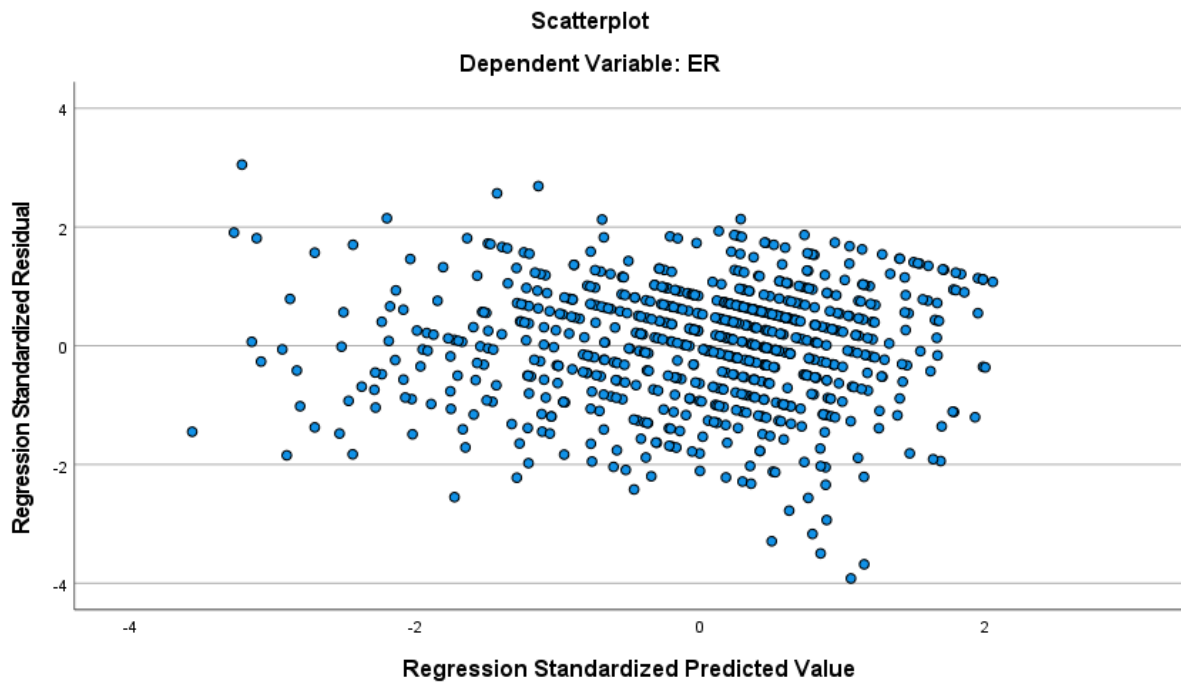


Figure 16: *Scatterplot of Satisfaction with Environment and Resources of Education*

The Durbin-Watson Coefficient value for this data set is 1.962, therefore this assumption is not violated.

After all the assumptions are checked and are satisfied, then the MLR analysis is performed.

4.2.1 The Result of Simultaneous MLR Analysis for “Satisfaction with Social and Cultural Activities”

As all the assumptions checked were satisfied, the MLR analysis was performed. Tests were performed by using Benferroni adjusted alpha levels of 0.0125 (.05/4) per test because it need to be decreased to account for comparison number to eliminate misleading positives. Based on the analysis of variance results in table below, the overall model is significant $F(4,761)=122,93, p < .001$ (Table 14).

Table 14

ANOVA Table for Satisfaction with Social and Cultural Activities

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	141,553	4	35,388	122,932	<,001 ^b
	Residual	219,068	761	,288		
	Total	360,621	765			

^a Dependent Variable: SC

^b Predictors: (Constant), EE, BE, SE, AE

Table 15 shows the results of the regression model for the variable Satisfaction with Social and Cultural Activities. The regression model, which was created by adding Academic Engagement, Social Engagement, Behavioral Engagement and Emotional Engagement variables, increased the R^2 value by 0.39 compared to the regression model with only the constant term, and the F value (4,761) was calculated as 122,93 in the new model created. Accordingly, a significant amount of improvement was obtained in the model. On the other hand, when the model coefficients are examined, it is seen that all coefficients, except for the Behavioral Engagement variable, make a significant contribution to the model at the 0.0125 significance level.

Table 15

Summary of Simultaneous Multiple Regression Analysis for Satisfaction with Social and Cultural Activities

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>sr</i> ²
Constant	1.28	.10		12.44*	
Academic Engagement	.12	.04	.14	3.12*	.00
Social Engagement	.15	.03	.19	4.76*	.02
Behavioral Engagement	.03	.02	.04	.02	.00
Emotional Engagement	.31	.03	.37	9.35*	.07

* $p < .0125$

4.2.2 The Result of Simultaneous MLR Analysis for “Satisfaction with Research and Developmental Activities”

Based on the analysis of variance results in Table 16, the overall model is significant $F(4,761) = 82,27, p < .001$.

Table 16

ANOVA^a Table for Satisfaction with Research and Developmental Activities

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	163,539	4	40,885	82,265	<.001 ^b
	Residual	378,207	761	,497		
	Total	541,745	765			

^a Dependent Variable: RD

^b Predictors: (Constant), EE, BE, SE, AE

The results of the regression model over the factors in the Student Engagement scale of the Satisfaction with Research and Developmental Activities variable are given in Table 17. When the model in which only the constant term is included in the explanation of the Satisfaction with Research and Developmental Activities variable is compared with the model in which all the factors in the Student Engagement scale are included, it is seen that there is a significant improvement (F-value (4,761) 82,27,

p-value<0.001 and R² change in 0,30). It is seen that the p-value of the coefficients of the Academic Engagement and Social Engagement variables in the model coefficients is greater than 0.0125. Therefore, the coefficients of Academic Engagement and Social Engagement variables are not significant. Since the p-values of the Behavioral Engagement and Emotional Engagement variables were less than 0.0125, the coefficients of the model were found to be significant.

Table 17

Summary of Simultaneous Multiple Regression Analysis for Satisfaction with Research and Developmental Activities

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>sr</i> ²
Constant	1.23	.14		9.10*	
Academic Engagement	.04	.05	.03	.69	.00
Social Engagement	.03	.04	.03	.61	.00
Behavioral Engagement	.11	.03	.12	3.41*	.01
Emotional Engagement	.45	.04	.44	10.45*	.10

**p* < .0125

4.2.3 The Result of Simultaneous MLR Analysis for “Satisfaction with Process and Practices of Education”

Based on the analysis of variance results in table below, the overall model is significant $F(4, 761) = 176.34, p < .0125$ (Table 18).

Table 18

ANOVA^a Table for Satisfaction with Process and Practices of Education

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	180,814	4	45,203	176,335	<,001 ^b
	Residual	195,082	761	,256		
	Total	375,896	765			

^a Dependent Variable: PA

^b Predictors: (Constant), EE, BE, SE, AE

To examine the descriptors of the Satisfaction with Process and Practices of Education variable, a simultaneous multiple linear regression model was constructed using all factors under the Student Engagement scale. Summary of the regression model created is given in Table 19. A significant improvement was obtained when the model created according to these values and the model with only the constant term were compared (F-value 176.34 (4,761) and change in R^2 0.48). Among the explanatory variables in the model, only the coefficient of the Behavioral Engagement variable was not significant at the 0.0125 level, while Academic, Social and Emotional Engagement were found significant.

Table 19

Summary of Simultaneous Multiple Regression Analysis for Satisfaction with Process and Application of Education

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>sr</i> ²
Constant	1.17	.10		12.07*	
Academic Engagement	.10	.04	.11	2.74*	.01
Social Engagement	.11	.03	.13	3.71*	.01
Behavioral Engagement	.01	.02	.01	.37	.00
Emotional Engagement	.44	.03	.52	14.25*	.14

* $p < .0125$

4.2.4 The Result of Simultaneous MLR Analysis for “Satisfaction with Environment and Resources of Education”

Based on the analysis of variance results in Table 20, the overall model is significant $F(4, 761) = 68.39, p < .0125$.

Table 20*ANOVA^a Table for Satisfaction with Environment and Resources of Education*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126,374	4	31,594	68,387	<.001 ^b
	Residual	351,568	761	.462		
	Total	477,943	765			

^a Dependent Variable: ER^b Predictors: (Constant), EE, BE, SE, AE

Table 21 contains the results of the regression model created with Student Engagement scale, including Academic Engagement, Social Engagement, Behavioral Engagement, and Emotional Engagement factors, and the Satisfaction with Environment and Resources of Education variable. Accordingly, with the model created, the R² value increased by 0.26 and the F value (4,761) was calculated as 68.39 in the new model created. Accordingly, a significant amount of improvement was obtained in the model. It is seen that all coefficients, except for the Behavioral Engagement variable, make a significant contribution to the model at the 0.0125 significance level.

Table 21*Summary of Simultaneous Multiple Regression Analysis for Satisfaction with Environment and Resources of Education*

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>sr</i> ²
Constant	1.42	.13		10.91*	
Academic Engagement	.14	.05	.14	2.92*	.01
Social Engagement	.12	.04	.13	3.05*	.01
Behavioral Engagement	-.021	.03	-.03	-.69	.00
Emotional Engagement	.32	.04	.33	7.60*	.06

**p* < .0125

CHAPTER 5

DISCUSSION AND CONCLUSION

The present study aims to investigate the relationship between student engagement and student satisfaction in higher education during the pandemic. In this chapter, the results will be discussed in the sight of the relevant literature. Additionally, implications and recommendation will be presented for further studies.

5.1 Discussion of the Results

In this study, simultaneous multiple linear regression was applied to measure the hypotheses that SE predicts SS in higher education, and SS variables were measured in different steps by controlling independent variables while analyzing the regression separately. The simultaneous MLR results indicated that there is a predictive value of SE for SS, in other words, there are some significant relationships between variables. SS can be an outcome of SE in some aspects as expected. Similarly, there are many research, which claim the same result (Cheong & Ong, 2016; Commissiong, 2020; Gunuc, Artun, Yigit & Keser, 2019; Kandiko Howson & Matos, 2021; Korobova, 2012), student satisfaction cannot be separated from student engagement. Especially with the COVID-19 pandemic, student engagement came into prominence due to limited access to resources, insufficient communication with teachers or peers, limited capabilities to be socialized, etc. The main problem during this period was access to education, and the problem was tried to solve by stakeholders, but the results of actions were insufficient, uncertain, and unpunctual. The result of the study could be affected by these limitations, because remote teaching during the pandemic makes students exhausted, stressful and unconnected. Remote teaching, using technology and digital platforms in education commonly increase students' motivation, interest and performance (Yilmaz Altuntas, Basaran, Ozeke & Yilmaz, 2020). However, humanitarian needs such as sharing thoughts and emotions, self-disclosure are

indisputable to be replaced with face-to-face interactions. Moreover, institutional types and academic departments have relationship with remote teaching (Yilmaz Altuntas, Basaran, Ozeke & Yilmaz, 2020); therefore, the results may be affected in terms of eligibility or opportunities provided by their institutions or departments.

The researcher computed the average values of the variables and the findings show that “emotional engagement” that is a part of SE has the highest level when compared to social, and behavioral engagement. This finding may refer to students who have higher level of emotional engagement; they feel more satisfaction with social and cultural activities, research and development activities, process and applications of education, and environment and resources of education. The importance of necessity of emotional engagement was perceived for student satisfaction. Students who engage emotionally most likely have satisfaction with especially process and practices of education. This predictor variable might be related to all outcome variables. In terms of meeting hypothesis, these findings support the all hypotheses in terms of “emotional engagement” aspect. In the literature, emotional engagement are also correlated to satisfaction. It drives students to be successful especially in online learning environment, and increase their participation to research activities (Wand & Sui, 2020). Social support from teachers and peers influence their satisfaction level positively in terms of participating in social and cultural activities (Ansong et al., 2017). Instructors who have healthy communication with students, and available for discussing their work help to increase students’ awareness about resources provided by university, such as laboratories, library, etc. (Camacho, 2012). However, in the pandemic era, the resulting additional workload from teachers, additional directives coming from universities, unfair tools during examination, inequality to access services, availability of non-accepted drives student emotionally exhausted. They have a negative impact on student satisfaction level from the services provided by their institutions. Karadag, Su and Kocaturk (2021) claimed that universities’ capacity for distance learning has positive effect on student’ overall satisfaction scores. Therefore, it is crucial to take immediate action and had been prepared possible crisis like COVID-19 pandemic by institutions.

Furthermore, “social engagement” dimension of SE had a relationship with the “satisfaction with social and cultural activities” dimension of SS according to the

findings of the regression analysis. That is, students who engaged socially are more likely to be satisfied with social and cultural activities, provided by their institutions. Students who tend to make friends at university, feel belong to university community, and participate extra-curricular activities are satisfied with facilities, activities, and services provided by university (Astin, 1993). Additionally, “social engagement” dimension of SE had also a relationship with the “satisfaction with process and practices of education” of the dimension of SS. This means that student satisfaction with process and applications of education is an outcome of student social engagement. They more likely to participate learning community, and informed about content of courses (Kuh, 1995). Moreover, “social engagement” has also relationship with “satisfaction with environment and resources of education”. These results support Hypothesis 1, Hypothesis 3, and Hypothesis 4 in terms of social engagement aspect. Zhoc and colleagues (2019) remarked that socially engaged students have the most social outcomes, and satisfy with university experiences. Furthermore, social engagement also drives a stronger sense of belongingness, in this manner; they tend to have higher level of engagement and participation (Osterman, 2000; Voelkl, 1997), which improve social outcomes. Therefore, it is crucial to take into consideration by institutions for students’ well-being and psychological health, and reaching standards of quality and attracting student attentions for institutions.

The results also show that “behavioral engagement” dimension of SE had a relationship with the “satisfaction with research and development activities” of the dimension of SS. According to the findings, students who engaged behaviorally are satisfied with research and development activities, performing in their institutions. In terms of meeting hypotheses, the result supports Hypothesis 2. Besides this finding, students give importance to quality and functionality in terms of academic aspect, and they actively participate behaviorally to different teaching methods and techniques implemented by their instructors (Cinkir & Yildiz, 2019). They tend to more satisfied with well-equipped classes. Curricular and co-curricular activities also found that foster student gaining cultural values, knowledge, networks, and skills (Museus et al., 2012). Tanaka (2002) suggested that investment of effort in educational purposeful learning activities has differential effects of campus culture on students. While some drawbacks of the pandemic, online platforms and using technology in educational

purpose encourages students to be independent learners (Abushamleh & Qusef, 2021), and participate in behaviorally.

The “academic engagement” dimension of SE has a relationship with the dimension of “satisfaction with social and cultural activities” and “satisfaction with process and practices of education” of SS according to the results of regression. This means that students who are active to engage academically has a satisfaction with social and cultural activities. Students who are motivated to study, participate actively to classes, use regularly to resources of education have mostly satisfaction with sport facilities and cultural activities provided by university. Moreover, they have more knowledge about internship processes, trainings for individual development. Aldemir and Gulcan (2004) found similar result that academic factors explain student satisfaction mostly. The higher instructors’ performance has strong relationship with high level of student satisfaction (Guolla, 1999; Cashin & Downey, 1992), thus even if faculty administrators perform poorly; students remain with satisfaction as long as they have high performance instructors. Moreover, the quality of education that instructors provide, and textbooks that they select relate to student satisfaction (Hong, 2002; Fredericksen et al, 2000). The result of the study may demonstrate that institutions have difficulty to identify student needs and ascertain ways, and students may be deprived of unsuccessful meeting in their personal academic goals.

5.2 Implications for Practice, Theory, and Research

The findings and the relationships found elicited some implications for theory and practice. In the sight of the framework of facets of SE by Zhoc and colleagues (2019) and the lenses on SS by Simsek Islim, and Ozturk (2019), the implications will be discussed.

Student engagement plays significant roles in higher education. Additionally, institutions pay attention to factors affecting student satisfaction. Therefore, investigating student engagement and student satisfaction in higher education is necessary and related to this issue, putting forward some practical practices and implications may be useful by searching the relationship between them.

Firstly, the study acknowledges the complexity of student engagement concept mentioned before. After the analysis, some items are introduced into different factors than the original survey, and it was needed to adapt a new survey by considering in the Turkish context. The study demonstrates that academic and social aspects of student engagement in the original scale are applicable for the Turkish context because most items in these categories were resulted under same categories with the original one after adaptation. Besides the contribution to the research in this aspect, the study put an impact on the effect of student engagement aspects, including social, behavioral, and emotional engagement, on student satisfaction. Encouraging students to participate in variety of facets at their universities makes them more satisfied with their experiences during the higher education period. Moreover, academic and social engagement triggers student achievement by increasing their GPA. In the study of Zhoc and colleagues (2019), the opposite findings demonstrate that putting effort and investing time are not guarantee for academic success. At the same time, social engagement was found to pose inverse impact on GPA, contrary to current findings. Social engagement was found highly correlated with the satisfaction with social and cultural activities, similarly with the previous research. It brings the social outcomes, including increasing interaction with peers in beyond-class activities, leadership skills, and interpersonal skills.

The researcher also verifies the construct of student engagement for Turkish context and it is a contribution in terms of literature. There are dominant behavioral perspectives of student engagement in higher education literature, but the study contributes to new understanding of it by taking psychological perspectives. The study has an approach which student engagement was conceptualized as multi-dimensional construct in Turkish context beyond the behavioral dimension by highlighting academic, social, and emotional engagement aspects.

The study clearly contributes to applications and implies that interrelationship between different dimension of student engagement and the contribution of the learning outcomes of students, including GPA, and satisfaction of university experience. In turn, the study can be helpful institutions to improve the quality of education by development of institutional policies. The study also consider online engagement,

therefore, it can be useful in the condition of the crisis such as COVID-19 pandemic. Moreover, the study implies the importance of student engagement in student satisfaction; it will be useful for institutions to implement applications which promise student engagement. Remote teaching also should be improved by considering quality, experience, efficiency for both students and teachers

5.3 Recommendations for Further Studies and Practices

There are several recommendations explained based on limitation and implications for the study, which might be useful for future research. First of all, only GPA was analyzed as demographic information for this study. However, further studies may investigate age, gender, income, graduate level to see the differences of the variables. Moreover, including more sample size may help to increase reliability. The participants studied at three well-known and high-achiever state universities, so universities, which are at lower rate of success, or private universities might be included to further studies. The opportunities and services differentiate between these options; therefore, the further comparative study can help to understand the relationship in different types of institutions.

The sampling method might be used as random methods because nonrandom methods can have some problems, such as biases of participants, not well-representing, etc. in the results. The participants consist of only Turkish students, so it may be helpful to make comparison for better understanding the concepts by investigating international students' engagement and satisfaction levels. The study might also be carried out throughout Turkey rather than focusing on one province; therefore, practitioners and policymakers may gain more cumulative and overall perspectives for improvement of their process and applications.

The relevant literature shows that studies on student engagement and student satisfaction were mostly constructed by using quantitative methods. Qualitative studies might be useful to deeper understanding of these variables for students. Mixed-methods studies also enable the researchers to examine different perspectives into the topic. For the examination of clear relationship between the two variables, interviews,

in-class observations, background information of participant might be important for the future researchers.

To increase student engagement and satisfaction level, faculty members or university administration may put some implementations during the pandemic due to limited access to resources. For example, online meetings for students to be socialized and student clubs meetings can be provided under the supervision of faculty members. Administrative staff and administrators can broaden number of facilities provided by university, such as online counseling, e-library. They can invest in online platforms, tools, training kits by increasing capacity of distance learning.

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APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
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15 ŞUBAT 2022

Konu : Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (IAEK)

İlgi : İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Yaşar KONDAKÇI

Danışmanlığınızı yürüttüğünüz Zehra ÇALIŞKAN'ın "Pandemi Sırasında Yüksek Öğretimde Öğrenci Katılımı ve Memnuniyeti Arasındaki İlişki" başlıklı araştırmamız İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve 0125 ODTÜ/IAEK-2022 protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.


Prof. Dr. Mine MISIRLISOY
IAEK Başkan

B. FORMED CONSENT FORM

Değerli öğrenciler,

Bu çalışma ODTÜ Eğitim Bilimleri Bölümü, Eğitim Yönetimi ve Planlaması Programı yüksek lisans öğrencisi Zehra Çalışkan tarafından Prof. Dr. Yaşar Kondakçı danışmanlığında yüksek lisans tezi kapsamında yürütülmektedir. Çalışmanın amacı Ankara'daki devlet üniversitelerine bağlı lisans, yüksek lisans ve doktora programlarına devam eden öğrencilerin pandemi döneminde kurumlarına katılımları (engagement) ve kurumlarından memnuniyeti (satisfaction) arasındaki ilişkiyi incelemektir. Çalışma sonuçlarının öğrencilerin bilişsel gelişim, akademik performans, psikososyal beceriler gibi kazanımlarının artırılmasına yönelik geliştirilebilecek politikalara ışık tutması ve yükseköğretim kurumlarında stratejik planlama, kalite değerlendirilmesi gibi konularda veri kaynağı olarak kullanılması hedeflenmektedir. Bu çalışmaya katılımınız gönüllülük esasına dayalı olmalıdır. İsminizi yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz. Verdiğiniz cevaplar kesinlikle gizli tutulacaktır. Sağladığınız veri araştırma sahibi tarafından değerlendirilecek ve sonuçlar sadece bilimsel amaçlarla kullanılacaktır. Bu ankette katılımcılara rahatsızlık verebilecek herhangi bir soru bulunmamaktadır. Buna rağmen katılımınız sırasında herhangi bir sebepten ötürü rahatsız hissederseniz çalışmadan herhangi bir zamanda çıkabilirsiniz. Böyle bir durumda bulunduğunuz sayfayı kapatmanız yeterlidir. Katılımınız için çok teşekkür ederiz. Çalışma hakkındaki sorularınızı her zaman ODTÜ Eğitim Bilimleri Bölümü, Eğitim Yönetimi ve Planlaması Programı yüksek lisans öğrencisi Zehra Çalışkan'a (caliskan.zehra@metu.edu.tr) sorabilirsiniz.

C. TURKISH SUMMARY / TÜRKE ÖZET

1. GİRİŞ

2019 yılının sonlarına doğru ortaya çıkan COVID-19 salgını, eğitim de dahil olmak üzere hayatımızın pek çok alanını etkilemiştir. 2019-2020 Bahar döneminde pandemi ile başa çıkabilmek adına tüm dünyadaki eğitim kurumları uzaktan öğretime geçme kararı almış ve öğretim yüz yüze eğitimden çevrimiçi olacak şekilde yürütölmeye başlanmıştır (Altbach & De Wit, 2020). Tarihte ilk defa tüm dünyayı etkileyen böylesine büyük bir krizin gelecekte yaşanacak potansiyel problemleri elimine etmek adına alınan bu karar kaçınılmazdır (Babacan & Yuvarlakbas, 2021). Okulların sosyal anlamda yoğun bir ortam olmasından dolayı sosyal mesafe, izolasyon, karantina gibi kişisel etkileşimi azaltan önlemleri almak hayati önem taşımaktadır. Türkiye’de bu kriz için benzer müdahale almış üç haftalık bir kapanma sonucu Yükseköğretim Kurumu (YÖK) aldığı kararla uzaktan öğrenim ve tüm akademik ve eğitimsel aktiviteler için teknolojik araç ve teknikler kullanılmaya başlanmıştır (YÖK, 2020b). Google, Zoom gibi farklı platformlar senkronize veya senkronize olmayan şekilde uzaktan öğretim için, WhatsApp veya Email servisleri ise iletişim kurulması için kullanılmıştır (Harsha & Bai, 2020).

Bu mecburi sürece adaptasyon yükseköğretim kurumları, öğretim üyeleri, öğrenciler, akademik personel gibi eğitimdeki tüm paydaşlar için oldukça zorlayıcı olmuştur (Huang vd., 2020a, b). Eğitim materyali, deneyim, teknolojik oryantasyon ve destek gibi konulardaki yetersizlik sebebiyle bu süreç özellikle eğitimde önemli rol oynayan akademisyenler ve öğrenciler için yıpratıcıdır (UNESCO, 2020b). Öğretim üyelerinin öğrenme sürecini dengede tutmak, uzaktan öğrenme için yeni yaklaşımlar ve içerikler geliştirmek, interaktife öğrenme ortamını oluşturmak ve becerilerini yeni sürece uyarlayabilmek oldukça kritiktir (Kutluk & Gülmez, 2012). UNESCO (2020a) aynı zamanda COVID-19 krizinin

öğrencilerin üzerindeki psikolojik etkilerine dikkat çekmiştir. Akademik aktivitelerin ertelenmesi, ekonomik sıkıntılar, yetersiz sosyal destek gibi problemler öğrencilerin kaygı semptomunu tetiklemiş (Coe vd., 2020), vücut dilini kullanamama, topluluğa ait hissetmeme, öğrencilerin ihtiyaçlarını yeterli tespit edilmemesi, teknolojik aletlerin etkileşimi yavaşlatması öğrencilerin zayıflayan zihinsel sağlığını beslemiştir. Özellikle sosyoekonomik açıdan dezavantajlı veya çalışmak durumunda olan öğrenciler uzaktan öğretim sürecinden daha zor etkilenmiş (Ezra vd., 2021) eğitimdeki eşitsizlik kritik ölçüde artmıştır.

Uzaktan öğretimin bu süreçte yalnızca olumsuz etkileri ortaya çıksa da performansı ve eğitim çıktılarını arttırdığını iddia eden pek çok çalışma vardır. Örneğin, teknolojiyi kullanmanın öğrencilerin kaygı seviyelerini düşürdüğü ve derslerle günlük hayat arasında bağ kurmayı arttırdığı (Sivoka vd., 2017); çevrimiçi öğrenmenin esnek öğrenme zamanı, yeri ve yöntemi sağlayarak öğrenmede tercih edilen yol ve hız deneyimi kazandırdığı (Doo, 2005); özellikle yetişkinlerde öğrenme için motivasyonu artırdığı (Lin & Hsieh, 2001; MacDonald vd., 2001) gibi katkıları olduğu çalışılmaların sonucunda yer almaktadır. Fakat bu çalışmalar COVID-19 pandemisi öncesindedir ve uzaktan öğretim bu kriz döneminde öğrencilerin eğitim sürecine katılımını olumsuz olarak etkilemiştir. Öğrenme ve memnuniyet açısından oldukça önemli olan öğrenci katılımı belirsizlik, izolasyon, kısıtlı erişim gibi sebeplerden dolayı azalmış ve öğrenciler için çeşitli zorluklara sebebiyet vermiştir.

Öğrenci katılımı öğrencilerin düşünceleri, davranışları ve duyguları arasındaki ilişkiyi anlamaya yardımcı olur ve çoğunlukla öğrenci katılım anketleriyle öğrencilerin kurumlarına katılım düzeyleri ve türleri belirlenir. Öğrenci başarısı ve öğrenme için kritik önem taşıyan öğrenci katılımında eğitim kurumları, personel, akademisyenler önemli paydaşlardır (Fredricks vd., 2004; Trowler, 2010). Kendini ait hissetme, okulun değerlerini benimseme gibi sırasıyla davranışsal ve duygusal katılımın yanı sıra bilgi yapılandırılması gibi bilişsel katılım kategorilerine ayrılabilen öğrenci katılımı terimi psikolojik açıdan kolaylıkla ölçülememektedir (Appleton vd., 2006). Türkiye’de son yıllarda artarak popüler hale gelen bu terim özellikle pandemi döneminde uzaktan öğrenmeye geçilmesiyle beraber katılımda

yaşanan sorunlar sebebiyle gündeme gelmiştir. Milli Eğitim Bakanlığı teknolojik araçların eğitime uygulanmasıyla ilgili FATİH Projesi geliştirilmiş ve bu proje kapsamında teknolojik altyapı, akıllı tahta, tablet, öğretmenlerin teknolojiyi kullanması için eğitilmesi gibi araçlar hedeflenmiştir (OECD, 2020). Ancak bu uygulamalar, COVID-19 krizi için K-12 seviyesinde yetersiz kalmış, öğrencilerin derse katılımı, çevrimiçi platformların olası risklerinden korunması, internet ve bilgisayara erişimindeki sorunlara çözüm olamamıştır (Ocal vd., 2021). Öğrenci katılımındaki benzer problemler yükseköğretim seviyesinde de görülmüş, teknolojinin kısıtlandığı pedagojik sorunlar; çevrimiçi öğrenmeye adaptasyon; öğrencinin talebine ve memnuniyetine cevap verme; çalışan, tek ebeveyn veya ekonomik açıdan dezavantajlı yetişkinlerin eğitime devam etmesi gibi durumlarda zorluklar yaşanmasına sebebiyet vermiştir. YÖK, Üniversitelerin Öğrenci Konseyi Yönetmeliği yayınlarak üniversiteleri bağdaşık hale getirmeyi ve öğrencilerin üniversite yönetimine katılımını sağlamayı amaçlamıştır. Öğrenci katılımı, memnuniyeti ve başarısına dikkat çeken bu yönetmelik bu terimlerin ölçülmesini ve bilinirliğini artırmıştır.

Eğitim kurumlarındaki ana iç paydaş kabul edilen öğrencilerin yükseköğretim kurumlarından memnuniyeti, kurumlarında gerekli deneyimleri ve bilgiyi kazanmaları, sosyal anlamda katkı sağlamaları büyük önem arz etmektedir. Öğrencilerin bu deneyimleri kazanmaları aynı zamanda öğrenimin ve kurumlarının kalitesini gösteren önemli bir göstergedir. Eğitimsel kalite ve standartlar, öğrencilerin memnuniyet düzeyi ile saptanır (Baykal & Şahin, 1999) ve bu veriler öğrencilerin akademik hayatı hakkında yapılan memnuniyet anketleriyle tespit edilir (Douglas & Barnes, 2006). Bu noktada, COVID-19 sürecinde öğrenci memnuniyetini araştırmak, uzaktan öğretim kapasitesi ve kalitesinden doğrudan etkileneceği için önemlidir. Öğrenci memnuniyet anketleri öğrencinin memnuniyetini artırmaya yönelik önlemleri almakta yardımcı olsa da kurumların kapasite ve kalitesini iyileştirmek, ulusal ve uluslararası sıralamalarını geliştirmek için kaynak olarak kullanılabilir (Cappuccini-Ansfield, 2007; Hazelkorn vd, 2018). Özellikle son yıllarda artan öğrencilerin müşteri/tüketici gibi görülmesinden bu yana yükseköğretimde bu amaca yönelik yeni model arayışı ve düzenlemeler gibi radikal girişimler görülmektedir (Tight, 2013). Türkiye’de 2006

yılından itibaren kalite deęerlendirmesi ve stratejik planlama alıřmaları Yksekğretim Akademik Deęerlendirme ve Kalite Geliřtirme Komisyonu kurulmasıyla bařlamıřtır (YDEK, 2006). Ardından YK, Yksekğretim Kalite Gvence Ynetmelięini yayınlayarak akreditasyon iin hedefler belirlemeye ve verimli kalite alıřmaları yapmaya bařlamıřtır (Yksekğretim Kalite Gvence Ynetmelięi, 2015). ğrenci memnuniyeti llerek programların etkililięi, eęitim ıktıları, ders yoęunluęu, program kalitesi, niversite tarafından saęlanan hizmet kalitesi gibi pek ok konuda yol haritası olarak kullanılması hedeflenmiřtir. ğrenci katılımı ve ğrenci memnuniyeti terimlerinin literatrde pek ok kez baęlantısı yapıldıęı grlmř (Abragamowicz 1998; Ertl & Wright, 2008; Berger & Milem, 1999), ğrenci katılımın ğrenci memnuniyeti zerindeki etkisi eitlendirilmiřtir (Astin, 1999). rneęin, ğrenciler, ğretmenleriyle etkili iletiřim kurduklarında (Dziuban vd., 2004), dersteki aktivitelerin ğrenciler iin bařarılı bir řekilde tasarlandıęında (Jennings & Angelo, 2006; Mandemach vd., 2011) memnuniyetlerin arttıęına dair oylama yapmıřlardır. Bu nedenle, zellikle COVID-19 pandemi dneminde ğrenci katılımında yařanan kısıtlamalar ve bu kısıtlamaların memnuniyetlerine olan etkisini incelemek nemlidir.

1.1. alıřmanın Amacı

Bu alıřmanın amacı devlet niversitelerinde ğrenim gren ğrencilerin kurumlarına katılımları ve kurumlarından memnuniyeti arasındaki iliřkiyi incelemektir.

1.2. alıřmanın nemi

Bu alıřma İngilizce dilinde yazılmıř ğrenci Katılım Anketini Trkiye baęlamında kullanarak literatre katkı saęlamıřtır. Literatre teorik aıdan yeni bir kavram kazandırmayla ilgili ğrenci memnuniyeti kapsamında aęırlıklı bir katkı saęlamasa da mevcut literatr yksekğretimde ğrenci katılımı ve ğrenci memnuniyeti arasındaki iliřkiyi incelemesiyle katkı saęlamaktadır. Aynı zamanda, bu iki kavramı COVID-19 pandemisi gibi bir kriz dneminde incelemesiyle literatre destek vermektedir.

Bu araştırmanın bulguları, devlet üniversitelerinde öğrenci katılımı ve memnuniyeti arasındaki ilişkinin incelenerek, yükseköğretim kurumlarında stratejik planlama ve kalite değerlendirilmesi gibi konularda veri kaynağı olarak kullanılacak kurumsal düzeydeki uygulamaların artırılması için önem arz edebilir. Kurumların öğrenci memnuniyetini artırmak, eğitim sürecinin amaçlarına ulaşmak ve öğrencilere uzaktan öğretim hizmet kalitesini artırmak ve iyileştirilmesi gereken alanları araştırmak için önem taşımaktadır. Bu çalışma aynı zamanda, öğrenci memnuniyet düzeyini belirleyerek kriz döneminde çevrimiçi platformlarda öğrenci katılımını optimize etmek için pedagoji stratejilerini yeniden değerlendirme konusunda eğitmenlere farkındalık sağlayabilir. Bu iki değişken arasındaki ilişkiyi incelemek öğretim üyeleri için faydalı olabilir çünkü öğrencilerin motivasyonu, katılımı, derse olan tutumu ve memnuniyetini doğrudan etkilerler (Mandernach vd., 2011). Bu iki değişkenin pandemi döneminde incelenmesi, öğrencilerin bilişsel gelişimlerini, akademik performanslarını ve psikososyal becerilerini güçlendirmede yardımcı olabilir.

Öğrenci katılımı ve memnuniyeti hakkında büyük ölçüde araştırma yapılmış olmasına karşın, özellikle pandemi bağlamında bu konuyla ilgili henüz yapılmış bir çalışma yoktur. Yükseköğretimin yapı, yönetim, iletişim sorunları gibi karmaşıklığından kaynaklanan, öğrencilerin eğitim kalitesini nasıl algıladıkları, bunların nasıl geliştirilebileceği ve ne kadar memnun olduklarını ölçmeyi zorlaştırmaktadır (Zineldin vd, 2011). Bu karmaşıklığa ek olarak, pandeminin yükseköğretim kurumlarında öğrenci katılımı ve memnuniyetini kısıtlamada zayıflatıcı etkileri oldu. Ayrıca, kurumsal çerçeve çalışmalarının yanı sıra, yapılmış olan çalışmaların çoğu davranışsal ve bilişsel katılıma odaklanmıştır. Akademisyenler, eğitimde diğer katılım boyutlarıyla ilgili çalışmaların eksikliği olduğunu iddia etmişler, duygusal katılımın öğrenci memnuniyeti üzerindeki etkilerine ilişkin çalışmaların oldukça az olduğu görülmüştür (Pekrun vd., 2002a). Bunun yanı sıra, akademik katılım, sosyal katılım, akran katılımı, sınıf dışı katılım, öğretmenlerle sosyal katılım gibi diğer boyutlar da ele alınmıştır.

2. YÖNTEM

2.1. Araştırmanın Deseni

İlişkisel bir model olarak tasarlanan bu çalışmada, öğrenci katılımı ve memnuniyeti arasındaki ilişkiler ile öğrenci katılımının öğrenci memnuniyeti üzerindeki etkiler incelenmiştir.

2.2. Örneklem ve Örneklem Seçimi

Bu çalışma rastgele olmayan örneklem yöntemi kullanılarak Ankara ilindeki üç devlet üniversitesinde öğrenim gören öğrencilerin katılımlarıyla gerçekleştirilmiştir. Toplamda katılım gösteren 766 lisans ve lisansüstü öğrencilerinin öğrenim gördükleri üniversiteler Ankara Üniversitesi, Gazi Üniversitesi ve Orta Doğu Teknik Üniversitesi'dir. Katılımcıların yaş ortalaması 23,08 ve not ortalaması 3,13 olarak tespit edilmiştir. Katılımcıların %34,1'i Orta Doğu Teknik Üniversitesi (ODTÜ), %33,2'si Gazi Üniversitesi, %32,8'i Ankara Üniversitesi'nde öğrenim görmektedir. Katılımcıların çoğu (%74,5) eğitim fakültesi öğrencisidir. Ardından mühendislik fakültesi (%15,3) gelmektedir. Öğrencilerin büyük çoğunluğu (%86,6) lisans öğrencisi olup, %8,6'sı yüksek lisans, %4,8'i doktora öğrencisidir. Katılımcıların çoğunlukla üçüncü sınıf (%27,7), birinci sınıf (%23,5), ikinci sınıf (%23,5) ve dördüncü sınıftır (%19,7). Katılımcıların çoğunluğunu (%72,1) kadınlar oluştururken, çoğu yanıtlayıcı (%94,2) bekar olduklarını belirtmiştir.

2.3. Veri Toplama Araçları

Öğrenci Katılım Anketi: Zhoc ve diğer araştırmacılar (2019) tarafından geliştirilen Yükseköğretimde Öğrenci Katılımı Anketi 5'li çok boyutlu Likert tipi değerlendirme ile hazırlanmış ve 28 maddeden oluşmaktadır. Ölçeğin ana boyutları akademik katılım, bilişsel katılım, akranlarla sosyal katılım, öğretmenlerle sosyal katılım, efektif katılım olarak belirlenmiştir. Güvenirlik ve geçerlik kanıtları incelenmiş ve tüm değerlerin .70 ve .87 arasında olduğu tespit edilmiştir. Ölçek İngilizce dilinden Türkçe diline çevrilmiş, Açıklayıcı Faktör Analizi uygulanmıştır. Faktör yüklenmeleri göz önüne alındığında iki madde ölçekten çıkarılmış, Doğrulayıcı Faktör Analizi uygulanmıştır. Güvenirlik ve

geçerlik kanıtları doğrulanmış ve tüm faktörlerin .42 ve .89 arasında yer aldığı görülmüştür.

Öğrenci Memnuniyeti Anketi: Şimşek, İslim ve Öztürk (2019) tarafından yükseköğretim düzeyinde geliştirilen Öğrenci Memnuniyeti ilk olarak Anketi Ahi Evran Üniversitesi'nde uygulanmıştır. Çok boyutlu 5'li Likert tipi değerlendirme ile hazırlanmış anket 6 faktör altında toplam 45 madde içermektedir. Bu faktörler, sosyal ve kültürel aktivitelerden memnuniyet, araştırma ve geliştirme faaliyetlerinden memnuniyet, eğitim ve öğretimin izleme, değerlendirme ve kalite yönetimi faaliyetlerinden memnuniyet, eğitim ve öğretimin süreç ve uygulamalarından memnuniyet, eğitim ve öğretimin tasarımından memnuniyet, eğitim ve öğretimin ortam ve kaynaklarından memnuniyet olarak belirlenmiştir. Araştırmacı katılımcılarının çoğunlukla lisans öğrencileri olduğu ve cevaplamada yaşanabilecek yetersizliği ön görmesi sebebiyle, eğitim ve öğretimin izleme, değerlendirme ve kalite yönetimi faaliyetlerinden memnuniyet ve eğitim ve öğretimin tasarımından memnuniyet faktörlerini kullandığı anketten çıkarmıştır. Doğrulayıcı Faktör Analizi yürütülmüş ve tüm faktörlerin .70 ve üzeri ve yüksek güvenilirlik değerine sahip olduğu bulunmuştur.

Demografik Bilgi Formu: Araştırmacı tarafından hazırlanan üniversite, fakülte, eğitim seviyesi, sınıf, yaş, cinsiyet, GPA bilgileri içeren form sunulmuştur.

2.4. Veri Toplama Süreci

İlk olarak Orta Doğu Teknik Üniversitesi İnsan Araştırmaları Etik Kurulu'ndan anket yoluyla insan katılımcılardan veri toplanması için onay alınmıştır. Daha sonra, kişisel verilerin korunmasını sağladığı için METUAnket servisi aracılığıyla LimeSurvey'i kullanarak anketin elektronik versiyonu oluşturulmuştur. Yalnızca çevrimiçi ortamda gerçekleştirilen anket, veri kaybolmaması, diğer programlara kolay aktarılması gibi sebeplerle oldukça kullanışlıdır. Araştırmacı anketi ODTÜ iç iletişim kaynakları (örn. E-posta listeleri, Facebook grupları, WhatsApp grupları, vb.) aracılığıyla dağıtmıştır. Aynı zamanda, QR kod hazırlanmış Gazi ve Ankara Üniversitelerine gidilerek kampüsteki ve sınıflardaki öğrencilere bağlantı iletilip WhatsApp gruplarında paylaşımları aracılığıyla veri toplanmıştır.

Öğretmenlerden izin istenilerek yapılan bu uygulama e-posta yoluyla da gerçekleşmiştir. 2021-2022 Bahar döneminde veri toplama dört haftada sürmüştür. Yaklaşık yedi dakika süren anket gönüllü katılıma ve gizlilik esasına dayanmaktadır. LimeSurvey tarafından rastgele sırayla gelen anket soruları sırasıyla öğrenci katılımı, öğrenci memnuniyeti ve demografik bilgi formu şeklinde ilerlemektedir.

2.5. Verilerin Analizi

Bu çalışmanın verileri IBM SPSS 28 yazılımı kullanılarak betimleyici ve çıkarımsal istatistikle ve IBM SPSS AMOS 26 ölçülen değişkenlerin yapısını test ederek analiz edilmiştir. Çalışmanın kavramsal modeli Eş zamanlı (Standart) Çoklu Doğrusal Regresyon (MLR) kullanılarak test edilmiştir.

3. BULGULAR

Çalışmanın araştırma sorusuna yönelik asli analize başlamadan önce Öğrenci Katılımı Anketi için Açıklayıcı Faktör Analizi yapılmış, Kolmogorov-Smirnov, Shapiro-Wilk sonuçları, Skewness ve Kurtosis değerleri, histogram, Q-Q Plot sonuçlarıyla normallik ve aykırılık değerlerine bakılmıştır. İki madde ankette çapraz yüklenme ve yüklenmeme sebepleriyle çıkarılmış ve yüklenme oranlarına göre anket 4-faktör modeli olarak yeniden tasarlanmıştır. Faktör yüklenmeleri içerisinde yer alan maddelerin içerikleri incelenerek yeni faktörler akademik katılım, sosyal katılım, davranışsal katılım ve duygusal katılım olarak yeniden adlandırılmıştır.

Doğrulayıcı Faktör Öğrenci Memnuniyeti Anketi için yapılmış, tek değişkenli varsayım, çok değişkenli varsayım, histogram, Mardia'nın testi, z-skorlar, Mahalanobis mesafesi, Cook'un uzaklığı standartlaştırılmış DFBeta değerleri, Leverage değerleri, tolerans, VIF değerleri gibi varsayımlar değerlendirilmiştir. Buna göre, öğrenci memnuniyeti için $\chi^2(366) = 1941,1$, $p = .001$, CFI = .85, TLI = .83, RMSEA = .075 uyum indekslerinin kabul edilebilir olduğunu göstermiştir. Eş zamanlı Çoklu Doğrusal Regresyon (MLR) için korelasyon tablosu, tolerans, VIF değeri, histogram, P-P plot, scatterplot, Durbin-Watson katsayısı gibi

varsayım deęerler incelenmiř ve tm deęerler analiz iin engel teřkil etmemiřtir. Arařtırma sonucuna gre, duygusal katılım gsteren ęrencilerin sosyal ve kltrel aktivitelerden, arařtırma ve geliřtirme faaliyetlerinden, eęitimin sre ve uygulamalarından ve eęitimin evre ve kaynaklarından memnuniyetinin yksek olduęu tespit edilmiřtir. Bununla beraber, akademik katılımı yksek olan ęrenciler daha ok sosyal ve kltrel aktiviteler ve eęitimin sre ve uygulamalarından memnundur. Sosyal anlamda yksek katılım gsteren ęrenciler sosyal ve kltrel aktivitelerden, eęitimin sre ve uygulamalarından ve eęitimin evre ve kaynaklarından memnuniyetlerinin yeterli olduęunu belirtmiřlerdir. Son olarak davranıřsal katılım yalnızca arařtırma ve geliřtirme faaliyetlerinden memnuniyet ile iliřkili olduęu grlmřtir.

4. TARTIřMA

Bu alıřmada, ęrenci katılımının ęrenci memnuniyetini yordadığı hipotezlerini lmek iin Eř zamanlı oklu Doęrusal Regresyon uygulanmıř ve ęrenci memnuniyeti deęiřkenleri regresyon ayrı ayrı analiz edilirken baęımsız deęiřkenler kontrol edilerek farklı adımlarda llmřtir. Bu regresyon sonuları, ęrenci memnuniyeti iin ęrenci katılımının ngrc bir deęerinin olduęu, dięer bir deęiřle deęiřkenler arasında bazı ynlerden anlamlı iliřkilerin olduęunu gstermiřtir. Benzer Őekilde aynı sonucu iddia eden pek ok arařtırma vardır (Cheong & Ong, 2016; Commissiong, 2020; Gn, Artun, Yięit & Keser, 2019; Howson & Matos, 2021; Korobova, 2012). zellikle COVID-19 pandemisi ile kaynaklara sınırlı eriřim, ęretmen ve akranlarla yetersiz iletiřim, kısıtlı sosyalleřme gibi nedenlerle ęrenci katılımı n plana ıktı. Bu dnemdeki en temel sorun eęitime eriřimdi ve sorun paydařlar tarafından zlmeye alıřılsa da eylemlerin sonuları yetersiz, belirsiz ve zamanında deęildi. alıřmanın sonucu da bu sınırlamalardan etkilenmiřtir nk pandemi ęrencileri yorgun, stresli ve izole hale getirdi. Uzaktan ęretimin, teknolojiyi eęitimde kullanmanın ęrenci motivasyonu, ilgisi ve performansını artırdığına dair alıřmalar olsa da (Yılmaz Altuntař, Bařaran, zeke & Yılmaz, 2020), dřnce ve duyguların paylařılması, kendini ama gibi insani ihtiyaların yz yze etkileřimlerin yerini alması tartıřılmazdır. Aynı zamanda, kurum tr ve akademik blmlerin uzaktan ęretimin kalitesiyle ilgili olması sebebiyle sonular kurumların ve blmlerin

sağladığı imkanlar ve uygunluk açısından farklılık yaratabilir (Yılmaz Altuntaş, Başaran, Özeke & Yılmaz, 2020).

Değişkenlerin ortalama değeri hesaplandığında bulgular öğrenci katılımının bir faktörü olan duygusal katılımın sosyal ve davranışsal katılıma göre en yüksek düzeyde olduğu gözlenmiştir. Bu bulgu daha yüksek düzeyde sosyal katılım gösteren öğrencilerin, sosyal ve kültürel faaliyetlerden, araştırma ve geliştirme faaliyetlerinden, eğitimde süreç ve uygulamalardan ve eğitimde ortam ve kaynaklardan memnuniyetin yüksek olduğunu gösterir. Özellikle pandemi döneminde duygusal katılım uzaktan öğretim için dikkate alınması gereken en ilgili yön olabilir. Öğretmenler tarafından gelen ek iş yükü, üniversitelerden gelen ek yönergeler, sınav sırasında adaletsiz araçlar, hizmetlere erişimdeki eşitsizlik öğrencileri duygusal olarak tüketir. Dolayısıyla pandemi gibi olası krizlerde kurumların hazırlıklı olması ve acil önlemler alması hayati önem taşımaktadır. İçinde bulunduğumuz dijital çağda bu durumu uzaktan öğretim için alternatif çözüm ve stratejilere sahip olmayı kaçınılmaz kılıyor.

Ayrıca, sosyal katılım boyutu sosyal ve kültürel etkinliklerden ve eğitimin süreç ve uygulamalardan memnuniyet boyutlarıyla ilişkilidir. Zhoc ve meslektaşları (2019) sosyal olarak aktif öğrencilerin en fazla sosyal çıktıları olduklarını ve üniversite deneyimlerinden memnun olduklarını belirtirler. Aynı zamanda, sosyal katılım bu şekilde daha güçlü aidiyet duygusu yaratır ve bu çıktıları iyileştirerek katılımı destekler (Osterman, 2000; Voelkl, 1997). Davranışsal katılım boyutu ise araştırma ve geliştirme faaliyetlerinden memnuniyet ile pozitif ilişkisi olduğu gözlenmiştir. Öğrenciler akademik açıdan kalite ve işlevselliği önem vermekte ve öğretim elemanları tarafından uygulanan farklı yöntem ve tekniklere davranışsal olarak daha aktif katılmaktadır (Çinkır & Yıldız, 2019). Pandemiyle birlikte bu davranışsal katılım, çevrimiçi platformlarının ve teknolojinin kullanılması için öğrencileri bağımsız öğrenenler olaya teşvik etmiştir (Abushamleh & Qusef, 2021).

Akademik katılımın memnuniyetin hiçbir boyutuyla ilgili olmadığı gözlenmiştir ve bu sonucun pandemiyle birlikte artan iş yükünden, kurumların öğrenci

ihtiyalarını tespit etmede ve yol belirlemede yařadıkları zorluktan kaynaklandığı ön görülebilir. Akademik katılımın öğrenci memnuniyetiyle ilgili olduğunu ortaya koyan pek çok kaynak vardır. Örneğın, öğretim üyelerinin performansı (Guolla, 1999; Cashin & Downey, 1992), eğitimcilerin sağladığı eğitim kalitesi, seçtikleri ders kitapları (Hong, 2002; Fredericksen vd., 2000) gibi etmenler yüksek öğrenci memnuniyetine sebebiyet verir. Bununla birlikte, çalışmanın sonucu olarak akademik katılımın not ortalaması üzerinde pozitif bir etkisinin olduğu görülmüştür. Not ortalaması birçok araştırma sonucunda yüksek akademik katılımı temsil eder (Cheong & Ong, 2016, Commissong, 2020; Korobova, 2012; Öz & Boyacı, 2021) ancak yüksek akademik katılım, yüksek ortalamayı garantilemez (Zhoc vd., 2019). Sosyal katılımın not ortalaması üzerindeki olumsuz etkisi literatürde de pek çok kez görülmüştür (Zhoc vd., 2019).

4.1. Öneriler

Sınırlamalar ve çıkarımlar göz önüne alındığında gelecekteki arařtırmacılar için faydalı olabilecek çeşitli öneriler bulunmaktadır. İlk olarak, bu çalışma demografik bilgi olarak yalnızca not ortalaması için analiz edildi. Arařtırmacılar, deęişkenlerin farklılığını görmek amacıyla daha fazla örneklem büyüklüğü dahil ederek cinsiyet, gelir, eğitim düzeyi gibi deęişkenleri çalışmalarına dahil edebilir. Katılımcılar tanınmış ve başarılı öğrenci kabul eden üç devlet üniversitelerinden oluşmaktadır. Bu nedenle daha düşük başarı sıralamasına sahi üniversiteler veya özel üniversiteler dahil edilebilir. Fırsatlar ve hizmetler bu seçenekler arasında farklılık gösterir; bu nedenle daha fazla karşılaştırmalı çalışma farklı türdeki kurumlardaki ilişkilerin anlaşılmasına yardımcı olabilir. Örneklem yöntemi olarak rastgele yöntemler kullanılabilir çünkü rastgele olmayan yöntemlerin sonuçlarda katılımcıların yanlılığı, iyi temsil edememe gibi bazı sorunları olabilir. Çalışma tek bir ilden ziyade tüm Türkiye'yi kapsayacak şekilde uygulanabilir ve uygulayıcılar, politika yapımcılar süreç ve uygulamaların iyileştirilmesinde farklı bir bakış açısı sağlayabilir.

İlgili literatür, öğrenci katılımı ve memnuniyeti ile ilgili çalışmaların çoğunlukla nicel yöntemler kullanılarak yapılandırıldığını göstermektedir. Nitel çalışmalar, öğrenciler için bu deęişkenlerin daha derin anlaşılması için faydalı olabilir. Karma

yöntem çalışmaları, araştırmacıların konuya farklı bakış açılarını incelemelerini de sağlar. İki değişken arasındaki ilişkinin net bir şekilde incelenmesi için görüşmeler, sınıf içi gözlemler, katılımcının arka plan bilgileri gelecekteki araştırmacılar için önemli olabilir.

Öğrenci katılımı ve memnuniyet düzeyini artırmak için öğretim üyeleri veya üniversite yönetimi kaynaklara sınırlı erişim sebebiyle pandemi sırasında bazı uygulamalara başlayabilir. Örneğin, öğrencilerin sosyalleşmesi için çevrimiçi toplantılar, öğrenci klüpleri toplantıları öğretim üyeleri gözetiminde sürdürülebilir. İdari personel ve yönetim çevrimiçi psikolojik danışmanlık, çevrimiçi kütüphane gibi üniversite tarafından sağlanan olanakları genişletebilir. Uzaktan öğretim kapasitelerini artırarak çevrimiçi platformlar, araçlar, eğitim kitleri için yatırım yapabilir.

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