

**REPUBLIC OF TURKEY
ÇUKUROVA UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
ENGLISH LANGUAGE TEACHING PROGRAM**

**INVESTIGATING ACADEMIC BURNOUT EXPERIENCED BY
UNDERGRADUATE ENGLISH MEDIUM INSTRUCTION ENGINEERING
STUDENTS**

Hazal Dilan FİDAN

MASTER OF ARTS

ADANA / 2024

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MASTER OF ARTS THESIS

ADANA / 2024

APPROVAL

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Hazal Dilan FİDAN

ABSTRACT**INVESTIGATING ACADEMIC BURNOUT EXPERIENCED BY UNDERGRADUATE
ENGLISH MEDIUM INSTRUCTION ENGINEERING STUDENTS****Hazal Dilan FİDAN****Master Thesis, Department of English Language Teaching****Supervisor: Prof. Dr. Yasemin KIRKGÖZ****January 2024, 94 pages**

The significance of English Medium Instruction (EMI) is on the rise both in Türkiye and worldwide. The choice to enroll in English university courses contributes to the levels of burnout experienced by students. This trend reflects the growing globalization of education, highlighting the importance for students to adjust to an English-language academic setting. Given these circumstances, it is essential to examine the elements that impact burnout levels in order to create effective support systems and methods that can improve the overall well-being of students in English-instructed academic environments.

The objective of this study is to thoroughly investigate the current levels of academic burnout among Turkish undergraduate students who are enrolled in EMI programs. The study specifically evaluates variables such as gender, major, and involvement in the preparatory program. Additional aims include exploring the factors contributing to students' experience of burnout and understanding the strategies they employ to manage and overcome burnout. A convenience sampling method was used to select a sample of 138 students from the Mechanical and Electrical-Electronics Department at Çukurova University's Engineering Department during the 2022-2023 academic year. As an addition to a questionnaire, a sample of 12 engineering students was selected using quota sampling to respond to semi-structured interview questions, thereby enhancing the study with qualitative data.

The findings suggest that Turkish engineering students enrolled in EMI courses experience a moderate degree of burnout. Gender plays a crucial role in burnout experiences, as female engineering students in EMI programs report higher degrees of burnout compared to their male counterparts. The study suggests that the primary determinants of students' burnout are an overwhelming academic workload, language barriers, and insufficient teacher-student communication.

Keywords: Burnout, English Medium Instruction, Engineering Students.

ÖZET

EĞİTİM DİLİ İNGİLİZCE OLAN MÜHENDİSLİK LİSANS ÖĞRENCİLERİNİN YAŞADIĞI TÜKENMİŞLİĞİN İNCELENMESİ

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Öğretim Dili Olarak İngilizce'nin Türkiye'de ve dünya genelindeki önemi giderek artmaktadır. İngilizce olarak üniversite derslerine kayıt yapma seçimi, öğrencilerin yaşadığı tükenmişlik düzeylerine katkıda bulunmaktadır. Bu eğilim, eğitimin giderek küreselleşmesini yansıtarak öğrencilerin İngilizce dilindeki akademik ortama uyum sağlama önemini vurgular. Bu koşullar altında, tükenmişlik düzeylerini etkileyen faktörleri incelemek, etkili destek sistemleri oluşturmak ve öğrencilerin genel refahını artırabilecek yöntemleri belirlemek önemlidir.

Bu çalışmanın amacı, Öğretim Dili İngilizce programlarına kayıtlı Türk lisans öğrencilerinin mevcut akademik tükenmişlik düzeylerini kapsamlı bir şekilde araştırmaktır. Çalışma özellikle cinsiyet, ana dal ve hazırlık programına katılım gibi değişkenleri değerlendirir. Diğer amaçlar arasında öğrencilerin tükenmişlik deneyimlerine katkıda bulunan faktörleri keşfetmek ve tükenmişlikle başa çıkmak için kullandıkları stratejileri anlamak yer almaktadır. Kolaylıkla Ulaşılabilir Örneklem yöntemi, 2022-2023 eğitim yılında Çukurova Üniversitesi Mekanik ve Elektrik-Elektronik Bölümü'nden 138 öğrencilik bir örneklem seçmek için kullanılmıştır. Maslach Tükenmişlik Envanteri'nin yanı sıra, kota örneklem kullanılarak seçilen 12 mühendislik öğrencisi, çalışmaya nitel veri ekleyerek yarı yapılandırılmış mülakat sorularına yanıt vermiştir.

Bulgular, Öğretim Dili İngilizce programlarına kayıtlı Türk mühendislik öğrencilerinin orta düzeyde bir tükenmişlik yaşadığını göstermektedir. Cinsiyet, tükenmişlik deneyimleri üzerinde önemli bir rol oynamaktadır; EMI programlarına katılan kadın mühendislik öğrencileri, erkeklere kıyasla daha yüksek derecede tükenmişlik bildirmektedir. Çalışma, öğrencilerin tükenmişliklerinin temel belirleyicilerinin aşırı akademik iş yükü, dil engelleri ve yetersiz öğretmen-öğrenci iletişimi olduğunu öne sürmektedir.

Anahtar kelimeler: Tükenmişlik, İngiliz Dilinde Öğretim, Mühendislik Öğrencileri.

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LIST OF ABBREVIATIONS

ASAS	: Academic Self-Efficacy Scale
BC	: Before Christ
CD-RISC	: Connor Davidson Resilience Scale
COPM	: Canadian Occupational Performance Measure
DP	: Depersonalization
EE	: Emotional Exhaustion
EFL	: English as a Foreign Language
EMI	: English Medium Instruction
GRIT-S	: Short Grit Scale
IE	: Instruction in English
L1	: First Language
MBI	: Maslach Burnout Inventory
MBI-ES	: The MBI-Educators Survey
MBI-GS	: The MBI-General Survey
MBI-GS (S)	: The MBI-General Survey for Students
MBI-HSS	: The MBI-Human Services Survey
MBI-HSS (MP)	: The MBI-Human Services Survey for Medical staff
MBI-SS	: Maslach Burnout Inventory- Student Survey
NAQ	: New Needs Assessment Questionnaire
ÖSYM	: The Student Selection and Placement Centre
PIF	: Personal Information Form
PA	: Personal Accomplishment
TMI	: Turkish Medium of Instruction
YÖK	: Turkish Council of Higher Education

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CHAPTER I

INTRODUCTION

1.1. Background of the Study

The emergence of English as a Medium of Instruction (EMI) can be attributed to the increased need for English language skills in the worldwide workforce throughout the late 20th century (Macaro et al., 2018). The acquisition of proficiency in the English language has become a fundamental requirement for obtaining an adequate education, securing a stable job, and establishing a successful professional path within a specialized area.

English is widely used as a means of instruction in educational settings due to its status as a global lingua franca, spoken in nearly all nations across the globe (Kırkgöz & Dikilitaş, 2018). Institutions are increasingly adopting English as the language of instruction in order to draw in a varied student base and promote internationalization and the expanding global scope of education has resulted in a growing predominance of EMI in academic environments worldwide (Graddol, 2006).

With the rising prevalence of EMI, it is crucial to investigate its influence on students, specifically on the occurrence of burnout. Burnout has emerged as a prominent social and health issue in contemporary society, mainly appearing within occupational settings. The breadth of this discipline has experienced significant growth on a global scale, as investigations started in various professional domains and, more recently, among undergraduate students in higher education institutions. Burnout, a problem that has attracted attention in educational research, can have negative consequences on academic performance and well-being.

Although there is a considerable amount of literature that investigates burnout in the workforce, there is an increasing acknowledgment of the necessity to study burnout among students, particularly in the context of EMI (Salmela-Aro et al., 2009). Burnout, which is defined as experiencing fatigue, depersonalization, and limited personal accomplishment (Maslach & Leiter, 2016), has been linked to several negative consequences, such as lower academic engagement and worsened mental health in students (Reis et al., 2015). Nevertheless, the precise elements that contribute to student burnout in the context of EMI have not yet been investigated.

It is also notable that English serves as the primary language of instruction in the majority of universities in Türkiye. Universities in the country mandate participation in preparatory programs to enhance students' English language skills, enabling them to excel in their chosen academic fields. The prevalence of EMI in Turkish universities is strengthened by the presence of numerous academic departments and programs that only offer courses in English, in addition to the language preparatory programs. This deliberate transition to EMI is in line with the worldwide focus on English as a means of academic communication and the spread of information (Kırkgöz & Dikilitaş, 2018). The transition to EMI is not only a language adjustment but also a fundamental part of institutions' wider approach to improving their international standing and competitiveness (Koç & Tekin, 2016). Nevertheless, the extensive use of EMI at Turkish universities raises questions over its potential consequences on student welfare and academic achievement. Hence, it is imperative to examine the experiences of students in EMI programs in order to comprehend the relationship of language education and student welfare in the Turkish higher education setting.

1.2. Statement of the Problem

Academic burnout has become a topic of great concern and examination in the academic world in recent years. A comprehensive investigation has been carried out, uncovering the widespread detrimental effects of this phenomenon on students' general welfare and scholastic achievements (Boyacı & Özhan, 2021; Büke & Yağcı, 2022; Çapri et al., 2012; Köylü & Korkut, 2022; Schaufeli et al., 2002). Given the growing data, it is crucial to acknowledge and evaluate the degrees of academic burnout among students, as well as explore its potential harmful effects on their educational accomplishments (Salgado & Au-Yong-Oliveira, 2021). Academic burnout has a complex and detrimental impact on students' academic experiences. The burnout is characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment (Frajerman et al., 2019). The common requirements of university life, marked by demanding academic work, active engagement, presentations, seminar attendance, collaborative projects, assignments, and other tasks, can worsen these symptoms. Moreover, the intense rivalry within academic settings might increase the difficulties, raising the likelihood of experiencing academic burnout (Salgado & Au-Yong-Oliveira, 2021). Gaining insight into and effectively dealing with academic burnout

is crucial, not just for the mental and emotional health of students, but also for understanding their behavioral tendencies and academic performance. It acts as an initial step in the effort to improve the overall educational experience and promote healthier, more productive learning environments for undergraduate students (Neumann, Finaly-Neumann & Reichel, 1990). Hence, it is crucial to continue investigating academic burnout in order to develop effective solutions and support systems for students dealing with the challenges of higher education.

1.3. Purpose of the Study

The primary objective of this research is to comprehensively investigate and analyze the current levels of academic burnout among Turkish undergraduate students who are enrolled in EMI programs. This study also intends to investigate the various coping strategies used by these students to reduce the negative impact of academic burnout. The expected results of this study have the potential to provide useful insights into the strategies and approaches used by undergraduate EMI students to effectively handle and tackle high levels of academic burnout. Moreover, this research is positioned to make significant contributions to the present knowledge base in the area of academic burnout among university students, specifically those who are studying in a language that is not their native language. By shedding light on the coping strategies and resilience-building techniques employed by these students, this study can serve as a foundation for further research initiatives in this area. The outcomes of this study are anticipated to be advantageous not only for the academic community but also for educators, administrators, and policymakers. They will provide valuable insights for improving the support and resources provided to undergraduate EMI students, thereby creating a more favorable and efficient learning environment.

This study has specifically addressed the following research questions:

1. What is the level of burnout experienced by Undergraduate EMI engineering students?
2. Is there a difference between the level of burnout experienced by EMI engineering students according to their
 - a. field of study?
 - b. gender?
 - c. whether they have received preparatory program?
3. What are the reasons for burnout experienced by EMI engineering students?
4. What are the possible solutions against burnout for EMI engineering students?

1.4. Significance of the Study

In our continuously globalizing world, the ability to learn and use foreign languages has become an essential necessity for political, scientific, and societal purposes, reaching an extraordinary degree of importance (Chen & Goh, 2011). In the middle of the diverse and complicated challenges of the current global environment, higher education has become a basic goal for numerous individuals. Nevertheless, it is important to highlight that stress levels related to university life have experienced a considerable increase (Salgado & Au-Yong-Oliveira, 2021). The increase in stress is attributed to various variables, such as financial burdens, social interactions, and even personal characteristics (Caballero et al., 2007). Considering the worldwide situation and the crucial significance of English in tertiary education, the delivery of English education and Instruction in English (IE) at the university level has become extremely important. Teaching in English at Turkish universities requires a significant level of English ability, which can sometimes result in academic burnout among students. Therefore, it is crucial to investigate if the implementation of English instruction has a noticeable effect on student burnout levels in Turkish higher education. Although the importance of studying burnout levels among university students who get instruction in English is increasing, it is important to note that there is a noticeable lack of research in this area.

1.5. Assumptions

1. It is expected that all participants will provide truthful responses to the questions presented in both the Maslach Burnout Inventory-Student Survey and the semi-structured interviews.
2. It is assumed that the participant group's responses to the personal demographic form and Maslach Burnout Inventory (MBI) are unbiased and honest.
3. It is assumed that all participants engage in honest expression of their opinions during the interviews.
4. The measurement instruments employed in this study are believed to successfully achieve the stated goals of the research.
5. It is assumed that the responses provided by the participant group have adequate quality and quantity to effectively address the research questions.
6. The assumption is made that the outcomes derived from the employed measurement instruments accurately correlate to the objective reality or truthfulness of the given circumstances.

1.6. Limitations

Several limitations are included in the present study. The scope of the study is restricted to Engineering students enrolled at Çukurova University. The researcher might have obtained a more comprehensive understanding of burnout levels and experiences among Engineering students by increasing the number of participants in this research. The findings are constrained to the people and context specified in the study. Hence, the outcomes of the research may lack sufficient breadth to enable generalization.

The participants were requested to fulfill the questionnaire and participate in the online interviews. The act of gathering data through online means has the ability to selectively attract specific participant demographics, hence introducing a possible source of bias in the sample and compromising the true representation of the total community. Furthermore, it is worth noting that online surveys frequently show reduced response rates in comparison to data collection methods conducted in person. The difference in response rates has the potential to impact the reliability and generalizability of the obtained findings.

1.7. Definitions

Burnout: the term used for extreme tiredness, mental and physical depletion, and feelings of disappointment resulting from a lack of fulfillment in one's professional endeavors (Freudenberger, 1974).

Academic burnout: a collection of symptoms including emotional tiredness, depersonalization, and a diminished sense of personal achievement resulting from the pressures of studying or a lack of interest in learning (Freudenberger, 1974; Maslach & Jackson, 1981).

English Medium Instruction (EMI): an English-medium education system involves using English as the primary language of instruction, particularly when it is not the students' first language, and is characterized by teaching academic subjects in English, excluding the English language itself as a subject (Dafouz & Gray, 2022).

CHAPTER II

LITERATURE REVIEW

This literature review offers a comprehensive exploration of the concept of English Medium Instruction. By scrutinizing theoretical frameworks, challenges, benefits, and contextual factors, this chapter sets the stage for a deeper understanding of the multifaceted nature of EMI. Subsequent chapters will delve into studies, contributing further insights to the evolving discourse on EMI in diverse educational settings.

2.1. The Concept of English Medium Instruction

The practice of educating individuals through a common language has a well-established and ancient lineage, tracing its origins as far back as the 8th century BC (Altay & Yüksel, 2021). The historical background emphasizes the lasting significance of language as a medium for education. Throughout the years, the practice has developed and presently, the dominance of English has been steadily increasing since the second part of the 20th century. This linguistic phenomenon is especially remarkable in scholarly and occupational environments, where English has become as the main language of communication—the lingua franca—overtaking the prominence of French by the end of the century. This shift had a profound impact on language dynamics across diverse fields, permeating not only technology and business but also influencing domains such as science, academia, diplomacy, and the arts. Mastering crucial skills such as accessing global research publications, participating in collaborative projects, and staying updated on cutting-edge developments in various fields becomes more formidable without a command of the English language. Additionally, challenges may extend to comprehending international business practices, participating in cross-cultural negotiations, and accessing a broader range of educational resources, making English proficiency integral to navigating diverse professional and academic landscapes. Moreover, this linguistic transformation has reshaped the global landscape, making English proficiency a prerequisite for effective participation in an interconnected world. As a consequence, individuals who lack proficiency in English may find themselves at a disadvantage in various aspects of academic, professional, and technological spheres.

English is widely used by prestigious universities and research institutions, which enhances its position as the dominant language for academic pursuits (Phillipson, 1992). Despite ongoing discussions on linguistic imperialism and cultural hegemony (Pennycook, 1998), the practical benefits and opportunities linked to being proficient in English continue to motivate its extensive use as a language of instruction in many educational settings worldwide. EMI has emerged as a transformative force in contemporary education, representing a paradigm shift wherein the English language becomes the primary medium for teaching academic subjects. EMI is characterized by its departure from traditional language-specific instruction, emphasizing the use of English irrespective of students' native languages.

According to Dearden (2014), EMI refers to the practice of using the English language to teach academic courses in countries or regions where the majority of the population does not have English as their first language (L1). The utilization of EMI is currently being implemented in universities, secondary schools, and even primary schools, which has notable consequences for the education of young individuals.

Navigating the complexities of EMI implementation requires an examination of contextual factors. The linguistic and sociocultural context of educational institutions, as well as the attitudes of students and faculty, play pivotal roles in shaping the effectiveness of EMI initiatives (Wilkinson, 2013). Understanding the language proficiency and cultural backgrounds of students is essential for tailoring instructional approaches to ensure meaningful comprehension and engagement. Faculty attitudes towards EMI, their linguistic competencies, and their ability to adapt teaching methods are critical elements influencing successful implementation.

Moreover, policy frameworks at both institutional and national levels significantly influence the design and sustainability of EMI programs (Doiz, 2009). Institutional policies guide the integration of EMI into the curriculum, while national policies may impact funding, standardization, and accreditation of EMI courses. A cohesive alignment between institutional and national policies is crucial for creating an environment conducive to the long-term success of EMI initiatives. Policy considerations also extend to faculty development, ensuring educators receive adequate support and training to navigate the challenges associated with EMI instruction.

In recent years, scholars have shown a heightened interest in understanding the multifaceted dynamics associated with the widespread use of EMI across various educational settings. Hu and Lei (2013) examine the global trend of adopting English as

a medium of instruction in higher education and present a case study focusing on a Business Administration program in mainland China. Employing Spolsky's language policy framework, the research critically examines national and institutional policy statements, incorporating interviews with professors and students. The findings illustrate a complex interplay of language ideologies, practices, and management mechanisms within the EMI program, revealing a significant misalignment between policy intentions and actual classroom practices. This mismatch raises concerns about the quality and consequences of EMI in Chinese higher education.

In their work, Jin-Hyouk Im and Jeongyeon Kim (2015) acknowledge the potential advantages of EMI in globalizing non-English higher education, yet they underscore the widespread criticism surrounding its practical implementation. Issues such as ineffective content delivery and a perceived lack of improvement in English proficiency have led the researchers to propose a comprehensive model. This model, informed by a critical review of the state of internationalization in Korean higher education and interviews with 15 college students who have undergone EMI courses, seeks to guide EMI policy throughout its stages. Notably, the model promotes blended learning as a strategic approach to address current challenges and integrate diverse online materials for more effective EMI instruction. The study outlines the benefits of this proposed approach, emphasizing its relevance for both policymakers and participants in the classroom.

2.1.1. EMI at Tertiary Level in Turkiye

English Medium Instruction (EMI) has gained considerable attention as a pedagogical approach in Turkish tertiary education. This chapter delves into existing literature on EMI at the tertiary level in Turkiye, examining theoretical frameworks, challenges, and the impact of EMI on students and educators.

The initiation of EMI policy in Turkiye can be traced back to the 1950s when the first state-funded EMI university, Middle East Technical University (METU), was established in 1956, followed by Boğaziçi University in 1971 (Kırkgöz, 2009). Private institutions like Bilkent (1984) and Koç, and Sabancı in the 1990s also contributed to meeting the growing demand for EMI in the country. Initially, these universities primarily utilized full EMI for internal purposes, emphasizing access to scientific information and the development of qualified human resources.

The Student Selection and Placement Centre (Öğrenci Seçme ve Yerleştirme Merkezi [ÖSYM], 2023) reports that the adoption of EMI, especially partial EMI, experienced substantial growth concurrent with the rise in the number of universities, reaching a total of 226 by 2023. A total of 816 undergraduate programs are offered in English at 128 state universities, 76 foundation universities, and 22 universities in Northern Cyprus and other foreign countries, making a total of 98 universities with 2625 undergraduate programs in either fully or partially English-medium instruction.

In her study, Kırkgöz (2014) aimed to explore the quality and effectiveness of EMI compared to native language instruction. The research delves into the perspectives of final-year engineering students in a Turkish institution, categorizing them into groups with Turkish Medium of Instruction (TMI) and EMI. The research involved 130 final-year engineering participants, with EMI students facing difficulties in understanding disciplinary knowledge details and resorting to memorization for short-term goals. In contrast, TMI students demonstrated a more comprehensive understanding, longer retention, and higher-level learning. Despite shared characteristics, the study reveals that EMI students encountered challenges in acquiring disciplinary knowledge compared to the successful performance of TMI students.

Karakaş (2017) conducted a study to evaluate the satisfaction levels of Turkish students with EMI in higher education. Data for the study was collected from students who were registered at a private university in Ankara, Türkiye, where English served as the EMI. Overall, the findings showed that most students were content with EMI and its elements, while there were comparatively lower levels of satisfaction seen specifically on the language policies and practices of the institutions.

The study conducted by Macaro and Akıncıoğlu (2018) investigates the increasing prevalence of EMI in Turkish colleges. The results of an extensive survey, which included 989 students from 18 universities in Türkiye, indicate notable variations associated with the indicated factors. Significantly, students highly support the reasons for EMI, primarily emphasizing the need to enhance their English language skills and avail themselves of foreign study or career prospects. Furthermore, the research emphasizes that students enrolled in private institutions exhibit even greater hopes for future prospects in comparison to their peers attending state universities.

Özer and Bayram (2019) note the rising trend of institutions providing EMI programs at the higher education level, which has led to a growing curiosity in evaluating their efficacy. This case study aims to investigate the perspectives of fourth-year

undergraduate students at a state university who are part of the first group to complete EMI programs in this recently established institution. The study utilized a descriptive survey research design and performed focus group interviews with a sample of twelve students, consisting of an equal number of males and females, who were selected via quota sampling. The data analysis indicated that participants recognized the significant impact of EMI programs on their English proficiency in subject-specific areas and acknowledged a good effect on their motivation. Nevertheless, a significant discovery was made that a considerable number of individuals saw inconsistent enhancement in their English language skills throughout their educational journey.

In their work, Kamaşak et al. (2021) examine the linguistic challenges faced by students at a university in Türkiye that uses English as the medium of instruction. The study sought to identify the difficulties encountered by students in their EMI classes, examine how these problems differ depending on individual student characteristics, and validate a research tool created to evaluate academic language-related obstacles in EMI settings. Information was collected from a sample of 498 undergraduate students through an online survey. The survey instrument used was modified from prior studies conducted in the Hong Kong context. The Confirmatory factor analysis indicated that students perceived writing and speaking as the most arduous components in their EMI sessions. The study also found significant variations in reported difficulties based on academic field, first language (L1) background, previous experience with EMI, and the type of exam used to meet the university's language proficiency standards. For instance, Turkish students perceived EMI courses as more challenging compared to international students, across different skill domains.

EMI programs are gaining popularity in higher education worldwide, leading to debates about student preferences and the impact of the language on job opportunities. Although these elements receive significant consideration, the viewpoints of instructors, which are crucial in the EMI process, are frequently disregarded. Özer (2020) did a study at a state university in southern Türkiye that explores the difficulties academics encounter when adjusting to EMI. The study also provides valuable information on teaching methods used in undergraduate EMI programs. The study investigates three main research topics by conducting quantitative and non-experimental research with 113 faculty members. These questions focus on teaching strategies, the viewpoints of EMI lecturers regarding implementation, and identifying opportunities for development through in-service training. The survey results underline the varied teaching methods employed,

underscoring the necessity for meticulous scrutiny of instructors' utilization of the mother tongue. Participants emphasize the significance of customized instruction for EMI and encourage cooperation between subject lecturers and language instructors in the Preparatory Year Program (PYP), offering significant perspectives for university administrators to assess and improve the performance of EMI programs.

As Tezcan-Ünal and Schmitt (2022) have presented valuable insights concerning the Turkish context in their comprehensive study, Türkiye hosts a significant number of domestic higher education students, and the population of international students is steadily growing. Furthermore, the study sheds light on the nation's ambitious economic goals, emphasizing the need for well-educated individuals to compete in a knowledge-based economy. Despite boasting nearly 208 higher education institutions, the absence of Turkish universities among the world's top 400 is a notable observation. The study also highlights challenges, such as the English language proficiency of a majority of higher education students falling below the required level for academic literacy in EMI settings. Additionally, the influential role of the Turkish Council of Higher Education (YÖK) in shaping the academic system is explored, with a recognition of its impact on uniformity and potential barriers against the diversity and flexibility essential for world-class universities.

In the study conducted by Kırkgoz et al. (2023), a noteworthy observation is that nearly half of the 20 students believed that graduating from an EMI faculty would increase their job opportunities. Furthermore, some students recognized the importance of English both in the field of engineering and as a global language. This suggests that students are well aware of the significance of English, both within their academic discipline and as a widespread language worldwide. Additionally, the findings consistently indicate that the primary benefits for students lie in academic and professional advantages, while the most prevalent challenge reported is the low English proficiency level among both lecturers and students.

2.2. The Concept of Burnout

Various professions, including medicine, education, dentistry, psychology, and economics, have offered different interpretations of "burnout." In the medical field, burnout is closely tied to the demanding nature of patient care, extended working hours, and the high-pressure environment in which healthcare professionals operate. Within

education, burnout emerges as a pervasive problem influenced by factors such as heavy workloads, challenging student behavior, and limited resources. Educators grapple with emotional drain, diminished enthusiasm, and a perceived decline in their overall effectiveness amidst these persistent challenges. Dentistry introduces unique stressors contributing to burnout, including intricate tasks, high patient expectations, and the delicate balance between clinical expertise and maintaining positive patient relations. In psychology, burnout materializes through emotional and physical exhaustion, especially in roles involving counseling or therapy. In economics, burnout arises from high-pressure work environments, tight deadlines, and the constant need for analytical problem-solving. Economists contend with mental fatigue, a diminished sense of accomplishment, and a pervasive feeling of detachment from their analytical pursuits. Despite these diverse perspectives, most interpretations aim to address a specific emotion, typically encompassing physical fatigue, despair, and a feeling of hopelessness coupled with a sense of weariness, essentially describing an all-encompassing sensation of exhaustion.

The origin of the term "burnout" can be attributed to Greene's 1961 novel (as cited in Maslach et al., 2001), "A Burn-Out Case," in which an architect, struggling with spiritual pain and disappointment, quits his job and withdraws into the African jungle. Prior literary works, whether they be fictional or nonfictional, have shown comparable occurrences involving profound exhaustion and the decline of enthusiasm and idealism towards one's occupation. Significantly, the recognition of burnout as an issue of society predates organized research endeavors, with both professionals and social observers recognizing its importance.

The concept of burnout was first defined in 1974 by Freudenberger as a state of failure, exhaustion, and becoming worn out as a result of excessive demands on energy, power, and resources. Traditionally, burnout was believed to appear in persons who are engaged in professions involving interpersonal interactions, such as healthcare, social services, or education. The notion of burnout extends beyond that provided by Freudenberger: in their study, Maslach and Jackson (1996) came up with another definition: "Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity" (p.4).

Cherniss (1980) carried out research that highlights the significance of the ideas of "process" and "stress" in illuminating the phenomena of burnout. Cherniss defines burnout as a phenomenon that arises after the conclusion of a certain phase. This process,

instigated by stress, induces a state of tension in response to events that beyond an individual's capacity. Concurrently, the demands of the social milieu and the apprehension of falling short in meeting those demands might result in stress. This scenario has the potential to trigger the development of burnout.

Burnout syndrome, as emphasized by Kaya Göktepe (2016), is primarily observed in the context of the workplace. It is imperative to assess burnout syndrome in relation to the work environment due to its pervasive impact on individuals' well-being and professional performance. The evaluation of burnout becomes essential not only for understanding the immediate consequences on employees but also for developing effective strategies and interventions to mitigate its adverse effects. Recognizing the interconnectedness of burnout with work dynamics, organizational culture, and job demands provides a holistic perspective that can inform targeted interventions and preventive measures. On the other hand, the assessment of burnout and its range has expanded beyond persons exclusively engaged in interpersonal duties, including all employees (Maslach & Leiter, 1997; Maslach & Schaufeli, 1993).

2.2.1. Signs of Burnout

Burnout is apparent through a complex interaction of physical, emotional, and behavioral signs. Individuals experiencing burnout commonly show enduring fatigue, indicating a condition of prolonged depletion that surpasses typical tiredness (Maslach & Leiter, 2016; Pines & Aronson, 1988). The extended physical strain on the body is also evident in disturbed sleep patterns, adding another level of complication to the multifarious nature of burnout. Headaches and muscle tightness are physical manifestations of the increased stress levels that individuals experiencing burnout endure, resulting in a concrete toll that goes beyond mere discomfort.

Burnout is marked by a variety of emotional responses that reflect the significant influence of long-term stress on a person's mental health. The individual's emotional resilience is strained, leading to a prominent emotional undercurrent of heightened irritation. The phenomenon of work detachment, as defined by Maslach and Leiter (2016), refers to a progressive emotional disengagement, where once stimulating aspects of one's career become causes of emotional separation. At the same time, there is a noticeable decrease in the feeling of accomplishment and drive, intensifying the emotional impact of burnout and creating a difficult situation for individuals to handle.

The changes in behavior linked to burnout enhance our comprehension of this phenomena. Individuals experiencing burnout may resort to withdrawal from work-related activities as a means of coping (Pines & Aronson, 1988). This withdrawal serves as a strategy to establish mental and physical separation from the stressors that are leading to their burnout. The act of procrastination and the decline in output become evident outcomes, reflecting the internal battle to gather the necessary energy and concentration needed for consistent professional involvement. Moreover, changes in dietary and substance use patterns add a behavioral aspect to the coping strategies employed by individuals in an effort to handle the mental and physical pressures of burnout (Smith, 2018).

Research has confirmed that burnout, which involves a decline in desire and the ability to exert effort in one's job, is a strong indicator of reduced performance, lower production, and decreased client satisfaction. These causes are associated with both the inherent qualities of the work and individuals' subjective experience of their work, as well as their ability to handle challenging work circumstances (Bakker & Sanz-Vergel, 2020). Hence, the examination of personality traits and variations among individuals is crucial for gaining a deeper comprehension of the burnout syndrome.

In 2007, Ericson-Lidman and Strandberg conducted a study with the objective of illustrating how colleagues perceive signs that contribute to their colleagues experiencing burnout. In 2004, the study was conducted in Sweden including nursing and medical professionals. The study assessed fifteen interviews using thematic content analysis. The testimonies were collected retrospectively from colleagues who were absent from work owing to illness or had resigned because of burnout. Colleagues reported observing multiple indicators, including difficulties in handling tasks independently, exhibiting selflessness, striving for unachievable objectives, experiencing detachment and isolation, and displaying signs of deterioration. The identified sub-themes and topics for signs of burnout can serve named as:

- "• struggling to manage alone;
- showing self-sacrifice;
- struggling to achieve unattainable goals;
- becoming distanced and isolated;
- showing signs of falling apart" (p. 202).

2.2.2. Maslach Burnout Model

The Maslach Burnout Inventory (MBI) was created in the 1970s by psychologists Christina Maslach and Susan E. Jackson. Their research on burnout (Maslach & Jackson, 1981) sought to establish a methodical approach for quantifying and comprehending the occurrence of burnout, specifically within the realm of human services occupations. The MBI is commonly self-administered via a questionnaire, where respondents assess their responses using a Likert scale. An individual's level of burnout can be determined by examining scores in each of the three components. High levels of emotional weariness and depersonalization, along with low levels of personal accomplishment, are symptomatic of a significant degree of burnout.

Burnout is defined by heightened degrees of emotional weariness and depersonalization, combined with a reduced sense of personal achievement. The MBI has been extensively studied in the field of human services professions, and the results consistently show strong psychometric properties. The internal consistencies of the MBI, as measured by Cronbach's α coefficients, are typically higher than .70 (Shoman et al., 2021). Additionally, the three-factor structure of the MBI has been validated across various studies in different contexts conducted by researchers such as Anikó Hazag et al. (2010), Bakker et al. (2002), Portoghese et al., (2018), Rostami et al. (2012) and Shi et al. (2018)., Turhan et al. (2021).

Schaufeli and Enzmann (1998) emphasized the extensive use of the Maslach Burnout Inventory as the primary instrument for evaluating burnout, employed in more than 90% of scholarly articles and dissertations related to the subject. The MBI consists of three dimensions: (1) emotional exhaustion, which refers to the depletion of emotional resources; (2) depersonalization or cynicism, which represents negative, cynical attitudes towards recipients; and (3) personal accomplishment or professional efficacy, which measures the tendency to evaluate oneself positively, especially in relation to work with recipients.

2.2.2.1. Dimensions of Burnout in Maslach Burnout Model

According to Maslach, burnout is defined by three elements: emotional exhaustion, depersonalization or cynicism, and reduced personal accomplishment or professional efficacy (Maslach et al., 2001). These three components collectively offer a comprehensive framework for understanding burnout, specifically emphasizing the

emotional, interpersonal, and self-assessment aspects of the work environment. The Maslach Burnout Inventory has demonstrated its worth as a significant tool in both research and practical applications. It aids in identifying and mitigating burnout in various professional environments.

Emotional Exhaustion (EE) is a key aspect of the Maslach Burnout Inventory, which measures the emotional stress experienced by individuals in their work environments. This dimension encompasses a widespread sense of emotional exhaustion, weariness, and depletion resulting from the job's responsibilities. Employees who are confronted with significant emotional tiredness may feel overwhelmed by the demanding emotional labor that their professions entail, resulting in symptoms such as fatigue, diminished stress-coping capacities, and a general feeling of emotional "burnout" (Tuğrul & Çelik, 2002).

Depersonalization (DP) or Cynicism is a significant aspect that involves the formation of pessimistic and cynical attitudes towards colleagues in the work environment. People experiencing depersonalization may display a sense of detachment, impatience, and a lack of empathy towards clients, customers, or coworkers. This dimension represents a detachment from the interpersonal aspects of work, promoting a more impersonal and cynical attitude towards professional relationships (Halbesleben & Buckley, 2004; Seçer & Gençdoğan, 2012).

The third factor, Reduced Personal Accomplishment (PA) or Professional Efficacy, centers on an individual's self-assessment of their competence and achievements in the workplace. According to Bresó et al. (2007), a decrease in personal achievement can result in persons perceiving themselves as less capable of making a good contribution in their roles, suggesting a lack of effectiveness and a diminished confidence in their talents. Diminished scores on personal accomplishment exacerbate the feeling of work as lacking significance and satisfaction, hence intensifying the overall occurrence of burnout.

2.2.2.2. Maslach Burnout Inventories

The initial design of the Maslach-Burnout Inventory (MBI) was intended for application in human service occupations. However, due to increased interest in burnout among teachers, a second version of the MBI specifically tailored for educational occupations was subsequently developed (Schaufeli et al., 2002).

The Maslach Burnout Inventory consists of five distinct versions, each specifically tailored to evaluate burnout in particular professional or demographic settings. These surveys, created by respected academics such as Maslach, Jackson, Schwab, Schaufeli, and Leiter, are essential instruments for comprehending and addressing burnout in various professional and personal environments.

The MBI-Human Services Survey (MBI-HSS) was created in 1981 by Christina Maslach and Susan E. Jackson specifically for professionals working in human services, such as healthcare, social work, and counseling. The 22-item survey aims to reveal the perceptions of those in helping professions regarding their occupations and relationships with the people they assist. The term "recipients" is used to refer to individuals who receive assistance, care, treatment, or instruction from the respondents.

The MBI-Human Services Survey for Medical staff (MBI-HSS (MP)), created in 1981 by Maslach and Jackson, is a tailored version of the MBI-HSS designed exclusively for medical staff in the human services sector. The goal of the MBI-HSS is to investigate the perspectives of individuals in the medical industry regarding their professions and interactions with their patients. The survey consists of 22 statements regarding job-related emotions.

The MBI-Educators Survey (MBI-ES), developed by Maslach, Jackson, and Schwab in 1986, is specifically created for educators and persons employed in the field of education. The objective is to reveal the perceptions of educators on their roles and their interactions with their close colleagues. The survey has 22 statements that represent job-related emotions.

The MBI-General Survey (MBI-GS) was created in 1996 by Schaufeli, Leiter, Maslach, and Jackson. It is an adaptable adjustment that may be used in several industries and professions. The objective of this study is to find out the perspectives of employees from various domains on their job roles and their responses towards their employment. The survey includes 16 statements regarding job-related emotions.

The MBI-General Survey for Students (MBI-GS (S)), developed by Schaufeli et al. (1996), is specifically tailored for students. It specifically tackles the distinctive difficulties and pressures that individuals may face in their educational endeavors. The survey seeks to comprehend the perspectives of university students on their studies and their responses to academic tasks. It consists of 16 sentences expressing emotions associated to universities.

These five versions of the Maslach Burnout Inventory are valuable instruments that have been refined to account for various occupational and demographic characteristics. They allow for an in-depth assessment of burnout. Created by distinguished scholars, these surveys enable a targeted investigation of the many difficulties and pressures experienced by individuals in different professional environments. These tools offer a comprehensive comprehension of burnout experiences, shedding light on the nuances of professional well-being and providing guidance for customized solutions. Their combined importance is not alone in identifying burnout, but also in establishing specific solutions and support structures that promote continuous enhancement in the overall well-being of individuals in many professional and demographic settings.

2.2.3. Research on Student Burnout in International Higher Education

This section aims to examine the multifaceted aspects of burnout experienced by students in the global higher education context. This section tries to analyze the reflection and manifestations of burnout among students from varied cultural backgrounds in international higher education environments, with the goal of identifying both commonalities and distinctions.

In their 1990 study, Neumann et al. aim to investigate the association between the quality of learning experience and student burnout among third- and fourth-year undergraduate students at a major northeastern United States university. Employing a representative sample of 200 students from diverse academic disciplines, including physical and engineering sciences, humanities and social sciences, and business administration, the research utilizes the Quality of Learning Experience (QLE) instrument. Administered during the Spring semester of 1987, this instrument encompasses 15 items across five dimensions of learning experience, assessing resources, content, learning flexibility, student-faculty contact, student involvement, emotional exhaustion, perceived accomplishment, and students' commitment to their college. The reliability coefficients for these scales range from 0.71 to 0.91, ensuring the robustness of the measurements. The study reveals noteworthy indirect effects of involvement and flexibility on college commitment, with emotional exhaustion and felt accomplishment identified as pivotal mediating variables. These findings provide nuanced insights into

the complex interplay of learning experience dimensions and their impact on student well-being and commitment within the academic context.

In their 2006 study, Weckwerth and Flynn investigated the intricate relationship between personality traits and burnout levels among undergraduate architectural students. Utilizing the Maslach Burnout Inventory-Student Survey (MBI) and the Five Factor Model, the researchers collected relevant data to examine how personality traits and burnout levels varied across students from the first to the fourth year. The findings illuminated the significant influence of the educational process on shaping both personality development and burnout experiences among architectural students. Interestingly, as students progressed through their academic journey, there was a discernible trend towards increased openness to experience and extraversion, without a concurrent rise in emotional exhaustion. Notably, emotional exhaustion was found to be associated with neurotic personality traits. The study suggests a crucial recommendation for university counselors to tailor guidance programs that address individual needs influenced by both students' personality traits and the evolving demands of university education, which can differ between years and departments.

In 2011, Galán et al. conducted a study to evaluate the appropriateness of the Maslach Burnout Inventory in measuring the prevalence of burnout among preclinical medical students. They specifically focused on the difficulties created by patient-centered questions in situations where there is limited interaction with patients. The study was a cross-sectional investigation that included 270 medical students from Spain, with 65% in their third year of training and 35% in their sixth year of training. The study employed the Maslach Burnout Inventory-Student Survey questionnaire. The incidence of burnout risk was notably greater among sixth-year students (37.5%) in comparison to third-year students (14.8%), which means that the results indicated that the risk of burnout doubled between the third and sixth year of medical training. The absence of a substantial connection between gender and burnout subscales is notable.

The 2015 cross-sectional study, done in a Brazilian medical school and headed by Fontana et al. (2020), examined the prevalence of burnout syndrome (BS) among 121 medical interns. The study revealed a burnout syndrome prevalence of 57.5%, with 33.1% of participants experiencing significant emotional weariness, 45.7% demonstrating high levels of depersonalization, and 36.2% reporting low personal accomplishment. Significantly, engaging in community services was found to be connected to a reduced

occurrence of high depersonalization, although seeking social assistance did not demonstrate a significant correlation with burnout syndrome.

The study conducted by Wei et al. (2015) aimed to investigate the relationships between different forms of student cynicism (policy, academic, social, and institutional) and student burnout, which includes emotional exhaustion, depersonalization, and reduced personal accomplishment. The study utilized a group of 276 Chinese undergraduate students, and the results from hierarchical multiple regressions revealed that the four aspects of student cynicism together accounted for a significant amount of the variation in student burnout. More precisely, the study found that policy cynicism had the greatest impact on emotional exhaustion, while social cynicism was primarily associated with depersonalization and reduced personal performance. Overall, student cynicism showed the strongest correlation with a reduced sense of personal accomplishment.

Hernesniemi et al. published a study in 2017 where they compared the levels of burnout among university students from Finland and China. Inspired by previous research indicating possible cultural variations in student burnout, the study aimed to overcome difficulties associated with distinct research tools used for the two groups. The cross-cultural analysis, conducted with a sample of 3,035 Finnish students and 2,309 Chinese students. Remarkably, the study revealed little disparities in the overall levels of burnout across Finnish and Chinese students, suggesting the presence of common elements that contribute to comparable experiences. The study also emphasized the significance of taking response styles into account in cross-cultural research, since it had a substantial effect on comparisons of average levels.

Velasco's study in 2019 examines burnout among Filipino millennial university students. The study specifically investigates the impact of gender, academic specialization, academic accomplishment, and workload on their burnout experience. A total of 249 participants from a private institution in Manila, Philippines was surveyed using the Maslach Burnout Inventory - Student Survey. The results demonstrate a direct association between workload and exhaustion, and to a certain degree, cynicism. The study revealed that academic success has a favorable impact on one's confidence and effectiveness in scholarly pursuits, serving as a protective factor against feelings of tiredness and cynicism. Irrespective of gender and academic specialization, Filipino millennial university students, as a whole, do not appear to be undergoing burnout. The

analysis indicates that the participants generally have a moderate level of academic efficacy, whereas levels of weariness and cynicism vary from fairly low to medium.

Küçükaslan (2019) explored the levels of burnout among students, focusing on three dimensions: exhaustion, cynicism, and professional efficacy. This descriptive case study aims to identify the underlying reasons for student burnout and provide suggestions to mitigate its effects. The investigation considers the perspectives of both students and lecturers in a comparative manner. The study was conducted at an English preparatory school in a Turkish foundation university during the 2018-2019 academic year, involving 58 students and 10 lecturers. To assess student burnout levels, the Maslach Burnout Inventory - Student Survey (MBI-SS) was utilized, along with an observation checklist developed by the researcher. Qualitative data were gathered through focus group interviews with students and semi-structured interviews with lecturers. Comparative results indicated that emotional exhaustion was more prevalent among students than cynicism and inefficacy. Interviews with students and lecturers revealed that the number of responsibilities and lesson hours, as well as students repeating the program, were predictors of emotional exhaustion. Low exam scores significantly influenced students' cynical feelings, along with negative beliefs about the usefulness of the curriculum and the necessity of the preparatory program. The analysis also identified that students lacked proficiency, learner autonomy, and metacognitive learning strategies, contributing to exam anxiety.

The study undertaken by Shankland et al. (2019) provides a foundation for understanding how daily challenges, sense of coherence, and various dimensions of student distress interact with each other. The sample consisted of 328 students from three French universities. Their research emphasizes the critical importance of common challenges in leading to student unease, underscoring the need for targeted remedies. In line with these discoveries, the present study illustrates that the sense of coherence acts as a mediator between daily issues (both in terms of how often they occur and how much they disrupt) and Emotional Exhaustion and Cynicism. Furthermore, the study reveals that the sense of coherence completely mediates the connection between everyday challenges (in terms of both frequency and disturbance) and the Academic Self-Efficacy subscale. When considering the sense of coherence, the direct influence becomes negligible. These observations improve the understanding of the intricate connections between common challenges, the sense of coherence, and particular elements of student

discomfort. These findings have significant ramifications for developing targeted and efficient treatment strategies and support interventions.

Cazolari et al. (2020) conducted a study that delves into the impact of chronic stress from the demands of medical education, leading to burnout—a syndrome characterized by emotional exhaustion, dehumanization, and reduced professional achievement. This research aims to assess and depict the levels of burnout and well-being among medical students in a Brazilian public university, recognizing the growing instances of burnout, anxiety, depression symptoms, suicide attempts, and suicide rates within this demographic. Utilizing MBI-SS and WHOQOL-BREF questionnaires, administered online to students spanning the first to the sixth year of the Medical Course at Universidade Federal de São Paulo, the study reveals that, out of 302 participants, students displayed low emotional exhaustion but elevated levels of professional disbelief and effectiveness, signifying a burnout spectrum ranging from low to moderate. Notably, female students exhibited a heightened inclination toward emotional exhaustion, and those in the 1st and 2nd years demonstrated increased professional effectiveness compared to their 3rd and 4th-year counterparts, irrespective of gender. According to WHOQOL-BREF responses, students perceived a satisfactory quality of life. The outcomes imply potential factors influencing students' quality of life, such as an excessive workload, a teaching approach centered on extensive lectures, and a deficiency in stimulation and recognition for their efforts. In summary, the medical students in this investigation demonstrate a commendable quality of life and experience low to moderate levels of burnout.

In their 2021 study, Alqifari et al. investigated the prevalence of burnout symptoms among medical students at the Medical College of Qassim University. Undergraduate students from the college were invited to participate in a web-based survey, completing a structured questionnaire formulated based on the Maslach Burnout Inventory – Student Survey (MBI-SS). The study, comprising 336 subjects, both preclinical and clinical students, revealed an overall burnout prevalence of 8%. Notably, gender differences were observed, with females being significant predictors of emotional exhaustion and personal efficacy. Furthermore, the study indicated that the style of medical education did not have a discernible impact on burnout levels among the surveyed medical students.

In their cross-cultural investigation, Janatolmakan et al. (2021) explored the relationship between resilience and academic burnout within a cohort of 240 nursing and

midwifery students. The research employed a comprehensive approach to data collection, encompassing a demographic information questionnaire, the Connor–Davidson Resilience Scale (CD-RISC), and the Maslach Burnout Inventory-Student Survey (MBI-SS). Findings revealed moderate levels of academic burnout in both nursing and midwifery students, with no discernible statistical distinction between the two cohorts. However, a noteworthy negative correlation emerged between resilience and academic burnout in both nursing and midwifery students, denoting that heightened resilience was associated with diminished academic burnout. In conclusion, while academic burnout was moderate, resilience levels were relatively high among nursing and midwifery students. The authors find it imperative to enhance resilience skills and address determinants of academic burnout is underscored, emphasizing the pivotal role of resilience in mitigating academic burnout.

In another 2021 study, Yahya et al. conducted a comprehensive investigation into burnout prevalence and associated factors among medical students at the College of Medicine, University of Kerbala. This cross-sectional study included 424 participants from various academic years and employed a self-administered online questionnaire based on the Maslach Burnout Inventory Student Survey (MBI-SS). Analysis using the Statistical Package for the Social Sciences (SPSS) revealed a notable burnout prevalence of 38.2%. Specifically, 85.6% of students reported high emotional exhaustion, 77.8% experienced elevated cynicism, and 32.5% exhibited reduced professional efficacy. Noteworthy associations were found between burnout rates and factors such as female gender, regular use of legal substances, and a family history of mental diseases. The study underscores the imperative for medical faculties to acknowledge and address burnout, emphasizing the need to enhance educational and clinical environments to mitigate undue stresses experienced by students.

Raboca and Creța (2022) investigated the impact of the COVID-19 pandemic on students' mental health, particularly focusing on burnout, during a challenging period marked by the adoption of alternative teaching methods in universities. The research employed surveys and interviews among undergraduate and master's students, utilizing the Maslach Burnout Inventory (MBI) to assess burnout levels and dimensions. The survey involved participants from various programs at the Faculty of Political, Administrative and Communication Sciences, "Babeș-Bolyai" University, Cluj-Napoca, encompassing 280 students. The findings indicated a moderate overall level of burnout,

with no significant differences observed based on gender, program, academic level, or years of study for undergraduates.

Briggs et al. (2023) investigates racial and gender disparities in medical student burnout, aiming to discern contributing factors. Administered through electronic surveys distributed to students at nine U.S. medical schools, the study uncovers a notable burnout prevalence of 75.6%, surpassing historical norms. Significantly, female students report higher burnout rates compared to their male counterparts (78% vs. 72%), while racial differences in burnout prevalence did not attain statistical significance. Commonly reported contributors to burnout encompass lack of sleep, reduced engagement in self-care, stress about grades, social disconnection, and insufficient exercise. Importantly, variations in self-identified contributors to burnout were observed among different racial and gender groups. Black students emphasized the impact of lack of sleep and poor diet, whereas Asian students highlighted stress about grades, residency, and publishing pressure. Female students were notably more affected by stressors such as grades, poor diet, social disconnection, and feelings of inadequacy. The study underscores the necessity for additional research to ascertain the causal relationship between these stressors and burnout and to develop targeted interventions.

The aforementioned studies, done in various nations, have consistently utilized the Maslach Burnout Inventory and have been carried out in academic settings. These research enhance the overall comprehension of burnout in various cultural and national settings, highlighting the significance of the Maslach Burnout Inventory as a reliable assessment tool. The widespread use of this tool in academic settings highlights its effectiveness in capturing the experiences of burnout among individuals in higher education. By employing this standardized survey, it guarantees a systematic examination of results, enabling a more detailed investigation of the elements that contribute to burnout in universities across the globe.

2.2.4. Research on Student Burnout in Turkish Higher Education Context

The study, carried out by Akansel et al. (2012), sought to evaluate the degrees of burnout experienced by undergraduate students who are employed as healthcare workers in hospitals while also pursuing full-time education at the School of Health in the Northwest area of Turkiye. The results revealed that a majority of the students (56.6%) had satisfaction in managing the demands of both employment and school. 84.8% of

students indicated a favorable opinion regarding their profession. Remarkably, the duration of experience in the field and the levels of income did not have a significant impact on emotional exhaustion. Nevertheless, developing pessimistic sentiments towards the occupation was correlated with heightened emotional fatigue among employed students. The results indicate that the combination of being a student and working in healthcare can lead to burnout.

Çapri et al. (2012) conducted a study examining the relationship between general self-efficacy beliefs, life satisfaction, and burnout among university students. The study involved 354 individuals from different departments at Mersin University, consisting of 131 females (37.00%) and 223 males (63.00%). The study used the "Life Satisfaction" scale to measure life satisfaction. Additionally, the study employed the General Self-Efficacy Scale created to assess general self-efficacy beliefs, and the Maslach Burnout Inventory-Student Survey to measure burnout levels. The results revealed strong and meaningful correlations between overall self-efficacy beliefs and life satisfaction. Nevertheless, there was no notable correlation found between overall self-efficacy beliefs and specific sub-scales of the MBI-SS, including exhaustion and cynicism. Furthermore, the study revealed significant correlations between life satisfaction scores and all MBI-SS sub-scale scores. The results indicate that there is a connection between increased life satisfaction and decreased levels of burnout.

Balkis (2013) investigated the connections between academic procrastination, student burnout, and academic accomplishment. The study encompassed a sample of 323 students from diverse academic disciplines at the Faculty of Education of Pamukkale University, with ages ranging from 17 to 31. The Aitken Procrastination Inventory, Maslach Burnout Inventory-Student Survey, and a Personal Information Form were employed for data collection. The results indicated that there were significant positive associations between the various components of burnout experienced by students (namely emotional exhaustion, cynicism, and reduced academic efficacy) and their tendency to engage in academic procrastination. The regression analysis revealed a strong relationship between academic procrastination and emotional weariness, cynicism, and poor academic efficacy in student burnout scores. Additionally, there were notable adverse correlations between reported academic performance and academic procrastination, emotional weariness, cynicism, and diminished academic efficacy in student burnout. Furthermore, the occurrence of academic procrastination and decreased

academic effectiveness due to burnout were strong indicators of reported academic success.

Eren and their colleagues conducted a study in 2016 to examine the limitations on burnout and occupational engagement experienced by dentistry students at a dental school in Türkiye. The study involved 458 participants ranging in age from 17 to 38. It employed the Maslach Burnout Inventory-Student Survey (MBI-SS) and the Canadian Occupational Performance Measure (COPM). The findings indicated a burnout rate of 26%, which included symptoms of emotional exhaustion, cynicism, and reduced academic efficacy. Statistically significant relationships were found between burnout and demographic characteristics. Furthermore, a notable 24% of students demonstrated constraints in their ability to perform and find fulfillment in their chosen occupations. The study highlighted a negative relationship between occupational performance and satisfaction scores and emotional exhaustion and cynicism, while also finding a positive correlation with reduced academic efficacy. The findings highlighted the existence of burnout and limitations in occupational engagement among dental students, emphasizing the potential advantages of integrating psychological techniques into dental education to enhance well-being and healthcare provision.

In a study conducted by Kocaeski (2016), the objective was to assess the degrees of burnout among students in the sports sciences faculty and investigate potential correlations with other parameters. The study encompassed a total of 153 individuals, consisting of 46 females and 107 males. The Maslach Burnout Inventory – Student Form (MBI-SF) was used to collect data. The findings revealed a notable disparity in burnout sub-scales, particularly depersonalization and exhaustion, between genders. Concerning the grade levels of students, a notable disparity was observed solely in the depersonalization sub-scale. Furthermore, a notable distinction was found just in the depersonalization sub-scale in relation to the students' department. Overall, burnout levels among students in the sports sciences faculty can differ depending on factors such as gender, academic year, and department. It was emphasized that the elevated level of depersonalization observed in these students may be linked to their lack of engagement with their favored subjects, which in turn leads to heightened burnout.

Erakman and Mede (2018) conducted a study to assess the level of burnout among Turkish students studying English as a foreign language (EFL) who repeated their preparatory program. The study specifically focused on aspects such as exhaustion, cynicism, and professional efficacy. The research aimed to find connections between

these subcategories and examine the metaphors frequently used by Turkish EFL students to express their burnout experiences when learning a language. The study comprised of fifty-four Turkish EFL students at the B1 (intermediate) level who underwent the identical preparatory curriculum for a duration of two years. Additionally, the study involved five Turkish EFL instructors who provided intense sessions within the program. The collection of quantitative data was done using the Maslach Burnout Inventory-Student Survey, while qualitative insights were obtained through semi-structured interviews and metaphor analysis. The results indicated that B1 (intermediate) Turkish EFL students in the preparation program showed high levels of fatigue and skepticism, together with reduced professional competence, indicating a significant occurrence of burnout in this educational setting.

The study done by Özdemir and Arslan (2018) investigated the relationship between internet addiction and burnout among university-level future leaders. The study encompassed a total of 233 students who were enrolled in the Business and Administration Department under the Faculty of Economics and Administrative Sciences, as well as the Vocational School of Social Sciences, at a university in Türkiye. The study employed the "Skala zur Erfassung der Internetsucht" internet addiction questionnaire and the Maslach Burnout Inventory – Student Survey (MBI-SS) to examine the relationship between internet addiction and burnout. The findings revealed a strong and statistically significant correlation between these two characteristics. Although there is a lack of evidence on gender differences, the study additionally investigated the potential moderating effects of gender and educational degree on this correlation. The findings indicated that neither gender nor educational level played a moderating role in this relationship.

Akbaşlı et al. (2019) conducted a study to investigate the correlation between school involvement and burnout among university students. The research, which included 472 participants from a public university in Ankara, Türkiye, employed "The Maslach Burnout Inventory-Student Survey" and "University Student Engagement Inventory" to gather data. The results revealed a significant association between the level of participation of university students in their studies and the different aspects of burnout, such as emotional exhaustion, cynicism, and efficacy. Significantly, the amount of school engagement among students was found to be a predictor for all dimensions of burnout. The study highlights the significance of school involvement in comprehending and forecasting burnout levels among college students.

Küçüksüleymanoğlu's 2021 study focused on the increasing trend of international student mobility observed in the past twenty years. The main objective of the study was to assess the degree of burnout encountered by students from other countries. The study utilized a descriptive methodology that combined quantitative methods (MBI-SS) and qualitative approaches (semi-structured interviews) to gather data. A total of 1284 international students participated in the quantitative segment, while 20 students were involved in the qualitative section. The results indicated that foreign learners experienced increased levels of burnout, which can be linked to various causes like academic demands, cultural differences, financial limitations, language difficulties, and feelings of homesickness.

Güngör and Sari conducted a study in 2022 to investigate how academic motivation affects school burnout in undergraduates. The study sought to investigate the influence of psychological variables, such as academic motivation, hope, and meaning, on students' reactions to academic stress. The study examined data from 544 college students in Türkiye. It found that the direct impacts of three academic motivation factors on school burnout were more significant than the indirect impacts. Hope and meaning in life served as facilitators in the relationships between motivation and efficacy, as well as intrinsic motivation and efficacy. Significantly, the findings emphasized that optimism had a greater impact as a mediator than meaning in life when it came to academic burnout among college students.

Özhan's 2021 research investigated the role of grit as a mediator between academic self-efficacy and school burnout in university students. The study involved 390 individuals from the educational faculties of two Turkish universities, comprising 307 females (78.7%) and 83 males (21.3%). The study employed a Personal Information Form (PIF), the Academic Self-Efficacy Scale (ASAS), the Short Grit Scale (GRIT-S), and the Maslach Burnout Inventory-Student Survey (MBI-SS) to collect data. The findings revealed a direct association between perseverance and belief in one's academic abilities, along with an inverse association with feelings of exhaustion and disengagement from school. Significantly, the results of the regression-based bootstrapping analysis emphasized the relevance of grit as a mediator in the relationship between academic self-efficacy and school burnout.

Koyuncuoğlu's (2022) study aimed to investigate the impact of the Covid-19 lockdown on university students, specifically focusing on their experience of higher education exhaustion and anxiety. The study employed a correlational and comparative

survey methodology to examine the degrees of burnout and anxiety in connection to gender, grade level, career expectations, and academic accomplishment. A total of 399 university students from Konya and Kırklareli participated in the study. The researchers collected data using the School Burnout Inventory and State-Trait Anxiety Inventory. The results revealed that, on average, students experienced moderate levels of school burnout and below-average levels of state and trait anxiety during the Covid-19 period. Moreover, notable disparities in school fatigue and anxiety levels were seen according to gender, grade level, academic performance, and job aspirations.

Bozkur and Güler conducted a study in 2023 to examine how resilience and life satisfaction mediate the relationship between students' success need and burnout. The study encompassed a sample of 490 university students, with 85.7% being female and 14.3% being male. These students were selected from various academic programs across six universities in Türkiye. The data collection process utilized many assessment tools, including the Maslach Burnout Inventory – Student Form (MBI-SF), Life Satisfaction Scale, Connor Davidson Resilience Scale (CD-RISC), New Needs Assessment Questionnaire (NAQ) – Achievement Need Sub-dimension, and a Personal Information Form. The analysis findings revealed strong and meaningful associations between the desire for accomplishment, resilience, and life satisfaction with the effectiveness aspect of burnout. In contrast, the urge for achievement, resilience, and life satisfaction exhibited adverse and substantial associations with the sub-dimensions of burnout known as cynicism and emotional weariness. Mediation research revealed that resilience and life satisfaction served as consecutive mediators in the association between achievement need and burnout, specifically in terms of efficacy, cynicism, and exhaustion.

This section entails a comprehensive examination, elucidating various studies conducted with participants from diverse countries, cultures, and age groups. The nuanced interplay between distinct demographic factors and their consequential impact on research outcomes is expounded upon, thereby contributing to a more intricate understanding of the subject matter. Remarkably, a discernible gap is identified in the realm of both global and Turkish literature, particularly concerning the investigation of burnout levels among EMI engineering students.

CHAPTER III

METHODOLOGY

3.1. Introduction

The present chapter provides a comprehensive overview of the research methodology employed in this study. The following section of this chapter will focus on the research questions, the research methodology, the selection and recruitment of participants, the data collection instruments, the procedures, and the data analysis.

3.2. Research Design

Johnson et al. (2007) explains mixed methods research as "the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purpose of breadth and depth of understanding and corroboration" (p. 123). Mixed methods research encompasses more than simply the gathering of various qualitative evidence such as observations and interviews or quantitative evidence such as surveys and diagnostic tests. The process entails purposefully gathering both quantitative and qualitative data and using the respective advantages of each to address the research questions. In the context of mixed methods research, researchers purposefully integrate or merge qualitative and quantitative data in order to optimize the advantages and mitigate the limitations associated with each approach (Klassen, 2012).

Harrison et al. (2020) states that the complicated characteristics of human behaviors frequently necessitate a comprehensive and comprehensive understanding, a challenge that is particularly well addressed by mixed methods research. According to Powell et al. (2008), it is essential to consider multiple sources of data when conducting assessments, whether for program planning or treatment purposes.

According to Tashakkori and Creswell (2007) a mixed methods research can be defined as "research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry" (p. 4). Mixed research involves more than the mere collection of both quantitative and qualitative data. It signifies that the data will be integrated, interconnected, or combined at some point during the research process.

The fundamental rationale behind the practice of mixing is rooted in the recognition that neither quantitative nor qualitative methods alone are adequate for comprehensively capturing the patterns and intricacies of a given situation. The utilization of both quantitative and qualitative data in conjunction results in a more comprehensive analysis, as these two types of data mutually enhance one another (Creswell, 2004).

Mixed methods research offers the advantage of addressing a wider array of research questions compared to monomethod studies, which solely rely on either quantitative or qualitative research approaches (Frels & Onwuegbuzie, 2013). Therefore, a mixed method approach was employed in conducting this study because mixed methods research has the capacity to effectively address and investigate multiple sets of inquiries within a singular research study.

3.3. Setting and Participants

The research was conducted with a sample of 138 students enrolled in the Engineering Department at Çukurova University, specifically in the Mechanical and Electrical-Electronics Department, located in Adana, Turkiye. The table below presents the participants' information, including their ages, genders, and years of study.

Table 1.

Findings Regarding the Demographic Characteristics of Participants

Demographic	Group	n	%
Gender	Female	33	23,9
	Male	105	76,1
Field of the study	Mechanical Engineering	64	46,4
	Electrical-Electronics Engineering	74	53,6
Year of the study	1. grade	23	16,7
	2. grade	34	24,6
	3. grade	44	31,9
	4. grade	37	26,8
Participation to Preparatory School	Yes	118	85,5
	No	20	14,5
Total		138	100,0

Within the scope of the study, a total of 138 students were reached, with the majority of participants being male (n=105; 76.1%), enrolled in the Electrical-Electronics

Engineering department (n=74; 53.6%), in their third year of study (n=44; 31.9%), and having completed a preparatory program (n=118; 85.5%).

Following the collection of quantitative data from a sample size of 138 participants, the individuals were categorized into three different categories based on their levels of burnout, namely low, medium, and high. The selection of participants for the qualitative data was conducted from the three subsequent groups. There were four volunteers in each group representing different levels of burnout.

In contrast to sampling strategies that target the entire population, convenience sampling is a nonprobability sampling approach that involves selecting participants based on their ease of access and/or proximity to the research (Etikan et al., 2016). The quantitative part of the study employs a convenience sampling strategy for the gathering of quantitative data, as it is both practicable and successful given the time constraints.

Quota sampling involves the division of a population into distinct and separate subgroups. Subsequently, individuals are chosen from each subgroup in a manner that accurately represents the proportions of the target population (Turner, 2020). In the context of qualitative data collection, controlled quota sampling is employed due to its ability to facilitate the selection of a subgroup that holds significant relevance to the study.

3.4. Data Collection Tools

This study included a questionnaire and a semi-structured interview as the primary data collection tools. The primary objective of these two instruments is to address the research questions posed in the study. The study questions and data collection technologies are designed to be logically consistent in this context.

3.4.1. Maslach Burnout Inventory- Student Survey (MBI-SS)

Marshall (2005) states that utilizing a validated questionnaire offers several advantages in research. Firstly, it provides time and cost efficiency, making it a practical choice. Secondly, it allows for comparability with data from other studies, enhancing the potential for successful publication of research findings. With careful planning, questionnaires can yield high-quality and reliable data. Additionally, they tend to achieve favorable response rates and ensure respondent anonymity, promoting honest and candid responses, which can help mitigate bias. Hence, the use of the Turkish adaptation of the Maslach Burnout Inventory-Student Survey (Schaufeli et al., 2002) for assessing student

burnout was considered appropriate for the quantitative part of this research (see the Appendix for the Turkish and English versions of the survey).

Çapri et al. (2011) aimed to adapt the Maslach Burnout Inventory-Student Survey (MBI-SS), developed by Schaufeli et al. (2002), into Turkish, along with validity and reliability assessments. The study involved 782 university students in a Turkish setting. The translated version of the inventory was accepted as valid and reliable. Following the adaptation process, the inventory was structured into three factors, mirroring the structure of the original English version. The inventory consisted of thirteen items.

The MBI-SS was composed of two distinct components, as designated for the scope of this research. The initial phase of the study focused on collecting demographic data pertaining to the enrolled students, including their age, gender, attendance at preparatory school, and current year of study within the department. The second phase included a total of thirteen items, which were further divided into three sub-factors. Specifically, five items were related to exhaustion, four items were related to cynicism, and another four items were related to professional efficacy.

In contrast to the original version, which featured a total of sixteen items and employed a 7-point frequency format for rating, the revised version was modified to employ a 5-point Likert scale (ranging from "Never" to "Always"). This alteration was made based on the findings of Ergin (1992), who determined that the 7-point rating format was not suitable for the cultural context of Türkiye, and he was responsible for adapting the original Maslach Burnout Inventory into Turkish. In light of this rationale, the current investigation employed the Turkish version of the inventory, utilizing a 5-point frequency style.

3.4.2. Semi-structured Interview

The available scholarly literature categorizes interviews into four distinct types: structured, semi-structured, informal, and retrospective (Ary et al., 1996, p. 456). In order to facilitate the objectives of this research, a semi-structured interview method was selected and subsequently conducted with three distinct groups namely low, medium, and high. These groups were established after the administration of the MBI-Student Survey, and participants were categorized based on their respective levels of burnout. The interview questions (see Appendix 2) were formulated in alignment with the items in the

MBI-SS in order to collect valuable data regarding the extent of burnout experienced by students.

Semi-structured interviews are commonly employed in the context of social behavioral research to effectively address questions of a more complicated nature. Typically, these inquiries encompass research questions that seek to enhance comprehension regarding the necessity of a planned service, the optimal approach for its implementation, and/or the current state of a service or possible path for its enhancement, as perceived by the service provider and/or the service recipient (Adeoye-Olatunde & Olenik, 2021).

Semi-structured interviews give the opportunity to pose identical questions to all participants while maintaining a flexible framework. All participants were presented with a series of questions from a common pool, without any predetermined sequence or arrangement.

The participants were prompted to share their experiences using open-ended questions, and the sequencing of subsequent questions was selected based on their responses. The inclusion of open-ended questions was intended to foster a sense of depth and liveliness, as well as to facilitate the emergence of novel notions (Dearnley, 2005).

3.5. Data Collection Procedures

The research was designed to be conducted with students from the Engineering Department at Çukurova University. The questionnaire forms were created using the Google Forms platform and distributed to participants electronically to address the issue of geographical separation. The inclusion of their given names and e-mail addresses was required in anticipation of their potential selection for the interview process.

Throughout the next stage of the data collection process, semi-structured interviews were conducted in order to obtain a more comprehensive understanding of the participants' experiences and perspectives regarding burnout. Participants were asked to provide their email addresses if they willingly agreed to respond to the interview questions. Participants who provided their email addresses were contacted, and out of these individuals, 12 participants who indicated their voluntary participation and belonged to one of the three groups based on burnout levels were selected for the data collection phase of the semi-structured interview. With regards to this perspective, the

objective was to collect the viewpoints and feedback of Engineering students regarding burnout.

3.6. Data Analysis Procedure

The data analysis process consisted of two stages. Initially, an analysis was conducted on the responses provided by the students in the questionnaire. The data was collected using the Maslach Burnout Inventory-Student Survey and analyzed using the SPSS statistical analysis program. The purpose of the analysis was to determine the extent to which students experienced burnout, focusing on three dimensions: exhaustion, cynicism, and professional efficacy. In order to determine the distribution of participants according to their demographic characteristics, frequency and percentage analyses were conducted. Additionally, to determine the levels of participants in relation to the scales used in the research, mean and standard deviation were employed.

To assess the reliability of the scales, Cronbach's alpha reliability analysis was performed, and it was found that the reliability levels for all sub-factors were above 0.70 (Table 2). The research aimed to answer the research questions appropriately, and this was statistically tested at a 95% confidence level. Pearson correlation analysis was conducted due to the normal distribution of the data to examine the relationship between independent variables and dependent variables. Furthermore, independent sample t-tests were used to determine differences between binary groups based on measurements, and for more than two groups, one-way ANOVA tests were conducted.

Table 2.

Reliability Levels of Sub-Factors Used in the Research

Sub-Factors	Cronbach's Alpha
Exhaustion	0,875
Cynicism	0,821
Professional Efficacy	0,710
Burnout	0,869

Qualitative research interviews involve the interviewer posing questions to the participant in order to collect subjective information about a certain topic or experience. According to DeJonckheere and Vaughn (2019), this approach generally involves a conversation between the researcher and participant, guided by a flexible interview technique and supported by additional questions, prompts, and remarks. The method enables the researcher to gather unstructured data, investigate participant's thoughts, emotions, and convictions regarding a specific subject, and thoroughly examine personal and occasionally delicate matters.

The data obtained from SPSS program shed light to the creation of burnout level groups for the semi-structured interviews, which are low, average, and high burnout. Furthermore, the quantitative data was corroborated by conducting qualitative analysis on the semi-structured interviews, which were subsequently subjected to thematic analysis.

The process of thematic analysis consists of six systematic processes as Williamson et al. (2018) explained in their paper. As the first step, the researchers initiate the process by examining the initial set of transcribed interviews. Detailed annotations are created during this stage. During the second step, the researcher carefully reviews the initial transcripts and combines extensive margin notes to create an initial collection of categories that appear to be relevant to the entire dataset. The progressive range of categories is documented in a coding manual. Continuing to the third phase, the researcher categorizes the remaining transcripts using the specified categories, making them more precise and comprehensive if necessary. This stage allows the option of merging smaller categories into more general ones or incorporating sub-categories. It is crucial to be aware of the contextual nuances at all times. During step four, the categories and sub-categories are reviewed, modified if needed, and significant themes begin to surface, resulting in a more distinct understanding of the data. In step five, the

disorganized condition of the transcripts is resolved by recoding them based on the definitive set of codes. During this stage, colored highlighting pens are frequently employed to accentuate significant themes. Lastly, in the sixth stage, specialized software can be utilized to enhance the efficiency and organization of the analytic process. These six processes combined provide a thorough, detailed, and methodical approach to the process of analyzing qualitative data.

3.6.1. Trustworthiness

To enhance the trustworthiness of the qualitative part of the study, a thorough validation methodology was carefully implemented, which included an important aspect called member checking. The comprehensive study, which included in-depth interviews and subsequent interpretative analysis, underwent a thorough evaluation conducted by both the primary academic advisor and a colleague from the same scholarly field. The academic advisor, utilizing their vast knowledge and proficiency in qualitative research methodology, conducted a thorough examination, providing detailed insights and valuable recommendations with the goal of improving the overall credibility, reliability, and rigor of the study's conclusions.

Simultaneously, the practice of member checking, a fundamental aspect of qualitative research, was methodically integrated. Participants were engaged in a discussion where the researcher provided the analysis and interpretations for their examination and validation, following ethical rules. This iterative procedure enhanced the triangulation of views and strengthened the confirmability and credibility of the research by aligning the participants' lived experiences with the study's interpretative framework (Doyle, 2007).

In addition, a peer collaborator, selected for their academic expertise and knowledge of the research environment, actively engaged in the rigorous evaluation of the interviews and their subsequent analysis. Their engagement added an extra level of examination, guaranteeing strict adherence to methodology and providing a variety of viewpoints for careful consideration. The study aimed to enhance the trustworthiness of its qualitative inquiry by employing a collaborative and multidimensional validation approach, which included advisor review, member checking, and peer collaboration (Lincoln & Guba, 1985). This approach aimed to strengthen the robustness and scholarly integrity of the research endeavor.

CHAPTER IV

FINDINGS

4.1. Introduction

This chapter presents the study's outcomes concerning burnout among Turkish students in the Engineering Department within the context of EMI. The subsequent section provides insights into the findings corresponding to each highlighted question in the research.

4.2. Findings of the Maslach Burnout Inventory- Student Survey (MBI-SS)

This section provides the descriptive findings of the research and the distribution of the data obtained through the study's results.

Table 3.

Distribution of Data

Measurements	Central Tendency		Kurtosis-Skewness	
	Mean	Median	Kurtosis	Skewness
Exhaustion	11,88	12,00	-0,38	-0,19
Cynicism	9,08	9,00	-0,49	-0,19
Professional Efficacy	7,38	7,00	-0,24	-0,22
Burnout Total	28,34	29,00	-0,36	-0,32

As a result of the normal distribution analysis, the proximity of the mean-median and the kurtosis and skewness within ± 2 , it has been determined that the data obtained is from a normal distribution (George and Mallery, 2010). Additionally, due to the sufficient number of participants in the research ($n \geq 30$), parametric methods, statistically stronger according to the central limit theorem, have been employed (Ghasemi & Zahediasl, 2012).

Table 4.

Descriptive Statistics of MBI-Student Survey

Statements	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree		\bar{x}	s.d
	n	%	n	%	n	%	n	%	n	%		
1. I feel emotionally drained by my studies.	4	2,90%	18	13,00%	40	29,00%	52	37,70%	24	17,40%	2,54	1,02
2. I feel used up at the end of the day at the university.	2	1,40%	16	11,60%	37	26,80%	65	47,10%	18	13,00%	2,59	0,91
3. I feel tired when I get up in the morning and have to face another day at the university.	9	6,50%	31	22,50%	36	26,10%	42	30,40%	20	14,50%	2,24	1,15
4. Attending classes all day is really a strain for me.	12	8,70%	37	26,80%	35	25,40%	39	28,30%	15	10,90%	2,06	1,16
6. I feel burned out from my studies.	8	5,80%	19	13,80%	36	26,10%	51	37,00%	24	17,40%	2,46	1,11
Exhaustion											11,88	4,38
8. I have become less interested in my studies since my enrollment.	11	8,00%	31	22,50%	31	22,50%	41	29,70%	24	17,40%	2,26	1,22
9. I have become less enthusiastic about my studies.	9	6,50%	26	18,80%	30	21,70%	56	40,60%	17	12,30%	2,93	1,12
14. I have become more cynical about whether my university work contributes anything.	7	5,10%	27	19,60%	39	28,30%	35	25,40%	30	21,70%	3,00	1,17
15. I doubt the significance of my studies.	10	7,20%	41	29,70%	34	24,60%	32	23,20%	21	15,20%	2,71	1,20
Cynicism											09,08	3,79
5. I can effectively solve the problems that arise in my studies.	7	5,10%	42	30,40%	61	44,20%	22	15,90%	6	4,30%	2,69	0,91
10. In my opinion, I am a good student.	6	4,30%	39	28,30%	67	48,60%	20	14,50%	6	4,30%	2,74	0,88
12. I have accomplished many worthwhile things in my studies.	14	10,10%	53	38,40%	47	34,10%	22	15,90%	2	1,40%	2,52	0,91
16. While working at the university, I feel confident that I am effective at getting things done.	6	4,30%	26	18,80%	63	45,70%	38	27,50%	5	3,60%	2,74	0,89
Professional Efficacy											8,73	2,50
Burnout											29,70	6,76

Statements related to determining the exhaustion dimensions of students:

"I feel emotionally exhausted from my classes." 37.70% of students agree, and 2.90% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.54\pm 1.02$).

"I feel used up at the end of the day at the university." 47.10% of students agree, and 1.40% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.59\pm 0.91$).

"I feel tired when I get up in the morning and have to face another day at the university." 30.40% of students agree, and 6.50% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.24\pm 1.15$).

"Attending classes all day is really a strain for me." 28.30% of students agree, and 8.70% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.06\pm 1.16$).

"I feel burned out from my studies." 37.00% of students agree, and 5.80% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.46\pm 1.11$). The overall behavior average for students in determining exhaustion dimensions is ($\bar{x}=11.88\pm 4.38$), indicating a moderate level.

Statements related to determining the cynicism dimension of students are given in the following section:

"Since I started school, my interest in classes has decreased." 29.70% of students agree, and 8.00% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.26\pm 1.22$).

"My desire for my classes has decreased." 40.60% of students agree, and 6.50% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.33\pm 1.12$).

"I have doubts about the potential usefulness of my classes." 28.30% neither agree nor disagree, and 5.10% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.39\pm 1.17$).

"I doubt the importance of my classes." 29.70% disagree, and 7.20% completely disagree. The overall behavior average for students in this statement is ($\bar{x}=2.09\pm 1.20$).

The overall behavior average for students in determining detachment dimensions is ($\bar{x}=9.08\pm3.79$), indicating a moderate level.

Statements related to determining the professional efficacy dimensions of students:

"I can effectively solve the problems I encounter in my classes." 44.20% neither agree nor disagree, and 4.30% completely agree. The overall behavior average for students in this statement is ($\bar{x}=1.84\pm0.91$).

"I consider myself a good student." 47.80% neither agree nor disagree, and 4.30% completely disagree and completely agree. The overall behavior average for students in this statement is ($\bar{x}=1.86\pm0.88$).

"During my studies, I have learned many interesting things." 44.90% disagree, and 1.40% completely agree. The overall behavior average for students in this statement is ($\bar{x}=1.51\pm0.91$).

"During class, I am sure that I am effective in what I do." 45.70% neither agree nor disagree, and 3.60% completely agree. The overall behavior average for students in this statement is ($\bar{x}=2.06\pm0.89$).

The overall behavior average for students in determining competence dimensions is ($\bar{x}=8.73\pm2.50$), indicating a moderate level.

The overall behavior average for students in determining their level of burnout is ($\bar{x}=29.70\pm6.76$), indicating a moderate level.

In this section, Pearson correlation analysis and regression analyses were conducted to examine the research questions established in accordance with the purpose of the research, as shown below.

Table 5.

Analysis Results of the Relationship Between Variables

Variables		Exhaustion	Cynicism	Professional	Burnout
				Efficacy	Total
Exhaustion	r	1	0,580	0,289	0,857
	p		0,001*	0,001*	0,001*
Cynicism	r		1	0,349	0,847
	p			0,001*	0,001*
Professional Efficacy	r			1	0,609
	p				0,001*
Burnout Total	r				1
	p				

*p<0.05; Pearson Correlation

When examining the results of the correlation analysis in Table 4, a positive and highly significant relationship was found between students' levels of exhaustion and the dimensions of burnout ($r=0.857$; $p<0.01$) and cynicism ($r=0.847$; $p<0.01$). Additionally, a positive and moderately significant relationship was identified with the competence dimension ($r=0.609$; $p<0.01$).

In the following section, differences between some variables (those with significant differences) and the measurement tools used in the study were examined. Independent samples t-test was employed for comparing two-group differences, and one-way ANOVA analysis was conducted for comparing more than two groups.

Table 6.

Comparison of Burnout Level and Subdimensions with Major

Burnout Level	Major	n	\bar{x}	s.d	t	P
Exhaustion		6	11,7	4,7		
	Mechanical Engineering	4	2	4	-	0,68
	Electrical-Electronics	7	12,0	4,0	0,411	2
	Engineering	4	3	7		
Cynicism		6		3,8		
	Mechanical Engineering	4	8,75	7	-	0,34
	Electrical-Electronics	7		3,7	0,949	4
	Engineering	4	9,36	3		
Professional Efficacy		6		2,5		
	Mechanical Engineering	4	7,16	0	-	0,36
	Electrical-Electronics	7		2,7	0,917	1
	Engineering	4	7,57	3		
Burnout Total		6	27,6	8,5		
	Mechanical Engineering	4	3	6	-	0,36
	Electrical-Electronics	7	28,9	8,5	0,912	3
	Engineering	4	6	8		

p>0.05; t: Independent samples t-test.

There was no significant difference found between the major and burnout levels, including subdimensions ($p>0.05$). Consequently, it was determined that levels of burnout, exhaustion, cynicism, and professional efficacy do not differ based on the department.

Table 7.

Comparison of Burnout Level and Subdimensions with Grade

Burnout Level	Grade	n	\bar{x}	s.d	F	p
Exhaustion	1 st grade	23	11,30	3,72	0,349	0,790
	2 nd grade	34	11,56	3,80		
	3 rd grade	44	12,32	4,76		
	4 th grade	37	12,03	4,86		
Cynicism	1 st grade	23	9,35	3,05	0,665	0,575
	2 nd grade	34	9,62	3,28		
	3 rd grade	44	8,45	4,23		
	4 th grade	37	9,16	4,12		
Professional Efficacy	1 st grade	23	7,13	2,77	1,658	0,179
	2 nd grade	34	8,24	2,09		
	3 rd grade	44	7,16	3,03		
	4 th grade	37	7,00	2,38		
Burnout Total	1 st grade	23	27,78	6,93	0,243	0,866
	2 nd grade	34	29,41	6,45		
	3 rd grade	44	27,93	9,88		
	4 th grade	37	28,19	9,66		

p>0.05; F: One-way ANOVA analysis.

An ANOVA analysis was conducted to examine whether there is a significant difference between the grade and burnout levels, including subdimensions. The results showed no significant difference between grade and burnout, exhaustion, cynicism, and professional efficacy dimensions ($p>0.05$). Therefore, it was concluded that burnout levels and subdimensions do not differ based on the grade.

Table 8.

Comparison of Burnout Level and Subdimensions with Gender

Burnout Level	Gender	n	\bar{x}	s.d	t	p
Exhaustion	Female	33	13,45	3,03	2,972	0,004*
	Male	105	11,39	4,63		
Cynicism	Female	33	9,18	3,71	0,177	0,860
	Male	105	9,05	3,84		
Professional Efficacy	Female	33	7,30	2,58	-0,184	0,854
	Male	105	7,40	2,65		
Burnout Total	Female	33	29,94	7,39	1,355	0,180
	Male	105	27,84	8,87		

* $p < 0.05$; t: Independent samples t-test.

To examine whether there is a significant difference between the burnout levels of individuals participating in the research and their genders, an independent samples t-test analysis was conducted. The analysis revealed a significant difference between gender and the 'exhaustion' sub-factor ($p = 0.004 < 0.05$). Upon examination of the means, it was observed that females had a higher level of exhaustion compared to males.

No significant differences were found between gender and overall burnout, cynicism, and competence dimensions ($p > 0.05$). Consequently, it was determined that general burnout levels and subdimensions of cynicism and competence did not differ based on gender.

Table 9.

Comparison of Burnout Level and Subdimensions with Preparatory School Attendance

Burnout Level	Attendance to Preparatory School	n	\bar{x}	s.d	t	p
Exhaustion	Yes	118	11,89	4,46	0,037	0,97
	No	20	11,85	3,95		
Cynicism	Yes	118	9,07	3,85	-0,089	0,929
	No	20	9,15	3,53		
Professional Efficacy	Yes	118	7,42	2,72	0,417	0,678
	No	20	7,15	1,98		
Burnout Total	Yes	118	28,37	8,70	0,107	0,915
	No	20	28,15	7,91		

p>0.05; t: Independent samples t-test

Regarding the comparison of burnout levels and subdimensions with preparatory school attendance, no significant difference was found ($p>0.05$). Therefore, it was concluded that burnout levels, exhaustion, cynicism, and professional efficacy do not differ based on the attendance to preparatory school.

4.3. Findings of the Semi-Structured Interviews

This chapter presents the study's semi-structured outcomes concerning burnout among 12 Turkish students in the Engineering Department within the context of EMI. The subsequent section provides insights into the findings corresponding to each highlighted question in the research.

Table 10.

Demographic Information of the Interviewees

	Participants	Major	Gender	Year of study	Preparatory School Attendance
Low Burnout	Participant 6	Electrical-Electronics Engineering	Male	2	Yes
	Participant 7	Mechanical Engineering	Female	2	Yes
	Participant 8	Electrical-Electronics Engineering	Female	2	Yes
	Participant 12	Mechanical Engineering	Male	4	Yes
Average Burnout	Participant 1	Mechanical Engineering	Male	2	Yes
	Participant 2	Mechanical Engineering	Male	3	Yes
	Participant 3	Electrical-Electronics Engineering	Female	3	Yes
	Participant 9	Mechanical Engineering	Male	2	Yes
High Burnout	Participant 4	Electrical-Electronics Engineering	Male	3	Yes
	Participant 5	Mechanical Engineering	Male	4	Yes
	Participant 10	Electrical-Electronics Engineering	Male	2	Yes
	Participant 11	Electrical-Electronics Engineering	Female	2	Yes

The presented table provides a diverse cohort of participants, categorizing them based on gender, year of study, and attendance to preparatory school, while also shedding light on their reported levels of burnout. Notably, the study encompasses an equal distribution of students across three distinct burnout categories. The "Low Burnout" category comprises four participants (Participant 6, Participant 7, Participant 8, Participant 12), representing a mix of both male and female students in their second year of study who attended preparatory school. Similarly, the "Average Burnout" category includes four students (Participant 1, Participant 2, Participant 3, Participant 9), demonstrating variability in gender and study years among those who also attended

preparatory school. In contrast, the "High Burnout" category consists of four students (Participant 4, Participant 5, Participant 10, Participant 11), showcasing a diverse group in terms of gender, study years, and preparatory school attendance. Of the 12 participants who were interviewed, half of them (f:6) were enrolled in Electrical-Electronics Engineering while the other half (f:6) were enrolled in Mechanical Engineering.

Table 11.

Duration of the Semi-structured Interviews

Participants	Duration
Participant 1	15:05 minutes
Participant 2	14:41 minutes
Participant 3	21:20 minutes
Participant 4	13:04 minutes
Participant 5	21:45 minutes
Participant 6	34:41 minutes
Participant 7	28:29 minutes
Participant 8	10:49 minutes
Participant 9	13:21 minutes
Participant 10	18:28 minutes
Participant 11	20:24 minutes
Participant 12	22:40 minutes

Table 12, documenting the duration of interviews with participants, reveals a considerable variation in the length of the interview sessions. The interview durations range from a concise 10:49 minutes for Participant 8 to a more extensive 34:41 minutes for Participant 6. The diverse time spans across participants may be attributed to the nature of the topics discussed, individual responsiveness, or the depth of insights shared during the interviews. This variability underscores the dynamic and subjective nature of qualitative research interviews, where each participant contributes uniquely to the richness and depth of the data gathered.

Within the semi-structured interview findings, a prominent theme emerges concerning students' perceptions of exhaustion and the factors contributing to this sense of fatigue. Participants consistently shared their individual perspectives on how the demands of their academic program impact their overall well-being. When prompted to

discuss the contribution of their program to their sense of exhaustion, diverse viewpoints were expressed.

4.4. Participants' Perceptions of Exhaustion and Their Causes

4.4.1. Participants' Perceptions on Challenges during Their Studies

All participants (f:12) reported experiencing academic challenges and encountering issues associated with these difficulties. The issues primarily stemmed from the complex nature of their courses, the use of English as the language of teaching, and communicating with their instructors.

The interview excerpts underscore a recurring theme among participants (f:8)—the intricate and challenging nature of their courses. The participants consistently expressed the demanding nature of their academic pursuits as shown from the interview excerpts:

"The difficulty of the department naturally contributes to this change initially. It's challenging. Since exams are based on reading something once, repeating it, and writing it down—completely understanding and applying it elsewhere—for every course, if we have to retake a course, we don't want to come at all. If we are taking a course for the first time, there is a risk of not being able to follow, not getting the productivity. We've had many courses like that. Learning what we are responsible for and going to those classes. For instance, programming courses, electrical and electronic courses, industrial courses, and many engineering systems courses. Because they also pose an extra challenge, it became quite discouraging for all students at school." (P5)

"The subject of the average is, frankly, a 2.5 average. Why is a 2.5 average difficult for us? My thought is this: Because the exams are not easy. We take a difficult exam, and of course, the grading varies from teacher to teacher, but generally, the grading, I think, could be a bit more generous. When all the courses are difficult, there is no easy course. When there is no easy course, getting an A in that course doesn't have much impact on your average. You know, getting an average in engineering is so difficult. I either get very high

scores, and my average slowly increases, but if I fail in one subject, it suddenly drops. This is really bad." (P7)

The interview excerpts illuminate a significant aspect of the participants' academic journey—the utilization of English as the language of instruction. Participants (f:6) consistently discussed the challenges posed by the language barrier, emphasizing the impact of English on their comprehension of lectures, examinations, and overall engagement with coursework. The participants' struggles with English-medium instruction and highlighting its significant influence on their educational journeys are shown from the interview excerpts:

"Well, sometimes there can be moments when I don't understand, let me put it that way. Apart from that, the fact that the course is in English can have a bit of an impact. The fact that it's in English, exams, and all, sometimes there is a place where I don't understand." (P2)

"Learning English, memorizing vocabulary seemed very difficult and boring to me. In fact, I can say that before starting the English preparatory department, I had watched Turkish-subtitled series or movies about 10 times throughout my lifetime." (p6)

"There is a situation where, since we take the entire course in a foreign language, in English, after a point, the terminology becomes complex, making it difficult for us to understand." (p9)

The interview excerpts shed light on a recurring theme among participants (f:5)—the challenges they face in communicating with their instructors. Instances of difficulty grasping certain topics, and occasional dissatisfaction with the teaching methods were highlighted. The excerpts emphasize the significance of effective communication between students and instructors in navigating the complexities of academic content:

"However, in some courses, either because they don't interest me much or because... the teacher's delivery doesn't captivate me... or the teacher fails to engage me... there can be courses that I don't find very interesting, and as a

result, I may not want to work on them much. Or even if I do, there are courses that I still don't understand. Some courses are just very challenging." (P3)

"The difficulties I encounter with courses sometimes stem from certain instructors explaining things that have no relevance to what appears in the exams. For example, the professor might mention irrelevant justifications and then proceed to give me equations." (P4)

"I mean, they are two hours straight, and what I get and understand from a professor who teaches for one hour at a time is completely different." (P9)

4.4.2. Participants' Pre-class Emotions and Their Causes

In discussing class attendance, a common theme emerges— the impact of mandatory attendance policies. Several participants, specifically four individuals (f:4), across different contexts highlight the significance of these policies in influencing their decision to attend classes. The obligation imposed by mandatory attendance is noted as a primary motivator. Additionally, the engagement of instructors and their approach to attendance, whether strict or interactive, plays a pivotal role in shaping participants' attitudes towards attending classes. This shared perspective emphasizes the substantial influence of mandatory attendance policies and instructor engagement in determining individuals' commitment to regular class attendance:

"Generally, for classes—this year was different because it was online, but in the first semester, I attended classes primarily due to the mandatory attendance. I mean, there wasn't much enthusiasm for the classes, let me put it that way." (P2)

"I tend to make more effort to attend, especially if the instructors are a bit stricter in this regard. For instance, there are professors who provide slides, and if I believe that I can read and understand them later, I might think there's no need to attend the class. However, some instructors ask questions about what they taught in class, and I feel compelled to attend those lectures." (P3)

"In class, the lesson really passes by very boring and dull, but sometimes we have to attend classes both to understand the subject and not to fall behind in the course due to attendance requirements." (P6)

Only two participants mention that in the preparatory year, instructors were more attentive and caring, which motivates them to attend classes.

"In the department, there is more of an attitude like, 'Whether you do it or not is up to you.' This approach doesn't really appeal to me; it feels like they don't pay much attention. This, frankly, was demotivating. In the preparatory year, such a situation never existed; I used to go to classes with enthusiasm." (P1)

A few participants (f:3) express a belief that merely relying on reading notes wouldn't be adequate for them to successfully pass the course, leading them to make a conscious effort to attend classes and emphasizing the importance of actively listening to the lecture for a comprehensive understanding:

"After all, being examined is crucial, and it's not enough to learn only from textbooks. If the professor asks questions, it can be challenging not to get stuck." (P4)

"Although there is a mandatory attendance requirement, I don't find it too troublesome. I prefer to consistently attend classes myself because if I miss even a single class, it inevitably stresses me out. It becomes very difficult for me to catch up on that topic. That's why I regularly attend classes." (P7)

Five participants emphasized how their friends and study groups or projects played a crucial role in drawing them to school. Within the speakers' study routine, a friend significantly motivates collaborative study sessions, fostering a sense of mutual support. Friends, particularly through compulsory classes and involvement in a project team, play a central role in the speakers' overall motivation to regularly attend school. The participants highlighted the significance of collaborative efforts in enhancing their engagement with academic activities:

"So, I can actually say that the factor that most influences my desire to come to school is my girlfriend. A friend of mine, in their study routine, says something like 'Either you study with me, my friend, we can have two cigarettes, a coffee, and study a bit.' He motivates me. Or, for example, if he says he's tired and leaving, I suggest, 'Come on, let's study together here, we can go together like that.'" (P6)

"It seems that the reason I come to school is probably my friends. We can say compulsory classes and project team." (P8)

4.4.3. Participants' Post-class Perceptions, Academic Responsibilities, and Their Causes

Among 12 participants, it was observed that 7 individuals perceive the academic pressure or workload within the department to be excessively high, while the remaining 5 participants conveyed that they do not experience such pressure in this particular aspect of their academic journey.

Reflecting on the choices made by friends who have completed their education and ventured into the workforce, one of the participants occasionally finds themselves feeling the pressure. Consequently, moments of regret surface as the participant reflects on the potential benefits of entering the job market earlier compared to their peers:

"For example, my friends are finishing school and starting their jobs. I sometimes think to myself, 'Others are going to work, and here I am still studying.' I feel like I should start working as soon as possible. Sometimes, I regret not entering the workforce sooner." (P2)

In the pursuit of catching up with the demands of numerous courses, a participant expends considerable effort and genuine hard work. Despite their diligence, there is an acknowledgment of the challenge in covering all the material, resulting in many courses still left incomplete. Faced with this reality, a strategic decision is made to maximize the academic load

by taking as many credits as possible. The participant shifts away from a rigid programmatic approach, opting for a philosophy of tackling coursework to the best of their ability:

"While trying to catch up with all the courses, I'm really putting in a lot of effort. I am genuinely working hard, but in my attempt to pass all of them, I couldn't catch up with everything, and I have many courses left. Therefore, I decided to take as many credits as I can. Instead of planning to cover all of them within a specific program, I started working with a philosophy of doing as much as I can." (P3)

Another participant opens up about an ongoing pattern that has persisted since the initiation of their academic journey. From the very first day, the speaker has observed a consistent occurrence wherein friends, including those who started their educational journey together and joined the mechanical engineering department during the preparatory year, have gradually departed from school. The speaker notes that, throughout this period, many friends within their social circle have left the educational institution. This departure is attributed to the substantial academic pressure experienced by these individuals. Despite pursuing mechanical engineering degrees, the intensity of the academic workload has led them to discontinue their academic pursuits. This reflection underscores a continual trend of individuals within the speaker's social circle discontinuing their studies due to the challenging academic environment:

"It's happening. Definitely happens. It's been happening since the first day. All my friends who started school with me, those who came to the mechanical engineering department with me during the preparatory year, my own circle of friends, they all left school because of the pressures and the workload. Right now, they left this school without completing their mechanical engineering degree." (P5)

"Yes, we do. I mean, we have a lot of courses and topics. Trying to cover all the material. Okay, we can still manage if we work hard. But on the other hand, we have laboratory classes. We have to write 5 to 6 pages of reports in English for

them every week. Mhm. On the other hand, some professors assign homework every week." (P10)

Both participants express a sense of accountability, with one regretting insufficient preparation due to the direct presentation of information. The other participant underscores the importance of consistent weekly studying for effective workload management. Overall, these reflections collectively address managing academic workload and a lack of perceived academic pressure within their respective departments:

"The truth is, it hasn't happened yet. But sometimes I notice this. I mean, I think the Turkish education system is not a system that habituates students to research a lot. So, in university, actually, the professors don't teach you much; they give you the basics. The idea that you will learn by researching in the light of these basics seemed difficult to me. We are very accustomed to the 'give me the solution directly' logic. I blamed myself a lot for this too. We've skipped a lot of preparation; they've presented everything to us directly. When they started teaching us how to fish, I was like, 'What's happening to us?' It was a bit too much for me, actually; the normal seemed too much for me, right." (p11)

"Honestly, so far, I haven't experienced a high workload. We haven't had much intensity with our courses. Exam weeks can be intense, but if you study weekly, it's not a problem. However, if you haven't been studying throughout the semester and start studying during exam week, it can be intense. There may be a serious problem with passing the courses." (P12)

4.5. Participants' Cynical Perceptions on Their studies and Their Causes

4.5.1. Participants' Perceptions of the Practicality of Their Studies and Their Causes

The participants (f:4) believe that the English they learned in the preparatory school has not contributed significantly to their departmental courses. They express a desire for a curriculum created with more technical vocabulary to better align with the content of their major courses. The lack of relevance between the preparatory English

education and the technical language required in their field, which can be proven with the help of the excerpts:

“Generally, students who are new to English, like me, I was like that too. They don't know how to study for this course, how to prepare for the exam. We understand the words in the lesson. We say "memorize," but there is no usage. This time, when the vocabulary is not sufficient, the level progresses, but you are left behind.” (P10)

“I mean, the real technical English was something that directly taught words related to the department, but that was actually my expectation. When I came to Çukurova preparation, I probably thought they would separate us according to the department and provide us with technical English suitable for that, but I realized that it wasn't like that.” (P11)

“There was also feedback about the preparation. We didn't work with any technical words in the student affairs of that place, which is called the School of Foreign Languages, for about 2 semesters, or a year, the preparatory training I received. Of course, I can describe the first year as an orientation. But still, it must have been a challenging period for me. So, the preparatory education prepares very well in terms of English, but it is lacking in terms of suitability for the department.” (P12)

The participants (f:2) believe that the courses they take in their major are significantly different from the actual professions they envision in real life. They express a perception that the academic content and focus of their major courses do not accurately align with the practical skills and knowledge required in their anticipated careers:

“The anticipated difficulties are that we don't know where we will work, what we will do. Initially, I think we might face difficulties no matter where we work. We don't have a very education-focused internship, and our education is not very related to a good professional life. Our theoretical and practical training is very different, so I think there might be difficulties at the beginning.” (P5)

According to the participants (f:5), the difficulty of exams and the challenge of achieving high grades despite their efforts have diminished their enthusiasm and desire for their majors and courses. The persistent struggle to improve their grades and elevate their averages, even with dedicated studying, has created a sense of disillusionment among the participants. The recurring experience of receiving lower grades than expected has led to a decrease in their motivation and passion for their academic pursuits. They express a shared sentiment that the demanding nature of the exams, coupled with the inability to see a significant improvement in their academic performance, has taken a toll on their overall interest in their field of study:

"Despair occurs, especially in exams, due to the difficulty of courses that most mechanical engineering students may experience. I remember particularly the first time when scores in the 30s and 40s kept coming in exams. When situations were like this at the beginning of the year, I found myself wondering what I would do in the future." (P1)

"It scares me. I mean, no matter how much we work, sometimes it just doesn't work out, and that scares me. Because there's a feeling that when you work hard, you should get results, and this doesn't happen much at the university. Sometimes, no matter how hard we work, we can fail due to working in the wrong direction, not being able to provide a paper as the professors want, and somehow failing. And this is something that can make a person somewhat depressed. At least, even if you work hard, the feeling of not being able to succeed scares me, and I fear losing in my other courses as well. Sometimes it leads to a bit of exhaustion, I'm working hard, but it's not working. There's a feeling that I might not be able to do it." (P3)

"I wouldn't say unhappiness, but I think teachers play a significant role in engineering departments. Because sometimes you can't predict what grade you'll get. You can get 30 when you expect 90. So it's entirely a teaching situation. That's why sometimes it upsets me because, for example, I learned or did something very well for months, but because of the teacher, I can't succeed in something, and that tires me. For instance, I wonder why they are like this. Why do these people behave this way?" (P11)

The participants (f:7) highlighted that their relationships with professors significantly impacted their attitudes towards classes and consequently, their interest and participation in the coursework. They emphasized that positive communication and a supportive classroom environment with professors led to increased enthusiasm for the subject matter. When they experienced constructive interactions with their professors, participants expressed heightened motivation and eagerness to engage actively in the class. Conversely, a strained or negative relationship with instructors was observed to have adverse effects, dampening the participants' enthusiasm for the course material:

“Other than that, for example, there was a principles course in the first semester that I wasn't very enthusiastic about because it was more about memorizing basic factors. I wouldn't be eager to go to the class and listen to a professor. Besides, the attitudes of teachers during the class play a crucial role. Their energy affects us too. If a teacher is unenthusiastic and cold, my enthusiasm for that course definitely decreases. As I mentioned, I receive very positive feedback and help from some teachers, but unfortunately, in some courses, the opposite happens. In such cases, it can lead to a disliking of the course or even a dislike of the professors themselves.” (P1)

“Now, most of our professors, as soon as they come to our department, started telling us threats like most of us won't become engineers, most of us won't graduate. We didn't realize, we laughed. We thought they were joking. Many people enter the department, but very few graduates. It's a reality that our professors boast about the high number of students who leave the school.” (P5)

4.6. Participants' Self-efficacy Perceptions and Their Causes

4.6.1. Self-assessment of Participants' Performance and Its Causes

When participants were asked about their in-class performance and whether they considered themselves good students, some (f:5) mentioned that they see themselves as good students, while only one participant (f:1) stated that they do not consider themselves good students. Participants outside of these responses, the majority of the group (f:6) mentioned that they see themselves as average students, or some pointed out that being a good student varies from class to class.

Participants who identified themselves as good students explained their thoughts for various reasons. Some cited their consistent academic achievements and high grades as the basis for considering themselves good students. Others pointed to their active participation in class discussions, their commitment to completing assignments on time, and their proactive approach to learning as contributing factors to their self-perception as good students:

“I would say that I am very successful in exams. My performance generally depends on the preparation process leading up to the exam. I can answer the questions posed by professors in practical classes. I am quite adept at completing the tasks required in laboratory classes quickly. I don't face any issues in that regard.” (P3)

“Honestly, I find my in-class performance to be good. Because I am a talkative person. I'm not shy. Especially, my technical English professor has been very beneficial for me. I know my in-class performances well, to be honest. For all the courses. I know my performance in all the English courses I've taken.” (P11)

“As an engineering student, I can define myself as a good student. I chose a specific field within this program and said to myself, ‘I want to focus more on mechanical and design work, I want to delve into analysis.’ Then, in the project work I conducted, I seriously developed myself in this area.” (P12)

The participant who described themselves as a poor student explained their thoughts for various reasons. They mentioned finding the allure of going out and having fun more appealing than studying for classes. They expressed a desire to enjoy life and stated that they considered themselves inherently laid-back and carefree. This perspective influenced their perception of being a less successful student. It's evident that personal preferences and lifestyle choices play a significant role in shaping the participant's academic self-image. The excerpts can be seen below:

“Well, not really. I don't study the whole day when preparing for exams; I always want to go out and have some fun. Most of the time, I tell myself, ‘Okay, I'm in university now, I should study,’ but I'm not very responsible. Since I

entered university, that's how it's been, let me put it that way. There's a bit more of a laid-back attitude. I say, 'Live life, forget about it.'” (P2)

The majority of participants expressed a self-assessment of being at a moderate level or experiencing variable proficiency across different subjects. They acknowledged, as in the excerpts below, the potential for improvement within themselves:

“I can't say that I find myself very successful; let me not tell a lie. My performance varies from one course to another. The reasons for this can be diverse, but to put it bluntly, I am someone who tries to attend classes without disrupting the tranquility of the lesson as much as possible. If you were to ask if I attend perfectly, my answer would be no.” (P1)

“I am effective in classes where I enjoy and excel, where I work well. I actively engage with the professor, asking questions and participating interactively. I prefer courses that are more relevant to my major. When it comes to evaluating myself as a student, considering responsibilities and performance, I can't say I see myself as an excellent student. However, I don't see myself as a poor student either. I knew I could do better, in other words. I could have been much better in my student life.” (P5)

4.6.1.1. Female Participants' Perceptions about Gender Differences

When comparing male engineering participants to female participants, 75% of the female participants feel that they must put additional effort in order to be accepted in their future professional professions. They posited that the overwhelming majority of male participants in both the class and the faculty would inevitably influence their professional lives. The female participants highlighted the significance of removing gender stereotypes and promoting equal chances in both schooling and the professional sphere. They expressed a preference for efforts that foster diversity and inclusion in order to establish an equal and welcoming atmosphere for young professionals. The excerpts below address these perceptions of the female participants:

“Actually, when I started this program, perhaps around the age of 17-18, I had a belief that men and women were equal. I maintained this belief until I started my internship; however, the work environment, including many male colleagues, made it challenging for women at times, even in terms of making friends.” (P11)

“When I think about my future, especially when I become a mother, I can feel that working in very demanding mechanical jobs and feeling physically exhausted may be challenging. I believe that women have an advantage compared to men in this regard.” (P7)

4.6.2. Participants’ Approaches for Dealing with Their Problems

Participants openly discussed the various approaches they adopt in the face of challenges. Sharing insights into their problem-solving methods, they highlighted the diversity of strategies employed. These insightful conversations with participants unfolded as a collective exploration into the diverse strategies embraced by individuals within the group to navigate the complexities inherent in their academic and personal journeys.

Within the group, certain participants (f:2) found solutions to their challenges by actively seeking assistance and guidance from their professors. This proactive engagement with faculty members not only allowed them to address specific academic concerns but also fostered a supportive and communicative learning environment:

“They are already aware that we will face these challenges, and the professors also anticipate these difficulties, providing us with recommendations, such as suggesting additional resources or encouraging participation in extra classes. By listening to their advice, I overcome and continue to overcome this process.” (P1)

“I noticed that the teacher used initiative for an important reason I couldn't attend the exam, and I said, well, it seems that it is necessary to establish good communication with teachers.” (P11)

Some participants (f:4), on the other hand, expressed that they turned to Turkish resources and relied on Turkish translations after struggling with language barriers during the class. In instances where overcoming language challenges proved challenging during the lesson, these individuals sought clarity and understanding through Turkish-language materials once the class concluded. Utilizing Turkish translations allowed them to bridge the language gap, ensuring a more comprehensive grasp of the subject matter:

“While studying, I usually keep a dictionary handy. If I come across a word I don't understand, I always refer to the dictionary and try to translate it. For instance, hours later, I review my notes to clarify any unclear points and write the Turkish translation of the sentences I translated.” (P2)

“I often find it challenging. No matter what solutions we seek, it doesn't always work out as the things covered in class can be somewhat different here. We don't have many resources, but I recently discovered something new. There is an application called Megep in vocational high schools. I am trying to find their textbooks and electronic books from second-hand sellers because they are in Turkish and they simplify our subjects.” (P4)

“I tackle these challenges by working directly from the primary source, studying as much as possible in English and solving problems by thinking in Turkish.” (P5)

“There is often difficulty in understanding, language-wise. Speaking is already a challenge. So when I come home, I try to solve the lesson in Turkish by watching it.” (P8)

Two participants shared that, when faced with challenging topics or areas of difficulty, they sought guidance from peers who had previously taken the course in higher grades or from classmates with a better understanding of the subject. This collaborative approach allowed them to benefit from the experiences and insights of their more knowledgeable peers, providing valuable assistance in navigating complex concepts. By reaching out to classmates with a deeper understanding of the material, these participants

exemplified the importance of peer support and collaborative learning in overcoming academic obstacles:

“It became somewhat intuitive for me. Instead of taking notes on everything, I started noting what I felt was important, a sentiment echoed by the professors when they emphasize certain topics. I focused on capturing things I deemed unavailable in textbooks. Consulting friends who have taken the course before and seeking guidance on how to approach questions, I attempted to find my way through collaboration.” (P3)

Some students (f:4) mentioned that, as a solution, they turned to online platforms to watch/listen to explanations of the subject matter by various teachers. By doing so, they expressed that they gained a better understanding of the topics. Engaging with diverse teaching styles and explanations on online platforms provided them with alternative perspectives, contributing to a more comprehensive grasp of the material. This adaptive approach highlights the role of digital resources in supporting students' learning experiences and catering to diverse learning preferences:

“Especially, I used to review the main topics of what the professor covered through YouTube channels, re-listen to parts I didn't understand, and my most effective method of comprehension was taking notes. If I didn't understand something, I would genuinely ask a friend who studies. When I listen to teachers on YouTube, I can understand them.” (P6)

“I failed in physics, but now I'm slowly watching videos on YouTube, trying to review regularly. I'm progressing from easy to difficult because in the first semester, especially in physics, encountering English and physics terms, I couldn't handle it.” (P7)

“Sometimes I solve problems. Usually, our professors share slides, but since I couldn't learn much after the lesson, I usually find international professors on YouTube who explain these topics. I listen to them the way our professors explain, and that's honestly the most helpful thing for me.” (P9)

The study sought to offer a thorough understanding of the wide-ranging perspectives held by participants from different academic fields, age cohorts, and genders. The study aimed to gain a comprehensive picture of the experiences and perspectives of the persons in the study by analyzing both qualitative and quantitative data. The incorporation of individuals from diverse backgrounds facilitated a comprehensive examination of the variables impacting their viewpoints. Incorporating both qualitative and quantitative findings enhance the overall interpretation of the study's outcomes, resulting in a more comprehensive knowledge of the research issues.



CHAPTER V

DISCUSSION AND CONCLUSION

5.1. Introduction

This study seeks to enhance the current knowledge by investigating the particular circumstances of Turkish engineering students in an EMI environment. It seeks to clarify the factors that impact their perceptions of burnout and offer valuable insights that can guide educational practices and support systems. The subsequent discussion and conclusion section illuminates the complex aspects of burnout among this specific demographic, providing implications for both scholarly study and practical solutions.

5.2. Summary of the Study

The primary objective of the present study was to explore the perceptions of burnout among Turkish engineering students participating in EMI classes. Additionally, the study aimed to investigate potential correlations between burnout levels and demographic variables such as gender, academic year, major, and attendance to preparatory school. The study focused on participants from Çukurova University's Mechanical Engineering and Electrical-Electronics Engineering departments.

Employing a mixed-method research design, the study utilized both quantitative and qualitative data collection methods. The quantitative data were gathered through Google Forms, employing the Maslach Burnout Inventory (MBI) by Maslach and Jackson (1981), and were administered to 138 engineering students. Concurrently, qualitative data were collected through semi-structured interviews conducted with 12 volunteers from the participant pool.

Statistical analysis of the quantitative data was carried out using SPSS 25.0 to gain insights into the questionnaire responses. Thematic analysis, on the other hand, was employed to analyze the qualitative data obtained from the semi-structured interview questions. This mixed-method approach allowed for a comprehensive exploration of burnout perceptions among engineering students, considering both quantitative measures and in-depth qualitative insights from participant interviews.

5.3. Discussion of the Findings with Reference to Research Questions

The discussion of findings in this study is a crucial point when the complexities and discoveries from the empirical investigation are revealed. This section provides a detailed study and explanation of the data collected, offering insights into the complexities of the phenomena being studied. The discussion that follows the inquiry clarifies the connections, patterns, and implications that were found by carefully examining the research data, in line with the research questions. This section seeks to thoroughly examine each research question in order to gain a comprehensive understanding and make significant contributions to the existing knowledge in the field.

5.3.1. Discussion of the Findings with Reference to Research Question 1: What is the level of burnout experienced by Undergraduate EMI engineering students?

Resulting in a combined agreement of 60.10% with the mean value of ($\bar{x} = 2.59$), a noteworthy 47.10% of students agree and 13.00% of participants strongly agree with the item 2 "I feel used up at the end of the day at the university". The item 9 "I have become less enthusiastic about my studies" emerges as one of the most agreed-upon items. A substantial 40.60% of students agree, and an additional 12.30% strongly agree, resulting in a combined agreement of 52.90% with the mean value of ($\bar{x} = 2.93$). A substantial 37.70% of Undergraduate EMI engineering students agree and 17.40% strongly agree with item 1 "I feel emotionally drained by my studies," with the mean value of ($\bar{x} = 2.54$). Regarding the interview questions related to exhaustion, participants provided valuable insights into the challenges they face, uncovering the elements that contribute to their feelings of fatigue and incompetence inside the department. A participant stated that the intrinsic complexity of the department causes this change, resulting in a problematic situation. They stated, *"If we have to retake a course, the motivation to attend diminishes... the professors pose an extra challenge; it became quite discouraging for all students at school... Despite my sincere efforts, I have been unable to keep up with all of my coursework, resulting in several remaining classes that I have yet to complete."* Another participant emphasized the significant amount of work, stating, *"We are assigned a multitude of courses and subjects. Although laboratory classes can be handled with effort, they nevertheless require diligent work. It is necessary for us to compose reports in English for them on a weekly basis, with a length of 5 to 6 pages. In addition, certain lecturers allocate homework on a weekly basis."* These comments

highlight the challenging academic requirements that the participants must meet. Furthermore, several participants had same feelings regarding fatigue and the amount of work. The persistent motif of the demanding curriculum, coupled with supplementary obligations such as English-language reports and weekly tasks, fosters an overpowering sensation of strain among students. Based on these data, it can be deduced that the participants' heavy workload and elements related to their academic tasks play a significant role in their impression of inadequacy within the department.

The item 12 "I have accomplished many worthwhile things in my studies" stands out as the most disagreed-upon item. A notable 10.10% of students strongly disagree, and an additional 38.40% disagree with this statement, resulting in a combined disagreement of 48.50% with the mean value of ($\bar{x} = 2.52$). Following closely as one of the most disagreed-upon items is the item 5 "I can effectively solve the problems that arise in my studies." A mere 5.10% of students strongly disagree, and an additional 30.40% disagree with this statement, resulting in a combined disagreement of 35.50% with the mean value of ($\bar{x} = 2.69$). Regarding the interview questions related to professional efficacy, a big portion of the participants stated their self-efficacy beliefs as seen in these examples: *"Sometimes I feel like my brain is not enough."* and *"Even though I study, there can be subjects that I don't understand. Some courses are very difficult."* In addition to these, one of the participants mentioned that rather than struggling with courses that they couldn't pass despite studying for hours, they prefer to live their life: *"I say, 'Live life, forget about it'. Even if I were to study, I feel like I wouldn't be able to do it anyways."* These statements align with a broader theme observed in the responses, suggesting that a notable percentage of students had concerns about their efficacy in problem-solving within the academic context. This is further compounded by a continuous feeling of not experiencing a genuine sense of accomplishment or worthiness in their academic pursuits.

Raboca and Creța conducted a study in 2022 to investigate the impact of the COVID-19 epidemic on the emotional and physical well-being of students. The study uncovered that, although there was a significant rise in stress levels, there was no evidence of elevated burnout among students. The majority of participants indicated suffering burnout at low to moderate levels. Furthermore, a detailed examination of the characteristics of burnout (emotional exhaustion, depersonalization, and personal accomplishment) revealed consistent average scores, aligning with the findings of this study.

The 2021 study conducted by Janatolmakan et al. aimed to investigate the relationship between resilience and academic burnout in nursing and midwifery students. A cross-sectional study was conducted, involving 240 students from various fields. The data gathering process included administering a demographic information questionnaire, the Connor–Davidson Resilience Scale (CD-RISC), and the Maslach Burnout Inventory–Student Survey (MBI-SS). The results revealed that nursing and midwifery students had a moderate level of academic burnout, although their resilience levels were relatively high. The findings support the findings of this study.

After thoroughly analyzing both qualitative and quantitative data, it is clear that the participants' level of burnout may be described as moderate. The combination of qualitative and quantitative data offers a comprehensive comprehension of the participants' experiences, revealing the complex and numerous aspects of burnout. The presence of a moderate level of burnout indicates that multiple causes, such as individuals expressing conflicting or uncertain statements, have contributed to this result.

5.3.2. Discussion of the Findings with Reference to Research Question 2.a: Is there a difference between the level of burnout experienced by Undergraduate EMI engineering students according to their field of study?

The study aimed to assess whether there was a difference in burnout levels among Undergraduate EMI engineering students based on their field of study, specifically comparing Mechanical Engineering and Electrical-Electronics Engineering majors. Three burnout dimensions were examined: Exhaustion, Cynicism, and Professional Efficacy. The findings revealed no statistically significant differences in burnout levels between the two engineering majors. For Exhaustion, Cynicism, Professional Efficacy, and the overall Burnout, the analysis showed a lack of significant distinction in burnout experiences between Mechanical Engineering and Electrical-Electronics Engineering students.

In summary, the study suggests that, within the scope of this research, the field of study does not exert a notable influence on the burnout levels of Undergraduate EMI engineering students.

5.3.3. Discussion of the Findings with Reference to Research Question 2.b: Is there a difference in the level of burnout experienced by engineering students according to gender?

In examining the burnout levels of engineering students based on gender, the study focused on three key dimensions: Exhaustion, Cynicism, and Professional Efficacy. The comparison was made between female and male engineering students.

For the Cynicism dimension, there is no statistically significant difference in Cynicism levels between female and male engineering students. Examining the Professional Efficacy dimension, both female and male engineering students demonstrated similar mean burnout levels. So, it can be indicated there is no statistically significant difference in Cynicism and Professional Efficacy levels between the two gender groups.

Moving to the Exhaustion dimension, female engineering students exhibited a higher mean burnout level than male engineering students. This suggests that female participants, on average, experience higher levels of emotional exhaustion compared to their male counterparts. In response to the interview questions, women participants shared insights about their prospective careers. One of the female participants expressed an awareness of the potential challenges associated with demanding mechanical jobs, noting the physical exhaustion that may accompany such roles by stating *“I can feel that working in very demanding mechanical jobs and feeling physically exhausted may be challenging. I believe that women have an advantage compared to men in this regard.”*. Another female participant highlighted the difficulties women may face in the work environment, particularly in the presence of numerous male colleagues, emphasizing that this aspect could pose challenges for women, even in the context of building friendships by saying *“the work environment, including many male colleagues, made it challenging for women at times, even in terms of making friends.”*

Aligning with the findings of this study, a recurring pattern emerges through various research conducted in diverse situations and regions, highlighting the increased prevalence of burnout among female students. The 2021 study conducted by Yahya et al. at the College of Medicine, University of Kerbala, found that the prevalence of burnout among medical students was 38.2%. The study also identified a notable correlation between female gender and higher rates of burnout. Similarly, the 2021 study conducted by Alqifari et al. at Qassim University in Saudi Arabia revealed that female medical students were significant indicators of emotional exhaustion and personal efficacy,

suggesting that they are more prone to burnout. Conducted at a small Northern Ontario University, the 2006 study by Weckwerth and Flynn investigated the relationship between social support and burnout among university students. Women had considerably greater scores than males across multiple categories of social support, suggesting the presence of gender-related differences in coping strategies. The 2020 study conducted by Cazolari et al. focused on gender differences in burnout and well-being among Brazilian medical students. Female medical students displayed an increased tendency towards emotional exhaustion, further supporting the constant trend reported in previous studies. Finally, the 2023 study conducted by Briggs et al. examined the racial and gender disparities in burnout among medical students. The results revealed a greater occurrence of burnout among female students, consistent with the overarching pattern reported in diverse academic environments.

These studies collectively emphasize a recurring pattern: female students typically encounter a greater susceptibility to burnout in various academic and cultural environments, which supports the findings of this study.

5.3.4. Discussion of the Findings with Reference to Research Question 2.c: Is there a difference in the level of burnout experienced according to whether they have received preparatory program?

The investigation into the impact of preparatory programs on the burnout levels of students focused on three crucial dimensions: Exhaustion, Cynicism, and Professional Efficacy. The comparison was made between students who attended preparatory programs and those who did not. The mean scores for both groups (Mechanical Engineering and Electrical-Electronics Engineering) are relatively close, and the differences observed are not statistically significant ($p > 0.05$). These results imply that the presence or absence of preparatory programs does not appear to have a substantial impact on the experienced burnout levels within these specific engineering disciplines.

In summary, the study suggests that, within the scope of this research, the presence or absence of attendance to preparatory programs does not significantly impact the burnout levels of the Undergraduate EMI engineering students.

5.3.5. Discussion of the Findings with Reference to Research Question 3: What are the reasons for burnout experienced by Undergraduate EMI engineering students?

As the first reason for burnout, the participants consistently reported experiencing academic challenges, primarily stemming from the complex nature of their engineering courses. The use of English as the language of instruction emerged as a significant factor, with participants expressing struggles in comprehending lectures, exams, and overall coursework. A perceived lack of relevance in preparatory English education to major courses, coupled with a gap between academic content and practical skills needed for future careers, constituted another reason for burnout. Participants expressed concerns about feeling inadequately prepared for the demands of their academic pursuits.

The demanding nature of courses and the risk of not understanding the material were commonly highlighted themes, contributing to a sense of discouragement and burnout. Perceptions of high academic pressure and workload were prevalent among participants. Some expressed regret about not entering the workforce earlier, while others acknowledged the challenge of covering all course material. This, along with the persistent gap between expected and actual performance, contributed to a sense of disillusionment and fear of failure, further intensifying burnout. In Küçükaslan's 2019 master's thesis, the results of interviews, which indicate the perceptions of both students and lecturers, suggested that the number of responsibilities and lesson hours were predictors of emotional exhaustion, which aligns with the findings of this study. Additionally, it was found that low exam scores had the most significant impact on students' cynical feelings, followed by negative beliefs not only about the usefulness of curriculum content but also about the necessity of the preparatory program in general.

Participants expressed cynicism regarding the practicality of their studies. Concerns were raised about the lack of technical vocabulary in English preparatory courses and the perceived misalignment between major courses and real-life professions. The difficulty of exams, challenges in achieving high grades, and the resulting decrease in motivation were identified as factors contributing to disillusionment.

Another reason for feeling burnout is that participants emphasized challenges in communicating with their instructors. Difficulty grasping certain topics, dissatisfaction with teaching methods, and variations in instructor engagement were noted. Effective communication between students and instructors was underscored as crucial for navigating the complexities of academic content, and instances of misalignment between teaching and exam content were highlighted. The participants highlighted the significant

impact of their relationships with professors on their attitudes toward classes. Positive communication and a supportive classroom environment were associated with increased enthusiasm, while strained or negative relationships had adverse effects. The attitudes and behaviors of professors played a crucial role in shaping participants' perceptions of coursework. Mandatory attendance policies were identified as a common theme influencing participants' decision to attend classes. The impact of these policies, combined with the engagement of instructors, played a pivotal role in shaping participants' attitudes toward regular class attendance. Some participants expressed motivation when instructors were stricter or more interactive, while others cited mandatory attendance as their primary motivator. In their 1990 study, Neumann et al. emphasize that student engagement, specifically the allocation of mental effort, is crucial in understanding how different college resources, such as courses, requirements, library amenities, adaptable learning, and others, contribute to student academic achievements. This observation is consistent with the findings of the present study.

Another reason contributing to burnout, female participants specifically highlighted gender-related challenges, including the need for additional effort due to the influence of male participants in their classes and faculty. They emphasized the importance of removing gender stereotypes for a more inclusive and less burnout-prone atmosphere.

Balancing social life and academic responsibilities emerged as a recurring theme, with some participants admitting to finding the allure of social activities more appealing than dedicating time to study. This struggle to maintain a balance between socializing and academic commitments contributed to varying self-assessments, with participants identifying as good, average, or poor students based on their unique circumstances and preferences.

In summary, burnout among Undergraduate EMI engineering students appears to be multifaceted, involving academic challenges, language barriers, perceptions of academic workload, communication issues with instructors, the influence of attendance policies, and social factors. Addressing these factors comprehensively may contribute to a more supportive and less burnout-prone academic environment for these students.

5.3.6. Discussion of the Findings with Reference to Research Question 4: What are the possible solutions against burnout for Undergraduate EMI engineering students?

Peer collaboration is a coping strategy commonly employed by engineering students to effectively manage burnout. The participants emphasize the significance of consulting friends who have previously taken the course, highlighting the value of seeking guidance on how to approach challenging questions. By engaging in collaborative learning and sharing experiences with peers, individuals not only gain valuable academic insights but also establish a support network that can provide emotional assistance. This communal approach fosters a sense of connection, reducing feelings of isolation and potentially serving as a buffer against the emotional toll that can lead to burnout.

In response to academic challenges, students exhibit an adaptive approach by turning to online platforms, particularly YouTube, to access explanations provided by various teachers. This dynamic learning strategy introduces a change of pace and a diverse range of teaching styles, potentially preventing the monotony associated with traditional study methods. The engagement with multimedia resources not only enhances comprehension but also contributes to a more stimulating and varied learning experience, which could play a role in averting burnout.

Participants underscore the importance of diversifying their learning resources by incorporating Turkish materials, translations, and alternative study materials. This approach is particularly beneficial in overcoming language barriers or difficulties in understanding course content. The act of exploring various resources not only enriches the learning process but also introduces an element of novelty, potentially reducing the risk of burnout by maintaining a higher level of interest and engagement.

Participants recognize the significance of taking breaks and focusing on self-care as essential coping mechanisms. By incorporating these practices into their routine, individuals can create opportunities for relaxation and rejuvenation. Engaging in activities they enjoy and allowing time for rest contributes to overall well-being, serving as a proactive measure to prevent burnout and maintain a balanced and sustainable approach to academic challenges.

5.4. Relationship between Burnout and English Medium Instruction

An analysis of burnout levels in the research group has revealed a strong correlation between experiencing burnout and using English as the language of teaching. The qualitative aspect of this study, in which participants expressed their experiences and viewpoints, unveiled a recurring theme regarding the difficulties presented by EMI. Participants commonly reported a prevailing feeling regarding the increased challenge of understanding course material, obtaining educational materials, and interpreting directions from professors. This difficulty was primarily related to the language used for instruction.

Participants frequently emphasized that the utilization of English as the medium of teaching presented a substantial obstacle to their comprehension of course topics. The qualitative data revealed that the language difficulties linked to EMI resulted in a perception of heightened difficulty in understanding the subject matter, which in turn caused the study participants to experience academic stress.

The participants expressed concerns on the scarcity of English learning tools, which worsened their challenges. The presence of a language barrier was identified as an obstacle to obtaining necessary academic resources, hence contributing to an increased level of stress and dissatisfaction.

The participants' inadequate English-speaking skills consistently hindered their comprehension of instructions from lecturers. The qualitative narratives revealed that language-related barriers impeded efficient communication in the academic environment, leading to a perceived challenge in understanding and fulfilling coursework requirements.

The alignment of these subjective observations with the objective numerical data, which clearly reveals a moderate level of burnout, highlights the importance of the correlation between burnout and EMI. Given the increasing adoption of English as the language of teaching in educational institutions worldwide, it is important to carefully analyze these findings.

5.5. Implications

The study and techniques presented exhibit a thoughtful approach to addressing burnout among undergraduate students in EMI engineering programs. In order to tackle academic issues, it is crucial to prioritize the implementation of language support programs, including workshops, tutoring, and language immersion activities, designed to

address the particular language obstacles encountered by engineering students. It is crucial to enhance accessibility and engagement in engineering courses by simultaneously reducing complex topics, incorporating real-world examples, and employing interactive teaching methods while optimizing course architecture.

Given the perceived insufficient sides of English preparatory education, it is imperative to contemplate adjustments to the curriculum and enhance the incorporation of practical skills. By working together with experts, the curriculum can be adjusted to match the specific skills required in the engineering job market. Additionally, including practical experiences can make the preparatory education more applicable to the main courses.

The study highlights the crucial significance of professor-student connections in influencing student views and attitudes. It is crucial to foster healthy interactions, employ effective communication, and establish supportive school environments. Promoting instructors' awareness of the influence their attitudes and behaviors have on students helps foster a more salubrious academic environment.

The female participants' reports of gender-related problems emphasize the necessity of implementing gender sensitivity and inclusivity measures. Establishing a learning environment that is both inclusive and egalitarian, free from gender preconceptions, helps mitigate fatigue and cultivate a nurturing culture for all students.

To summarize, adopting a comprehensive strategy to address these consequences can greatly help in reducing burnout among undergraduate engineering students. To effectively address burnout, a comprehensive approach is needed, which includes making changes to teaching methods, providing mental health assistance, enhancing communication, and implementing programs that foster inclusivity.

5.6. Suggestions for Further Research

The main objective of this study was to investigate the perceptions of burnout among Turkish engineering students who are taught in English. Considering the online nature of the research, it is acknowledged that students who are more conscientious may have been more likely to engage. Nevertheless, a significant proportion of departments refrained from contributing, emphasizing the necessity for a more comprehensive strategy. For future study, it is recommended to use a hybrid technique that combines online and face-to-face data collection methods in order to enhance participant

involvement. Furthermore, it is crucial to actively work towards broadening the range of participants, namely by prioritizing the inclusion of female students and individuals who do not have prior experience in preparatory schools.

To account for the ever-changing character of burnout, researchers could investigate a longitudinal study design to track fluctuations in burnout levels over an extended duration. Employing a longitudinal approach would yield deeper understanding into the patterns and determinants influencing burnout experiences among Turkish engineering students studying in EMI. Moreover, to enhance the comprehension of the setting, future research might investigate burnout in diverse engineering departments within the same university or across other universities in both Turkiye and globally. Expanding the scope would allow for a more thorough examination of the details of burnout, which are influenced by both departmental and cultural factors.

Furthermore, in order to further the understanding of the context, future studies could explore burnout in various engineering departments within the same university or across different universities in both Turkey and worldwide. By broadening the scope, a comprehensive analysis of burnout may be conducted, taking into account the intricate aspects influenced by both departmental and cultural factors.

Future research could investigate intricate comparisons between EMI students and their non-EMI peers within the same university or across various institutions to gain a more thorough comprehension of the factors that contribute to burnout. Conducting this comparative analysis could provide significant insights into potential differences in burnout experiences among students with varying academic concentrations. In addition, researchers may choose to expand cross-cultural comparisons beyond the boundaries of engineering disciplines. This would involve investigating burnout in various academic departments in order to find distinctive trends and differences that are unique to each subject. Implementing this comprehensive strategy would enhance our comprehension of burnout, by considering the impact of both academic and cultural factors on students' well-being.

Alongside examining student viewpoints on burnout, there is an opportunity for future research to explore the faculty's perception of student burnout. Obtaining a deeper understanding of how educators perceive signs of exhaustion in their students could offer significant insights into the context of learning. This investigation could involve assessing professors' awareness of burnout symptoms, their methods for detecting and addressing student well-being, and the potential impact of their perspectives on the entire educational

experience. This research has the potential to enhance the development of a supportive educational setting that considers the perspectives of both students and faculty members on burnout.

Finally, researchers could investigate effective methods or support mechanisms for easing burnout among engineering students. Developing and executing specific tactics could enhance the general welfare and achievement of students, cultivating a favorable atmosphere for learning.



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