

UNIVERSITY OF PADOVA

Department of Developmental Psychology and Socialization

Master's Degree in Developmental and Educational Psychology

Final Dissertation

**Academic Achievement and Satisfaction in University Students with and without
ADHD: The Roles of Soft Skills and Study-Related Factors**

Supervisor:

Professor Barbara Carretti

Candidate: Rumeysa Durmus

Student ID Number: 2071381

Academic Year 2023/2024

TABLE OF CONTENTS

List of Tables	1
Abstract	4
Introduction	6
Chapter 1. Soft Skills and Their Role in Educational Context	10
1.1. Soft Skills.....	10
<i>1.1.1. The Components of Soft Skills</i>	15
1.2. Soft Skills and Academic Satisfaction and Achievement.....	19
Chapter 2. Self-Regulated Learning, Self-Efficacy, and Academic Success and	
Satisfaction	24
2.1. Self-Regulated Learning.....	24
<i>2.1.1. Zimmerman’s Model of SRL</i>	25
<i>2.1.2. Pintrich’s Model of SRL</i>	27
2.2. Self-Regulated Learning and Academic Satisfaction and Achievement.....	29
2.3. Self-Efficacy.....	32
<i>2.3.1. The Theoretical Model of Self-Efficacy</i>	33
<i>2.3.2. Self-Efficacy and Academic Satisfaction and Achievement</i>	35

Chapter 3. ADHD and Studying at the University	38
3.1. What is Attention Deficit Hyperactivity Disorder (ADHD).....	38
3.2. University students with ADHD.....	40
3.2.1. <i>Academic Achievement and Satisfaction Among Students With ADHD</i>	41
3.2.2. <i>Self-Regulated Learning among Students with ADHD</i>	43
3.2.3. <i>Soft Skills among Students with ADHD</i>	44
Chapter 4. My Research	47
4.1. Aims of the Study and Hypotheses.....	47
4.2. Methods.....	48
4.2.1. <i>Participants</i>	48
4.2.2. <i>Measures</i>	50
4.2.3. <i>Procedure</i>	54
Chapter 5. Results	55
5.1. Data Analysis.....	55
5.2. Results	56
5.2.1. <i>Correlations between Soft Skills, Study-Related Factors, and Academic Factors</i>	56

5.2.2. <i>The Role of Soft Skills and Study-Related Factors on Academic Achievement and Satisfaction</i>	58
5.2.3. <i>The Role of Soft Skills, Study-Related Factors, and Academic Factors on ADHD</i>	60
5.2.4. <i>Correlations between ADHD, Soft Skills, Study-Related Factors, and Academic Factors</i>	62
Chapter 6. General Discussion	65
6.1 Discussion and Conclusion.....	65
6.2 Limitations and Future Research Directions.....	70
References	72

Abstract

To effectively support students' academic performance and fulfillment, it is crucial to understand the factors and qualities that empower all students to thrive and enhance their academic experience, satisfaction, and overall success, particularly for vulnerable groups like those with ADHD (attention deficit hyperactivity disorder). To accomplish this, study-related factors (self-regulated learning, self-efficacy) and soft skills, which are personal and interpersonal abilities to help manage emotions and behaviors, were examined, and their impact on academic factors was investigated within a sample of students without any identified diagnosis. Furthermore, to assess the effects of ADHD traits on students' performance, soft skills, and study-related factors (self-regulated learning, academic self-efficacy) were measured and compared between two groups: students with and without ADHD traits. The results showed that the current grade, a measure of academic achievement, was positively correlated with academic factors (satisfaction, self-regulated learning, self-efficacy) but not with soft skills. Academic satisfaction was highly correlated with both study-related factors and soft skills, and study-related factors were also positively linked to soft skills. However, regression models revealed that only cooperation skills and academic self-efficacy predicted academic satisfaction, while study year and female gender significantly predicted current grade. ADHD disattention symptoms were related with lower self-regulated learning, academic self-efficacy, and some soft skills (self-management, social engagement), while hyperactivity/impulsivity negatively affects self-efficacy and some soft skills (self-management, emotional resilience). Considering instead the comparison between participants with a diagnosis of ADHD with students without any diagnosis, differences

emerged in self-management and cooperation skills, with ADHD reported lower scores. Overall, current results show that the promotion of study-related factors and soft skills can greatly support students' growth, contentment, and success with or without ADHD traits.

Introduction

In today's world, success is often regarded as the goal for many individuals, particularly for university students who consider academic achievement as the cornerstone for their future careers. However, achieving this success is not always straightforward. Numerous factors can influence students' academic performance and satisfaction, both positively and negatively. A large amount of research has been conducted in the literature to examine these factors. ADHD, or attention-deficit/hyperactivity disorder, can be one factor that has been proposed to hinder learning for reaching success. On the other hand, self-regulated learning, self-efficacy, and soft skills are factors that might have a positive impact on a student's ability to achieve success. Thorough analysis and strategic interventions aimed at addressing these factors are essential. Additionally, actions that develop supportive skills can significantly improve students' academic achievement and satisfaction, which are crucial for their future careers.

The primary goal of the current study is to explore the academic success and satisfaction of university students studying in Türkiye and the effects that soft skills and study-related factors have on them in academic settings. Existing literature on self-regulated learning and self-efficacy underscores its positive associations with academic success and satisfaction. Also, recent literature highlights that soft skills directly enhance self-regulated learning (SRL) and indirectly improve academic achievement and satisfaction through SRL. Developing these skills is impactful to improve SRL, academic satisfaction, and achievement. However, the effects of soft skills on academic performance are not investigated and are not sufficient as much as other correlations.

To address this gap, the main aim of my thesis is to investigate all the correlations between all variables for the students studying in Türkiye. While this purpose is examined, it is also aimed to explore the effects of students with ADHD traits on academic well-being as well as soft skills, self-efficacy, and self-regulated learning. The goal is then to investigate whether there was a difference between students with and without the traits of ADHD. The fundamental purpose of this study is to highlight the impacts of soft skills, study-related factors, and having ADHD or having its traits in a significant way on academic success and satisfaction to raise awareness by reinforcing encouragements and implementing necessary interventions and accommodations for students studying at universities in Türkiye.

This study is structured into five chapters. In the first chapter, the definition of soft skills is explained in a theoretically structured way. Since there is a wealth of descriptions of soft skills, various definitions from the literature are presented. This chapter also highlights the crucial elements of soft skills including mostly communication, cooperation, cognitive skills, coping skills, and creativity which are essential for an individual's life. In this study, soft skills are the main topic that will be examined the relation to other variables. Therefore, in the rest of this chapter, the relationship between soft skills and academic satisfaction and achievement is discussed with the role of self-regulated learning (SRL).

The second chapter comprises variables which are self-regulated learning, academic success, and satisfaction that are already mentioned in the first chapter with the relationship of soft skills, and self-efficacy. Firstly, the characteristics and objectives of self-regulated learning are presented in the light of the models of Zimmerman and Pintrich who are influential researchers and experts in this topic. Secondly, what is meant by the main

variables of the study which are academic satisfaction, and achievement in student's life is explained. Then, their correlations with SRL are discussed by relying on the theories of SRL, and other findings on this topic. Lastly, the concept of self-efficacy is presented following a related theory that originated from Bandura's social cognitive theory which is linked to student's academic performance and motivation. The following section explores self-efficacy and its interaction with academic satisfaction and achievement, by explaining the influence on educational outcomes.

The third chapter examines the effects, interactions, and relationships of all the variables mentioned in the previous sections of this research on the university students who are the research sample and who have and do not have ADHD traits. In the beginning, the prevalence, effects, characteristics, and causes of ADHD are described followed by explaining how it exists among students in the university. The rest of the chapter presents the crucial aspects of academic achievement, satisfaction, self-regulated learning, and soft skills in the context of students with ADHD. These concepts provide a comprehensive understanding of how these variables interact and influence students with the traits of ADHD in educational settings.

The fourth chapter represents my research by describing the methods underlying this work. It starts with the expression of the study's aims and the hypotheses that I proposed. Then, the sample description and characteristics, study procedure, and the descriptions of materials that are used for measurement are examined. This chapter also includes a description of the data analysis.

The fifth chapter explains the results by comparing the data obtained, and the sixth chapter presents discussions about the study, conclusions, limitations, and possible future directions that can lead this study field of psychology.

Chapter 1. Soft Skills and Their Role in Educational Context

1.1. Soft Skills

Soft skills refer to the personal attributes and interpersonal competencies that enable an individual to communicate effectively and work harmoniously with others (Durmuşoğlu, & Durmuşoğlu, 2022; Bonifaz-Delgado et al., 2023). These adaptable human features facilitate the management of behavior, emotions, and cognitive processes, thereby enabling the achievement of personal and professional goals. Soft skills have different definitions, models, and theoretical frameworks in the literature claimed by several researchers. In the description of the early theories of soft skills, it is clarified as important capabilities that are related to the job context regardless of using machines (Whitmore, & Fry, 1974). Another explanation claims that technical skills and knowledge are needed to be applied by interpersonal, and behavioral skills in the workplace (Weber et al., 2009). Rainsbury et al. (2002) focused only on the category of interpersonal skills. It is known as behavioral, social, and individual skills that are related to the social environment. It is the combination of people and their personal behaviors when they are handling their relationships with people. According to Laker and Powell (2011), soft skills can be categorized into two categories: interpersonal skills, which involve effective cooperation and communication with others, concerning how one interacts with others. Active listening, solving problems, empathy, and adaptability are also included in interpersonal skills. These skills encourage relationships, support success, and enhance teamwork in both personal and professional settings; intrapersonal skills are related to self-management for optimal functioning and managing one's inner world. They also contain self-

awareness, emotional regulation motivation, and self-reflection which will foster personal growth. These two components are both integral components of soft skills (Laker and Powell, 2011). The importance of interpersonal skills and their role in enhancing self-regulation abilities is underscored in both definitions. Another model, similar to the two-category model, claims that intrapersonal and interpersonal skills can be used interchangeably with social and emotional skills which are necessary for social interaction, professional achievement, and personal improvement (Kechagias, 2011; OECD, 2017). These are some of the conceptualized theories in the literature used in the study of soft skills (Marin-Zapata et al., 2022). Soft skills are conceptualized as personal characteristics that are related to personal qualities, behaviors, and social abilities. These skills are closely related to how individuals interact with others through various social situations. However, it is important to highlight that they are distinct from personality.

Despite the becoming more evident of the importance of soft skills in various domains, there is a notable lack of a unified theoretical model that describes and integrates these skills comprehensively. It is challenging to evaluate, develop, and apply soft skills in various contexts without a unified structure which limits understanding and their potential impact. Although there is a lack of comprehensive theory for soft skills, some theories have been put forward and studied. Along with other national and international organizations, the World Economic Forum (WEF) has acknowledged the growing significance of soft skills in addressing challenges like educational and economic needs for the 21st century (World Economic Forum, 2016; Feraco et al., 2023). In order to meet these needs, the World Economic Forum (WEF) created a framework of soft skills that highlights important social

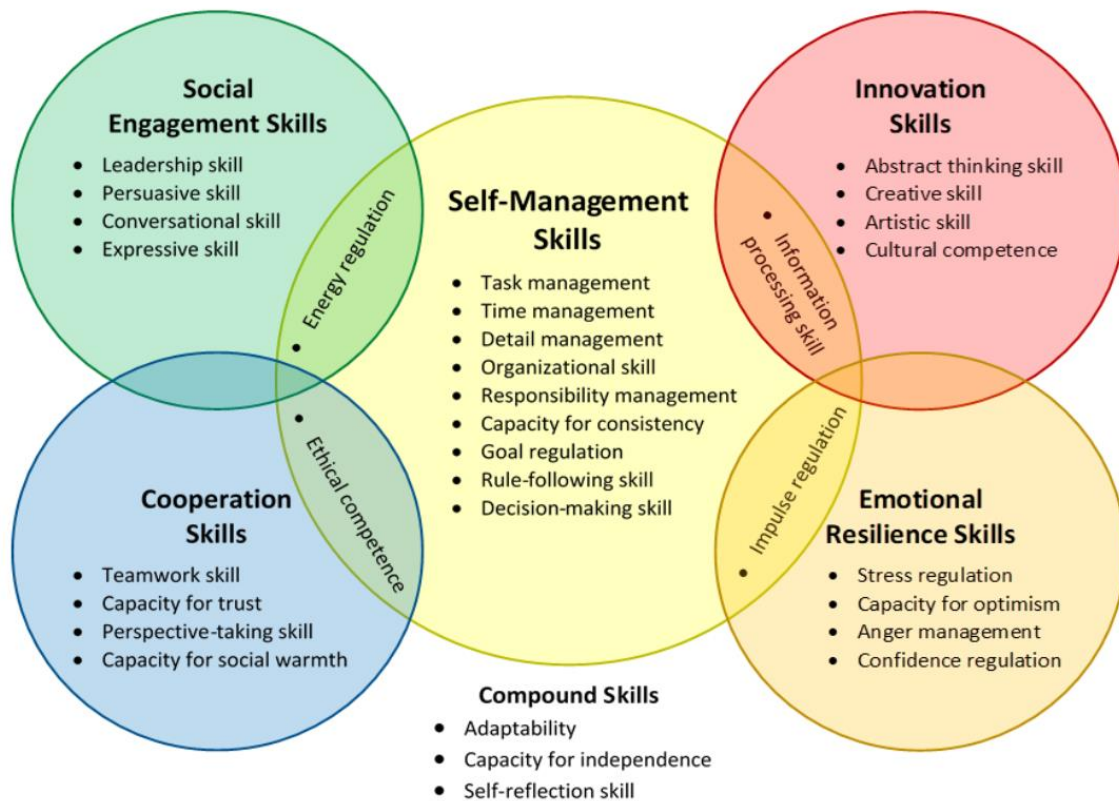
and personal characteristics like initiative, leadership, adaptability, curiosity, perseverance, creativity, and critical thinking. These abilities are essential for success in various settings, but they are especially important in education, where findings indicate they are critical for student success, self-efficacy, and overall life satisfaction (Feraco et al., 2022). Among these traits, adaptability which is the ability to control one's behavior effectively when faced with unexpected situations; curiosity, which is the motivation behind people's exploration and learning of new knowledge; perseverance, which is the tendency to work hard even in difficulties are the three traits that emerged to influence people's success (World Economic Forum, 2016; Feraco et al., 2022b).

More recently, Soto et al. (2021; 2022) have proposed social, emotional, and behavioral skills (SEB skills). In this model, SEB skills are conceived as abilities that help with goal-setting, relationships, emotions, and education management. It was crucial to identify key social, emotional, and behavioral (SEB) skills and organize them into a structural model. Various fields have proposed different taxonomies, but many converge on three to five main domains, often similar to interpersonal, intrapersonal, and intellectual skills (Park et al., 2017). Despite different labels, these domains frequently align with the Big Five personality traits (extraversion, agreeableness, conscientiousness, emotional stability, and openness), suggesting that SEB skills can be effectively categorized using a similar framework (John et al., 2008). This convergence suggests that SEB skills can be effectively organized using a framework resembling the Big Five, providing a foundation for building an integrative model of SEB skills (Soto et al., 2021). However, SEB skills and personality traits should be distinguished, while SEB skills can align with the Big Five traits, they are different

(Duckworth & Yeager, 2015; National Research Council, 2012). Unlike personality traits, which reflect habitual behaviors or tendencies, SEB skills are capabilities that can be actively cultivated, assessed, and enhanced over time. Traits are consistent behaviors across situations, while skills are abilities used when needed (Paulhus & Martin, 1987). Though related, skills and traits don't always match perfectly. It characterizes SEB skills as abilities that reflect what someone is capable of doing, rather than personality traits, which indicate what someone tends to do. This model focuses on creating an integrative model of SEB skills by categorizing numerous specific abilities within five broad domains which are self-management, social engagement, cooperation, emotional resilience, and innovation skills (Soto et al., 2022) shown in Figure 1.1. Everybody has some skills that are necessary for success, in addition to their strengths and weaknesses. For instance, self-management skills are essential for improving career performance by encouraging discipline and goal-oriented behaviors; social engagement and cooperation skills are crucial for teamwork and professional progress, enabling individuals to work effectively in group settings; emotional resilience skills contribute to improving mental health by helping people in managing stress and difficulties; and innovation skills foster creativity and the developing of new ideas. It also includes compound skills, which are abilities used to effectively integrate aspects of multiple skill domains, such as adaptability and self-reflection skills. SEB skills are considered to be adaptable, which means that with practice and education, they can be enhanced over time. They are essential to many facets of life, such as social interactions, energy and impulse regulation, career performance, information processing, mental health, and academic achievement. This model integrates previous taxonomies while recognizing the complexity and overlap of certain skills across domains (Soto et al., 2021). Overall, this

model is crucial for our study because the questionnaire of the SEB skills which is BESSI will be used in this study as an indicator for soft skills. By employing this tool, we aim to gain a deeper understanding of how these skills influence academic and personal success, as well as how they can be developed to better prepare individuals for the challenges.

Figure 1.1 The Categorization of The Social, Emotional, and Behavioral Skills within Five Domains



1.1.1. The Components of Soft Skills

Soft skills consist of various elements, with numerous researchers developing different theories to explain these components. Although all components in different studies fundamentally converge, they differ from a theoretical perspective. As a result of literature research, it is found that the most basic components of soft skills are communication, social engagements, teamwork/cooperation, critical thinking/decision-making/problem-solving, emotional resilience, self-management, desire to learn, and creativity. Communication is a key interpersonal skill. It is the process of sharing and exchanging thoughts, ideas, information, and feelings with individuals or groups mutually. Communication strength lies in being effective, efficient, and assertive. Assertive communication is recognized as the ability to express feelings and perceptions, both verbally and non-verbally, in a manner that neither harms others nor compromises one's own rights. This skill involves articulating emotions and providing feedback without judgment, as well as receiving feedback through active listening (van der Hofstadt & Gómez, 2013). Social engagement typically indicates involvement in the activities of a social group (Thomas et al., 2012). It may include leadership skills which are leading a group of people and taking charge of the situation, persuasive skills which is the capacity to present arguments effectively, expressive skills which are the ability to convey one's thoughts and feelings to others, conversational skills which is the ability to start and sustain social interactions, and energy regulation skills which is the capability of using energy effectively and productively (Soto et al., 2022). Cooperation/teamwork skills are used for maintaining positive social relationships and engaging in work by negotiating with other team members. They reinforce people working

to accomplish shared objectives through open communication, assistance from one another, handling conflicts collaboratively, and sharing responsibilities. Reliability, adaptability, and a collective commitment to common goals are necessary for success. In psychology, it is seen as an attitude favoring the collective and mutual benefits, marked by helpfulness, communication, trust, and sensitivity to common interests. This approach sets aside personal power desires (Deutsch, 2011). Problem-solving, decision-making, and critical thinking are related cognitive abilities (Guerra-Báez, 2019). Objective information analysis and evaluation are key components of critical thinking. Making decisions involves assessing options and selecting the best course of action. Effectively recognizing, evaluating, and resolving problems are all part of problem-solving. When combined, these abilities help people comprehend difficult circumstances, make wise decisions, and overcome challenges (Guerra-Báez, 2019). Emotional resilience skills encompass the capacity to manage and control emotions and moods. It includes consciously processing, accepting, coping with, and identifying emotions in specific situations, along with recognizing their physiological effects. Also, effective emotional management involves controlling behaviors, maintaining focus, regulating physiological responses, and enhancing self-awareness (Linehan & Koerner, 1993). Self-management skills refer to the abilities utilized to successfully pursue goals and accomplish tasks (Soto et al., 2022). It includes time management which refers to the ability to operate time while achieving goals effectively, organizational abilities which involve the capability to arrange and manage personal spaces and belongings effectively, consistency which refers to the ability to perform routine tasks reliably and dependably, task management that involves the capability to work towards completing tasks and achieving goals persistently, and responsibility management which means to the capacity to keep promises

and fulfill commitments reliably (Soto et al., 2022). The willingness to learn is a crucial aspect of soft skills. It is being curious and careful about new information, knowledge, and growth opportunities. It includes epistemic curiosity, desire to know, actively seeking feedback, adapting to changes, and developing skills to contribute effectively in different environments (Casali and Meneghetti, 2023). Creativity involves generating novel and effective approaches to tasks or challenges with originality. It involves innovative skills which may include abstract thinking, artistic skills, and cultural adequacy. These components are a compilation of many theories and research on soft skills.

The definition of soft skills differs from one context to another. Soft skills play a major role in both academic performance and workplace success (Gibb, 2014). They comprise interpersonal abilities like communication and teamwork, as well as adaptability and emotional intelligence. They are becoming increasingly important due to their impact on productivity and collaboration in various settings. They are also predicted to improve education, academic achievement and satisfaction, and self-regulation.

When examining all the elements related to soft skills and the theories encompassing these components, it becomes evident that Soto's SEB (Social, Emotional, and Behavioral) Skills model is the theory that most comprehensively addresses all the elements of the soft skills (Soto et al., 2021; 2022). As mentioned in the previous section, the SEB skills diagram illustrates various categories of soft skills that overlap and interrelate (Figure 1.1). Self-management skills are the ability to control one's own actions, time, and responsibilities is the main focus of these abilities. One aspect of the skill is task and time management, which is the capacity to effectively manage several activities and meet deadlines. Another one is

detail and organizational skill, which is the ability to keep everything organized while handling task complexity. Responsibility and consistency mean remaining consistent and predictable in behavior. Goal and rule-following regulation are the ability to establish, seek, and follow rules and objectives. Lastly, decision-making is the ability to make thoughtful choices in various situations. The accomplishment of academic and professional goals depends on these abilities, which are effective personal management. The fact that self-management is shown as the center of all other abilities suggests how fundamentally important it is (Soto et al., 2021). Another element is social engagement skills, which are the ability to facilitate interaction with others and highlight the social setting of energy regulation. It includes persuasion and leadership, which is the capacity to influence and lead people. Also, conversational and expressive skills are the capacity to initiate active and clear communication. The ability to interact with people and use interpersonal energy to effectively influence is the main focus of social engagement (Soto et al., 2021). Cooperation skills refer to one's capacity for ethical and social interactions to maintain positive social relationships. It includes collaboration and trust, which are performing effectively in groups and being trusted. Also, perspective-taking and social warmth are putting others' needs and feelings first while establishing a friendly, cooperative environment. These abilities are critical in team-based settings where success depends on mutual respect and trust (Soto et al., 2021). Emotion resilience skills are capacities used to regulate emotions, moods, and impulses. It includes anger and stress management, which are controlling negative emotions. Also, the capacity to regulate confidence and optimism is the ability to maintain optimism and self-confidence under difficult circumstances. Emotional resilience is crucial for maintaining mental well-being and coping with distress (Soto et al., 2021). Lastly, innovation skills are the ability to

engage with creative ideas, experience, and abstract thinking. The capacity to generate novel concepts and creative solutions is known as abstract thinking and creativity. Cultural competence and artistic skill involve understanding the arts and cultural nuances, essential for creativity, problem-solving, and adapting to change. Effective information processing enhances creativity by converting ideas into practical solutions (Soto et al., 2021). When all these elements were examined, it became clear that this model encompasses all the previously discussed components of soft skills. For this reason, it is considered the most appropriate framework for this study, as it offers a comprehensive understanding and is likely to provide the most insightful interpretations of the relationships between soft skills and the other variables under investigation. This theory's holistic approach allows for a more nuanced analysis of how these factors interact, making it an ideal choice for the purposes of this research.

1.2. Soft Skills and Academic Satisfaction and Achievement

Since the soft skills are explained in the previous section, this part explores the relationship between soft skills and factors such as academic achievement, satisfaction, and self-regulated learning which are influenced by and have an impact on soft skills. Also, the following second chapter will provide a detailed examination of the definitions, characteristics, and theoretical framework of the concepts of self-regulated learning, self-efficacy, academic satisfaction, and achievement which are the key variables that demonstrate the interplay among each other and soft skills. Research indicates a positive correlation between self-regulated learning, academic achievement, and academic satisfaction (Richardson et al., 2012; Nilson, 2013).

Effective self-regulated learning abilities lead to satisfaction with students' academic experiences. Since they can successfully control their study habits, maintain organization, and overcome obstacles, which are the features of self-regulated learning, students experience the feeling of making progress and achieving something. Improved academic achievement is mostly the result of higher academic satisfaction. Students are more motivated and engaged when they are satisfied with the way they are studying, and this can improve their general academic performance (Chen & Lo, 2012; Ramos et al., 2015; Richardson et al., 2012). Therefore, these three variables essentially affect each other in various ways. Additionally, the potential influence of soft skills on these variables is being investigated. However, the existing literature on this investigation is insufficient. It indicates a noticeable gap in the research area. This section aims to theoretically examine the potential relationships among these variables.

Soft skills include traits that enable individuals to control and manage their emotions, cognitions, and behaviors (Robles, 2012). The components of soft skills include interpersonal features such as teamwork, communication, and empathy as well as intrapersonal features such as time management, self-motivation, and adaptability as mentioned previously. They facilitate people to establish social relationships and handle personal responsibilities in the field of personal and professional success and satisfaction. The self-regulated learning process facilitates students to take responsibility for their own learning process. It comprises setting targets, evaluating enhancement, and modifying strategies to attain learning goals. Some essential elements of self-regulated learning are motivation maintenance, self-monitoring, self-reflection, and planning. Examining these two variables' characteristics and

components reveals that they overlap with one another (Kechagias, 2011; Laker and Powell, 2011; Pintrich, 2000; Zimmerman and Schunk, 1989). Soft skills provide self-regulated learning the support it needs to have self-management and engage in relationships in an efficient way. One example of a soft skill that is essential for self-regulated learning is time management, which is needed for scheduling and arranging study sessions. Adaptability which is a component of soft skills helps in adjusting learning strategies as needed. Soft skills such as self-motivation and emotional resilience are essential for sustaining the determination and self-monitoring required for self-regulated learning. They support students in maintaining focus and overcoming challenges. Academic success and personal development are encouraged when self-regulated learning is combined with soft skills, especially in the school context. They help students gain independence, self-confidence, and the capacity to overcome a variety of challenges. Also, soft skills help students achieve academically by improving their ability for peer collaboration, effective communication, and environment adaptation. These abilities also support stress reduction and keeping a positive perspective on learning. Therefore, soft skills, self-regulated learning, achievement, and academic satisfaction are all related to one another and reinforce one another. Soft skills help students to improve in self-regulated learning, which conducts academic satisfaction. Higher motivation and engagement result from this satisfaction, which conducts academic achievement. Thus, improving effective self-regulated learning strategies, directing academic satisfaction, and eventually succeeding academically are all affected by the fostering of soft skills.

The research of Feraco et al. (2022b), for example, demonstrated that through the mediation of self-regulated learning and motivation, soft skills were indirectly correlated with academic achievement and directly positively correlated with students' achievement emotions, self-regulated learning, motivation, and life satisfaction. According to these findings, the emotional, behavioral, and cognitive components of self-regulated learning mediate the effect of soft skills on academic achievement. Also, soft skills positively affect life satisfaction which will lead to academic satisfaction and achievement. As a result, students who have evolved soft skills are more likely to feel good about themselves at school, use more and better self-regulated learning methods, and be more motivated to study. It means that soft skills control students' actions, attitudes, and feelings, which promotes academic success in education (Feraco et al., 2021; Feraco et al., 2022b; Martin et al., 2012). Another study demonstrates that motivational attitudes, self-regulated learning strategies, achievement emotions, and study resilience positively correlate with soft skills. This shows that these traits help students to regulate themselves. In the same study, curiosity, creativity, and critical thinking are some of the traits that help students enjoy learning more, use useful techniques, maintain motivation, and reflect on failures easily (Casali & Meneghetti, 2023). One of the other studies searches for soft skill components which are adaptability, curiosity, and perseverance. They find that there is an indirect link with academic success. This success is also directly linked with self-efficacy, and fluid reasoning and strongly linked with self-regulated learning strategies such as achievement emotions and engagement. Therefore, these elements are mediated between soft skills and academic achievement (Feraco et al., 2023). Lastly, the findings of research that is conducted by Saman and Wirawan (2024) indicated that students' academic achievements which are grades and scores, affected the indirect

relationship between psychological capital and soft skills, mediated by psychological well-being. In higher grade levels, psychological capital had a more significant impact on soft skills through the influence of psychological well-being. Also, it is known in research that psychological well-being which includes successful relationships with others, self-acceptance, and having a life purpose leads to positive academic achievement (González et al. 2020). All these researches prove that soft skills or components of soft skills have a direct positive correlation with self-regulated learning or the traits of SRL, and have an indirect positive correlation with academic achievement and academic satisfaction through self-regulated learning. Developing soft skills is crucial for encouraging effective self-regulated learning, increasing academic satisfaction, and lastly achieving academic success.

Chapter 2. Self-Regulated Learning, Self-Efficacy, and Academic Success and Satisfaction

2.1. Self-Regulated Learning

Self-regulated learning refers to a conceptual framework for a person's ability to understand and inspect the learning environment. It comprises comprehending and controlling learning by regulating oneself. It is one of the self-regulation domains that is used mostly for educational purposes (Burman, et al., 2015). The learning environment of students is affected by several factors during the educational phases. Self-regulated learning includes actions, motivations, thoughts, and feelings that are directed toward the achievement of students' own goals that are produced by themselves (Zimmerman and Schunk, 1989). Students who exhibit self-regulation are those who actively engage in learning from the perspectives of cognitive, metacognitive, motivational, and behavioral components to allow learners to become active participants in their learning process (Zimmerman, 2001, 2002). With enough training on these features, students can improve their control and monitor their performance to regulate themselves in an enhanced way for learning. A person engaged in self-regulated learning sets their own learning objectives, controls their motivation, cognition, and behavior, and is constrained by both the surrounding context and their own goals (Pintrich, 2000). Through self-discovery, they grow more self-aware and resolute in their pursuit of knowledge. One way to conceptualize students' process of coming to know themselves is as a means of developing their metacognitive skills, learning with cognitive skills, and gaining the capacity to successfully motivate themselves and their surroundings.

A large number of influential educational psychologists have established many studies, models, and data regarding self-regulated learning. Self-regulated learning is an inherently constructive and self-directed process, according to Winne (1995) who is one of the influential psychologists. There is a wealth of understanding regarding the methods self-regulated learners employ to pick up new abilities and knowledge, as well as the conditions that promote the best conditions for self-regulated learning (Boekaerts, 1999).

2.1.1. Zimmerman's Model of SRL

The social-cognitive perspective is the source of one of the most well-known models of self-regulated learning that psychologists have developed. According to Zimmerman (1998), self-regulated learning consists of several discrete self-directed processes that learners actively use to transform their cognitive capacities and objectives into competence and long-lasting performance. Learning is a process that individuals start, modify, and control to reach their goals rather than occurring by itself from the perspective of self-regulated learning (Zimmerman & Schunk, 2011). Zimmerman (1998) developed a three-phase model of self-regulated learning (SRL) which is a more abstract framework using the social-cognitive approach, which can be applied to any learning task. These three phases include *forethought*, *performance*, and *self-reflection*. In the *forethought* phase, learners make plans, access relevant past knowledge, assess the significance of the learning task, and measure their level of self-efficacy that is, their confidence in their ability to succeed at the task as they get ready to learn. Several motivating beliefs drive the process and affect the activation of learning techniques as students examine the challenge, set goals, and devise a plan to

achieve them during the forethought phase (Panadero, 2017). Students motivate themselves to make a task analysis that takes into account strategic planning and goal setting. These self-motivational beliefs include one's ability to learn, the prospect of the benefits from learning to oneself, involvement in the task, and goal orientation (Artino et al., 2022). In the performance stage, by using metacognition which means thinking about one's thinking, learners adopt specific learning strategies. They assess their progress toward goal accomplishment and monitor their activities during performance. Then, students who have high self-regulated learning reflect after accomplishing the learning assignment. During this phase, students also carry out the work itself, keep track of their progress, and employ various self-control techniques to maintain cognitive engagement and task motivation (Artino et al., 2022). This stage is also called volitional control which includes attention focusing, self-control, and self-observation (Nilson, 2013). In the self-reflection phase, common components of self-reflection are an appraisal of one's overall performance as well as an analysis of what could be done differently or better the next time. In addition, students assign causes to the reasons behind their actions (Panadero, 2017). During the self-reflection phase, students evaluate their performance and attribute their failure or success. When students are given these attributions, they respond to themselves, which may or may not have a good or negative effect on how they approach the assignment in subsequent performances (Artino et al., 2022). These three phases are some of the most influential models that Zimmerman developed for self-regulated learning.

2.1.2. Pintrich's Model of SRL

Another major contribution is the theoretical framework based on the social-cognitive perspective developed by Pintrich (2000). According to Pintrich, self-regulation exercises influenced students' accomplishments by mediating the relationships between them and their surroundings (Schunk, 2005; Pintrich & Zusho, 2002). His model includes four phases of self-regulation which are *planning, self-monitoring, control, and evaluation*; and each self-regulation phase includes four self-regulation areas which are *cognitive, motivational, behavioral, and contextual* areas. In the first phase which is *planning* or forethought, the cognitive area includes goal setting which is setting task-specific aims, activation of prior knowledge which is deliberately thinking through encouragement and self-questioning like questioning what a person knows about things, and metacognitive knowledge activation which is understanding the challenges associated with the various tasks, determining the knowledge and abilities required to meet them, and being aware of the resources and approaches that can be useful in completing the work, for instance, note taking (Torrano, & González-Torres, 2004). The motivational area includes goal orientation, understanding the difficulty levels of the tasks, and self-efficacy. In the behavioral area, planning the time and arranging the effort that is needed to be used in a task is covered. Lastly, the contextual area covers the perception of tasks and contexts. *Self-monitoring* phase comprises the activities that support the learner in becoming conscious of their motivation, emotional states, and states of cognition as well as how they use their time and energy concerning the work and the situation also includes metacognitive awareness in the cognitive area. The motivational area covers being aware of motivational patterns and monitoring the motivation. The

behavioral area includes the awareness of the time and effort, looking for help, and observing behaviors. Monitoring the tasks and changing them according to contexts are included in the contextual area. In the *control* phase, students try to control their motivation, attitudes, actions, and environmental factors throughout the cognition area to improve learning. By using cognitive monitoring, students evaluate their progress toward their goals. Learners employ cognitive and metacognitive processes to modify and adjust their beliefs, which falls under the category of cognitive control and regulation (Pintrich, 2000). Selecting and modifying motivation techniques for managing motivation is in a motivational area; arranging effort, preserving, letting up, and seeking help behaviors is in a behavioral area; changing, leaving, or discussing the context is in a contextual area. Lastly, the evaluation or reflection phase comprises making judgments, assigning attributions, and self-evaluating their performance in the cognitive area. Affective reactions, behavioral choices, and evaluation of tasks and contexts are included in other areas. The model of Pintrich is developed comprehensively and detailedly to contribute to self-regulated learning in terms of cognition, motivation, behavioral, and contextual aspects.

As can be inferred from existing theories, having high self-regulated learning benefits students in several ways. Students can think strategically, be conscious of their own thoughts, and focus their motivation on beneficial goals. Hence, when students are learning, and studying they are more prone to achieving success or being satisfied by their performance.

2.2. Self-Regulated Learning and Academic Satisfaction and Achievement

Academic satisfaction is the term used to describe a student's general contentment and positive emotions regarding their educational experiences (Telef, 2020). It is a psychological condition that arises from students' expectations regarding their academic reality being confirmed or not. It is defined as the subjective judgment of the entire educational experience (Chen & Lo, 2012). Student perception and understanding of their learning environment, as well as the features of the institution within its educational setting, can all have an impact on academic satisfaction, which is a dynamic process closely linked to the caliber of students' learning (Chen & Lo, 2012). It includes being satisfied with the classroom, campus amenities, and larger educational community as well as the physical and social environment in which learning occurs. It also contains academic support, teaching quality, peer relations, and how engaging, captivating, and goal-relevant students find their classes to be (Ramos, et al., 2015).

Academic achievement is the quantifiable performance of a student in their learning tasks that can be measured through grades, test scores, skill improvements, and engaging in learning tasks. Enhancing academic satisfaction and achievement can be achieved by assisting students to take charge of their learning and attain better results, emphasizing goal-setting and the development of self-regulation abilities by teachers.

Self-regulated learning is an effective strategy that may significantly enhance academic achievement and satisfaction. Students who actively participate in their education gain important life skills that help them succeed in their academic life and more. How well

students can control their learning has an impact on their academic achievement as poorer outcomes and grades (Barnard-Brak et al., 2010).

In the literature, many findings indicate a positive relation between self-regulated learning and academic satisfaction and achievement (Richardson et al., 2012; Nilson, 2013). Achievement is directly related to learning activities and outcomes. Both positive and negative achievement should increase and decrease the mastery of learning objectives, higher self-efficacy, higher scholastic engagement, and the application of innovative learning methodologies (Pekrun, 2006). Therefore, achievement should directly or indirectly endorse the academic achievement of students. Extensive research has gathered proof that self-regulated learning improves student performance or achievement in courses and course units, how much and how deeply students think, how conscious they are about their learning, and how reflective and responsible a professional they become (Nilson, 2013). As indicated previously, one of the essential components of self-regulated learning is metacognition. A recent experimental study by Rolf, et al. (2012) demonstrated that metacognitive experiences have a positive effect on a variety of learning-related factors, such as improving exam performance and expressing a greater appreciation of the advantages of assignments. According to another research, one facet of self-regulation which is the capacity to postpone gratification while young, has a significant impact on behavior and skills as an adult. Achieving educational goals, planning, self-worth, ego resilience, stress management, social and cognitive competence, goal-setting, and money attainment are all encouraged which will lead to academic achievement and satisfaction (Nilson, 2013). One of the primary positive determinants of academic achievement which is not related to cognition is the application of

self-regulated learning techniques which is a basic component of learning (Richardson et al., 2012). These components include, for instance, the cognitive and metacognitive assessments of students' study processes in addition to the actions they take to complete their learning goals. Students' academic progress will ultimately be favored by the proper application of the various self-regulated learning techniques (Richardson et al., 2012). Furthermore, students who experience achievement are more likely to be academically motivated and use self-regulated learning techniques more effectively. Finally, motivated students also use high self-regulated learning tactics, also tend to demonstrate achievement academically (Feraco et al., 2022a).

To examine the relation between these variables in a detailed way, Zimmerman's three-phase model can be discussed gradually. For forethought, making a plan facilitates systematizing students' study routines. In addition, retrieval of previous knowledge and awareness of the importance of learning will lead to efficient study, then their self-confidence can increase to ensure the success of students in academic life. For performance, students analyze their activities and tasks according to the logical sequence of tasks that are supposed to be completed to arrange their next actions to be more efficient in studying strategies by improving their self-control to achieve satisfaction and achievement. For self-reflection, is the phase for evaluating one's self to improve for the next time. This phase is one of the most important parts of success because it is hard for the learners to succeed at the next stage without knowing where a mistake is made.

Thus, a person's previous performance should be evaluated by itself, so that the person realizes the positive or negative aspects of his performance and reflects it on the next stage.

In this way, the students are able to always improve their self and achieve success and self-satisfaction. These stages of self-regulated learning demonstrate a positive impact of self-regulated learning on academic achievement and satisfaction. Another result of the study by Limone et al. (2020) found that poor self-regulation, particularly in planning, cognitive, and metacognitive strategies, predicts procrastination which can lead to failure to complete tasks and success in them. Both time management and metacognitive regulation are crucial, and inadequacy of either leads to procrastination. These results highlight the importance of time management and metacognitive processes which are part of self-regulated learning for academic success.

Consequently, by enhancing self-regulated learning, educators can strengthen students to take control of their educational careers, leading to higher levels of academic satisfaction and achievement. As a result, developing these skills not only increases academic performance and satisfaction but also equips students with the necessary abilities for lifelong learning and personal development.

2.3. Self-Efficacy

Self-efficacy is the belief in an individual's ability to perform a task or reach a goal by taking the actions required to accomplish a purpose (Bandura, 1977). It includes having confidence in one's ability to control behavior, adjust to the environment, and maintain motivation. Self-efficacy affects the effort that is applied in a situation as well as the performance. Also, it helps to set goals in a given situation. Self-efficacy is essential since it

influences how one views oneself which is the self-perception and how likely one is to achieve life goals. It determines people's self-perception of their skills and whether they believe that they can succeed in their goals in life. That is the reason the concept is useful for relationships, the workplace, and education, among other things. Motivation, resilience, and determination are the variables that are influenced by self-efficacy which is caused by self-belief. For instance, motivation and durability may affect professionalism and ambition for a job and have an effect on the workplace in general or relationships with coworkers. Furthermore, enhancing self-efficacy increases a student's belief in their ability to succeed in several areas of life. A student's confidence in their ability to succeed in their academic life is reinforced by this increased belief in personal capability, which will lead to a positive effect on academic achievement. Thus, self-efficacy is ultimately essential to your achievement, well-being, and sense of fulfillment. Self-efficacy is a critical motivational construct that influences decisions, effort, determination, and achievement, according to theory and research. A considerable amount of theoretical and empirical literature has been developed on the concept of self-efficacy.

2.3.1. The Theoretical Model of Self-Efficacy

In 1977, psychologist Albert Bandura published the concept of self-efficacy in his social cognitive theory. Social cognitive theory emphasizes the interaction between people, their behaviors, and environmental factors. The concept of these three factors' interactions is called reciprocal determinism. This theory suggests that in addition to learning from personal experience, people can also learn from observing the actions and outcomes of others and their

surroundings. The social cognitive theory integrates ideas from cognitive, behavioral, and emotional models of behavior change which will affect learning that occurs in a social context with an interaction of person, behavior, and environment (Bandura, 1986). Observational learning is one of the components of this theory. It implies learning from observing how other people behave and observing the results of their actions. This often emerges through modeling which is learning through the imitation of others, especially those perceived as similar to themselves (LaMorte, 2016). Another component is an expectation for outcomes which is the belief about the consequences of engaging in a behavior. The probability of showing behavior may vary depending on these expectations. Another core component of social cognitive theory is self-efficacy. This implies an individual's confidence or belief in their ability to successfully demonstrate a behavior (LaMorte, 2016). Self-efficacy is a fundamental component of social cognitive theory since it is derived from self-perception and external experiences when deciding the results of different events. It represents a person's interpretation of external social influences (Bandura, 1988). It is important to understand that the concept focuses on beliefs about one's perceived competence or lack of competence to complete a specific task, not one's actual performance or capabilities (Mills et al., 2007). An individual is significantly influenced by the behaviors they observe in others regarding their actions and reactions, including social behaviors and cognitive processes. According to Bandura, self-efficacy expectations are self-regulatory thoughts that control the performance of crucial actions, the amount of effort that is carried out, and the duration of persistence regardless of difficulties and failures that will persist (Conner & Norman, 2015). For instance, people who have high self-efficacy, or who think they can perform well, are more prone to see difficult activities as something to be mastered rather than something to avoid.

Self-related cognitions which affect self-efficacy, play a critical role in the motivation process. Therefore, self-efficacy has the power to either increase or decrease motivation. The confidence to apply the required abilities to overcome urges, manage stress, and gather resources to satisfy situational demands is demonstrated by perceived self-efficacy (Conner & Norman, 2015). Bandura's expression of self-efficacy is crucial for the literature and understanding of the concept.

2.3.2. Self-efficacy and Academic Satisfaction and Achievement

Self-efficacy, the belief or confidence in one's ability to succeed in specific tasks, plays a significant role in academic satisfaction and achievement. Believing that one action will create a particular consequence and a person is capable of performing that action influences students' behavior in applying effective techniques and strategies that will positively affect academic performance (Wilcox, & Nordstokke, 2019). The term academic self-efficacy claims the belief that one can fulfill the necessary regulatory tasks to achieve academic success (Zimmerman et al., 1992). For example, a student who feels confident about contributing to class discussions in one course shows academic self-efficacy. They engage in conversations, share their ideas, and ask questions with the belief that their contributions are valuable and they can effectively share their ideas. High academic self-efficacy encourages the planning for more challenging academic goals, which improves goal-oriented, self-regulatory behaviors and grades (Pajares, 2002; Wilcox, & Nordstokke, 2019). For instance, students who believe that preparing for an exam will help them to succeed in the exam can arrange a time to prepare beforehand, unlike the students who think that

preparing will not help for the exam and refuse to prepare. Moreover, students who think that preparation will help but believe that they are unable to prepare or set a time for it before the exam fail to prepare for the exam beforehand. This implies that a student who feels confident, which means a student with high self-efficacy, will be able to learn the information, prepare for an exam, and succeed on a task. Parajes (2002) also indicated that students show greater self-efficacy when they are encouraged to attribute their performance to their effort.

The previous research supported the idea that high self-efficacy positively affects academic achievement and therefore satisfaction. According to Lent et al. (2008), when compared to students with low self-efficacy, those who have high self-efficacy achieve greater academic expectations and perform better academically. They will have high self-confidence and motivation that they can study better and therefore achieve better results, and their academic expectations will be higher. Therefore, they are more successful as self-efficacy is managed. In another study, it is demonstrated that self-efficacy improves human well-being in terms of the level of anxiety and stress when people perform an activity, especially as students when they are in the exam (Pajares and Miller, 1994). Thus, students who have improved self-efficacy are more prone to control their stress during the preparation phase or exam period because of their confidence. Moreover, Bandura (1997) indicated that the level of satisfaction from the courses that students engage in academic life is also estimated by self-efficacy. Students are inclined to attend fields and courses in which they can be more successful. When attending these courses, they decide by asking the question 'Can I do this?'. Therefore, when they take courses that they think they can do, their satisfaction with that course is higher than when they take courses that they think they cannot do. In conclusion, one of the key elements

of academic achievement and satisfaction is self-efficacy. It affects students' courage, motivation, and effort, which results in better academic performance and a more satisfying learning environment.

Chapter 3. ADHD and Studying at the University

3.1. What is Attention Deficit Hyperactivity Disorder (ADHD)

Attention deficit and hyperactivity disorder (ADHD) is one of the most common neurodevelopmental mental disorders. It is characterized by inattention, hyperactivity, and impulsiveness which impacts learning (American Psychiatric Association, 2013). It affects around 5.9% of school-aged children and 2.5 % of adults (Faraone et al., 2021). According to the DSM-IV criteria (American Psychiatric Association, 1994), a child must have several impulsive, hyperactive, and inattentive behaviors over six months, before seven years old. These behaviors must be present both at home and at school and must seriously affect the child's ability to function daily (Daley, & Birchwood, 2010). Children with ADHD struggle to control their spontaneous behaviors, including voice, movement, and concentration. While attention span difficulties and problems following instructions can affect all kids, children with ADHD exhibit these behaviors so frequently and severely that it interferes with their everyday lives (CDC, 2021). The criterion for adults may differ from children. However, according to the Wender Utah scheme (1993), some adult ADHD characteristics meet the criteria for ADHD in childhood. Additionally, it comprises motor hyperactivity which is the inability to relax and maintain resting like sitting and reading books; disorganization which includes undone tasks or failure in planning; not being able to handle emotions and reactions which are controlling stress, dramatic mood changes, and getting easily angry; having attentional difficulties like having memory problems and forgetting things (Ward et al., 1993).

ADHD includes three basic and common characteristics and atypical behaviors develop through these three patterns (American Psychiatric Association, 1994). Inattention involves difficulties focusing, organizing, and finishing work. It is not related to disobedience or understanding. Individuals could find it difficult to concentrate, follow instructions, and pay attention to details. They regularly start things and don't finish them, and they look distracted or forget things, which causes them to misplace things, lose sight of assignments, avoid mentally challenging activities, and ignore everyday responsibilities (American Psychiatric Association, 2022). Hyperactivity involves constant movement, fidgeting, difficulty sitting still, and inappropriate behaviors such as running or climbing. It also includes talking too much, answering questions out of the blue, and interfering with other people. Impulsivity is the inability to control one's impulses or act without planning. One characteristic of this is making decisions quickly without thinking through the consequences (American Psychiatric Association, 2022). ADHD is a disorder that is mostly detected in childhood especially when children start school and it can last into adulthood. Some adults have never been diagnosed but have ADHD. However, the symptoms slightly differ in adulthood. Hyperactivity occurs in being excessively restless or inattention may increase intensively. Severity and the conditions under which problems arise might change (National Institute of Mental Health, 2021). It may lead to lifelong challenges such as mental health issues, lack of employment, and criminal behavior during adulthood (Bellato, et al., 2022).

Numerous studies show that while genetics play a major role in ADHD, the disorder most likely results from a combination of factors such as genes and environmental factors (Faraone et al., 2021). Researchers are looking into maternal behaviors like cigarette and alcohol

consumption during pregnancy as well as stress during pregnancy. (Maher et al., 2023). Other potential factors that are not genetically caused include environment, nutrition, and brain damage. Although heredity is complex and not caused by a single gene, the fact that ADHD runs in families suggests a genetic component (American Psychiatric Association, 2022). Differences in the brain have been highlighted, for instance, the study of Pliszka (2007) suggested that children with ADHD have distinct brain area activity during specific tasks that is related to ADHD activation and have lower volumes of both the grey and white brain matter. Medication, psychotherapy, and other behavioral interventions, and a mix of approaches, are used in the treatment of ADHD.

3.2. University students with ADHD

Since ADHD causes many difficulties in daily life, it also brings up a lot of other problems that can impact a person's academic experience. University students with ADHD often encounter particular challenges that can affect their academic performance and overall college experience (Green, & Rabiner, 2012). ADHD influences social interactions, and various skills crucial for academic performance, skills in education, learning, and professional environments. The study by Mak et al. (2021) reports the cross-national prevalence of ADHD, comorbidity, and the multivariate contribution to functional impairment among first-year college students. Significant findings include a high prevalence of ADHD (15.9%) among first-year college students with ADHD, a high rate of comorbidity with other mental disorders, and distribution into several comorbidity classes (Mak et al., 2021).

3.2.1. Academic Achievement and Satisfaction Among Students With ADHD

Academic achievement and satisfaction among students with ADHD are often impacted by the particular challenges associated with the disorder from primary school to college. The result of Daley and Birchwood's (2010) research claims that academic underachievement from early childhood to adulthood is associated with ADHD. Rather than hyperactivity or conduct problems, the main causes of academic difficulties are inattentive symptoms and executive function deficiencies (Daley, & Birchwood, 2010). Numerous studies demonstrate that ADHD significantly impacts academic performance. Lawrence et al. (2021) found that children with ADHD lagged a year behind in math and reading by third grade and 2.5 to 3 years behind by ninth grade. Secondary students with ADHD had lower GPAs, poorer grades, missed deadlines, and were more likely to fail courses and drop out early. According to Prevatt and Young (2014), several studies indicate that college students with ADHD usually perform worse academically in grades, are more likely to drop out of school, have worse study habits, and find it difficult to finish projects and tests on time than their classmates without the ADHD. Since, students with ADHD frequently struggle to focus during lectures, study sessions, and exams, which results in knowledge and comprehension gaps, these factors may lead to performing worse in the academic field. Also, college students with ADHD proceeded more slowly, used fewer study techniques, had worse GPAs, and completed fewer semesters in their programs than their classmates without ADHD (DuPaul et al., 2021). Missing deadlines and incomplete assignments might result from poor time management, organization of tasks, and disciplined study habits which can be observed in

ADHD traits. As these studies indicate, the academic performance and success of students with ADHD are affected by the symptoms that come with ADHD. Furthermore, as provided in previous chapters, academic satisfaction is determined by the classroom experience, self-efficacy, peer relations, psychological status, and accommodation of the school. Since lower academic performance affects academic satisfaction, students with ADHD have an indirect effect on academic satisfaction through academic achievement. Some research indicates that college students with ADHD frequently have more emotional and psychological difficulties than other students. Students with ADHD have poorer social skills, self-esteem, and social adjustment; and they are more distressed psychologically (Shaw-Zirt et al., 2005). These factors create poor psychological status in students which leads to academic dissatisfaction in school. Also, the inability to focus and pay attention during lectures can have a negative impact on the learning process and lower satisfaction levels. One of the distinct features of ADHD is having poor organization skills (Ward et al., 1993). Being disorganized can result in missed deadlines and inadequate exam preparation, which lowers academic satisfaction. Also, ineffective study techniques might lead to dissatisfaction and poor academic performance. Most schools don't have adaptive accommodations or counseling for students who are in need. Thus, students with ADHD may find it challenging to perform well in school if there are not enough adjustments provided for them, which may result in frustration and dissatisfaction. These factors and research findings indicate the relationship between academic performance and satisfaction among students with ADHD. In conclusion, ADHD can impact various aspects of the academic life of students, leading to lower academic achievement and reduced satisfaction can be drawn from these studies.

3.2.2. Self-Regulated Learning among Students with ADHD

Self-regulated learning (SRL) is a process that comprises goal-setting, self-monitoring, and self-reflection, and it is essential for academic achievement as mentioned in Chapter 2 (Pintrich, 2000; Zimmerman and Schunk, 1989). For students with ADHD, due to symptoms including impulsivity, difficulty with executive functioning, and inattention, self-regulated learning can be challenging. These symptoms can cause more difficulty for individuals to manage their impulses, concentrate, and arrange their tasks which are essential elements of effective self-regulation. Research also conducted supports this relation. Barkley's model of ADHD highlights impairments in executive functions such as self-regulation, inhibitory control, and working memory, motivation, forethought, planning/problem-solving (Barkley, 2012). Since ADHD causes deficits in cognitive, behavioral, and social issues, it is particularly linked to executive functioning (EF) impairment. It also includes cognitive abilities that are self-directed and necessary for self-regulation, and affect goal-directed behavior (Barkley, 1997; Douglas, 2005). Children with EF deficiencies have difficulty self-monitoring, planning, and solving problems (Hale et al., 2011). These deficits, along with motivational challenges like reduced task persistence and a preference for easier tasks or making more external attributions for their performance, impact self-regulated learning (Major et al., 2013; Hoza et al., 2004). Self-regulated learning is the process by which an individual changes their behavior in order to improve the probability that they will achieve future goals or outcomes (Barkley, 1997, 2012; Reddy et al., 2015). These descriptions indicate that children with EF impairment have a negative correlation

with SRL (Reddy et al., 2015). Furthermore, the study of Shelton et al. (2017) examined college students with ADHD by dividing between inattention and hyperactivity/impulsivity and checked for the relationship with self-regulated learning strategies (SRL) which are cognitive and metacognitive strategies, and resource management. One of the results of the study showed that inattention is negatively correlated with the use of self-regulation strategies since inattention lowers study skills, and scores like GPA and increases academic anxiety which affect SRL, whereas hyperactivity/impulsivity showed a slightly positive correlation with SRL strategies (Rabiner et al., 2008). Students with hyperactive/impulsive symptoms tend to be more energetic than those with inattention, which may explain the correlation between SRL strategies and increased energy levels. This extra energy may contribute to maintaining student interest and enhancing the use of SRL techniques (Shelton et al., 2017). Thus, it can be concluded that students with ADHD tend to have more difficulties applying self-regulated learning strategies that make their academic lives easier than students without ADHD in particular cases.

3.2.3. Soft Skills among Students with ADHD

Soft skills are significant skills for personal, professional, and academic success by fostering effective communication, overcoming challenges, cooperation, and reducing the possibility of experiencing distress (Casali et al., 2023; Durmuşoğlu, & Durmuşoğlu, 2022). Soft skills are mostly considered as essential competencies and abilities important for the workplace. Thus, their impact on educational settings and student development has not been as extensively examined in the literature compared to other domains (Casali et al., 2023).

Students with attention deficit and hyperactivity disorder (ADHD) often experience particular challenges when developing these skills. They may also have strengths. They can think creatively, and spontaneously, take risks, and pay close attention to detail (Armstrong, 2012). In other words, while students with ADHD can perform some soft skills effectively, they may have difficulty performing some skills. Also, these skills may be beneficial tools for students to maintain their well-being (Casali et al., 2023). For instance, creativity is one of the traits of students with ADHD that helps them to come up with new, creative ideas (Honos-Webb, 2010). The skills for taking risks, which can be combined with impulsivity which is a trait of ADHD, may promote creativity and the development of new approaches for students in their academic life (Cerezo et al., 2023). On the other hand, one of the results of the study by Abdul Mu'iz & Binti Jusoh (2023) demonstrated a significant number of students who demonstrated weak communication abilities were determined to have ADHD. This implies that those who have signs of ADHD can be more vulnerable in terms of their social-communication skills which is one of the most important soft skills. Moreover, students with ADHD can have difficulty replying to their partner from their perspective when they are communicating. The reason is that they suffer from controlling their cognitive and attentional resources, which include impulse control and short-term memory (Nilsen et al., 2013; Lin et al., 2010). Since emotion regulation is one of the soft skills, these difficulties are increased by emotion dysregulation, which makes it harder for them to communicate successfully due to irritation, short-term memory, lack of proper rejection, and sensitivity to criticism (Weir, 2024). Another component of soft skills is problem-solving and coping skills. The study of Young (2005) demonstrated that individuals with ADHD tended to use maladaptive coping strategies, such as confrontational behavior and avoidance, often lacking

the ability to problem-solve and plan in stressful situations. As a result, they may react impulsively by handling challenges aggressively or by avoiding them. Also, coping with change and unexpected situations which are adaptability skills can be difficult for students with ADHD. In conclusion, while students with ADHD may face several challenges in developing soft skills, they can overcome some difficulties with some traits of ADHD.

Chapter 4. My Research

4.1 Aims of the Study and Hypotheses

This study aims to investigate academic success and satisfaction of students getting an education in Türkiye. The primary purpose of this research is to examine the relationship between academic satisfaction, academic achievement, self-regulated learning, and self-efficacy, as well as the relationship with soft skills for university students in Türkiye. The rationale behind this purpose is grounded in the idea that the importance of soft skills and study-related factors, that are self-regulated learning and self-efficacy, can be emphasized and reinforced in the education system. Additionally, we investigated the level of academic achievement and the level of academic satisfaction among university students in Türkiye with traits of ADHD. Measuring the difficulties in the academic life of students with certain disorders or characteristics and addressing these traits are important for the student's academic careers. These purposes and other variables are evaluated in this study.

Based on the literature reviewed in previous chapters, we hypothesize that soft skills, self-regulated learning, and self-efficacy positively correlate with academic satisfaction and achievement in students without any diagnosis. Also, we claim that each variable is positively correlated with one another. Since academic achievement and satisfaction and self-regulated learning are the aspects that affect each other in the literature, we will explore their correlation by adding the soft skills variable by claiming that self-regulated learning mediates the relationship between soft skills and academic satisfaction and achievement.

The second hypothesis posits that the performance of university students with traits of ADHD has a negative correlation with soft skills and study-related variables (self-regulated learning, self-efficacy, satisfaction, and achievement). The literature contains research on the performance of individuals with a diagnosis of ADHD. However, this hypothesis will be tested by comparing students with and without a diagnosis and correlating ADHD symptomatology with soft skills and other variables.

In summary, by examining these hypotheses, the study aims to contribute valuable insights into how study-related factors and soft skills influence students' performances and emphasize the difficulties that students have.

4.2. Methods

4.2.1. Participants

The participants of this research are Turkish university students. They were recruited voluntarily through the distribution of a direct link via email and social media platforms (WhatsApp and Instagram) from different cities and universities to have diverse groups of students. A total of 77 participants, comprising 53 females (68.8%), and 24 males (31.1%), completed the survey between March and June 2024. The participants' ages range from 18 to 30 years, with a mean age of 21.24 years ($SD = 2.272$). The inclusion criterion is to be a university student studying in Türkiye.

Participants were asked to indicate their level of education, year of the course, and the field of the course. Table 4.1 provides information on the participants' educational paths.

Table 4.1 Frequencies for Degree of Students, Year of Study, and Field of Study

Degree	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor's	66	85.71	85.71	85.71
Master's	5	6.49	6.49	92.21
Associate	6	7.49	7.49	100.000
Year of Study				
Preparation	19	24.68	24.68	24.68
1st	16	20.78	20.78	45.45
2nd	7	9.09	9.09	54.55
3rd	19	24.68	24.68	79.22
4th	2	2.60	2.60	81.82
6th	14	18.18	18.18	100.00
Field of Study				
Arts and Humanities	3	3.90	3.90	3.90
Health Sciences	22	28.57	28.57	28.57
Social Sciences	12	15.58	15.58	48.05
Physical Sciences	3	3.90	3.90	51.95
Engineering & Architecture	29	37.66	37.66	89.61
Other	8	10.39	10.39	100.00

To assess the diagnosis of specific learning disabilities (reading, writing, and math) and ADHD or both, and the information of when and from whom they get the diagnosis, multiple choice questions were asked. 13 (16.88%) participants have ADHD, and 64 (83.12%) participants don't have any disorder.

4.2.2. Measures

The measurement scales employed in the questionnaire are as follows:

Self-Regulated Learning Questionnaire – Short Form

This scale involves 20 items assessing five facets of self-regulated learning strategies adapted from De Beni et al. (2014). Four items each: Organization (e.g., “In the early afternoon, I plan all the things I have to do”), elaboration (e.g., “When studying, I try to present the contents in my own words”), self-evaluation (e.g., “After a written exam, I know whether it went well or not”), preparing for exams (e.g., “I try to anticipate what kind of exam awaits me”), and metacognition (e.g., “When an exam goes wrong, I try to understand the reasons why I failed”). Seven items needed to be reversed to calculate overall scores because they proved more reliable than the single subscales. It showed satisfactory internal consistency in the original version ($\alpha = .76$, normative sample, De Beni et al., 2014).

The Academic Self-Efficacy Questionnaire (ASQ)

The academic self-efficacy questionnaire consisted of five items adapted from De Beni et al. (2014). This scale measures the belief that one can succeed in studying (e.g., “How do you rate your study skills?”). This questionnaire is suitable for our study to measure academic achievement. The scale proved reliable in the original version ($\alpha = .80$, De Beni et al., 2014).

The Academic Satisfaction Questionnaire

This scale was adapted from the Multidimensional Students' Life Satisfaction Scale – Short Form – School subscale from Huebner et al. (2012). The Academic Satisfaction Questionnaire comprised five items evaluating satisfaction with university life (e.g., “I enjoy being at the university”). The scale demonstrated good internal consistency in the original version ($\alpha = .88$). Concerning the convergent validity of the questionnaire, the school subscale in the Italian version has shown small to moderate positive relations to self-acceptance and relations with peers, and negative relations to depression, internalizing problems, and externalizing problems (Zappulla et al., 2013).

The Behavioral, Emotional, and Social Skills Inventory 20 Item Short Form (BESSI – 20).

The Behavioral, Emotional, and Social Skills Inventory Short Form (BESSI-20), is a short skills assessment consisting of 20 items that measure the 5 major social, emotional, and behavioral (SEB) skill domains (Soto et al., 2022). These five major skill domains contain Self-Management Skills, Social Engagement Skills, Cooperation Skills, Emotional Resilience Skills, and Innovation Skills. It is the brief form of an original 192-item questionnaire measure meant to examine individuals' capacities to maintain social relationships, regulate emotions, and manage goal-directed and learning-directed behaviors (Soto et al., 2022). Each short phrase that composes the BESSI items describes a particular behavior. Therefore, each BESSI item specifies a skill-relevant behavior, and the user evaluates their own ability to carry out that behavior. Instead of rating how well each BESSI

item captures their usual behavior, respondents are asked to rate how well they can evaluate the thought, feeling, or behavior that each item represents. It includes 20 items, on a 5 Likert scale: 1 = not at all well, to 5 = extremely well. 4 items assess Self-Management Skills (e.g. Work toward my goals); 4 items assess Social Engagement Skills (e.g., Start a conversation); 4 items assess Cooperation Skills (e.g., Cooperate with other people); 4 items assess Emotional Resilience Skills (e.g., Keep a positive attitude); and 4 items assess Innovation Skills (e.g., Understand abstract ideas). Each of the five domain scales should be scored by averaging three or four BESSI items. Self-management skills = 1, 6, 11, 16 Social Engagement Skills = 2, 7, 12, 17 Cooperation Skills = 3, 8, 13, 18 Emotional Resilience Skills = 4, 9, 14, 19 Innovation Skills = 5, 10, 15, 20. The five domains demonstrated sufficient psychometric properties in the original study (self-management skills: $\alpha = .80$; social engagement skills: $\alpha = .72$; cooperation skills: $\alpha = .78$; emotional resilience skills: $\alpha = .78$; innovation skills: $\alpha = .68$; Sewell, Yoon, et al., 2023). The five sub-scales show convincing internal consistency.

The Vinegrad Scale - Adult Dyslexia Scale

The Vinegrad scale is a questionnaire that provides information about the common characteristics of individuals with dyslexia. Although it was developed at the Dyslexia Institute, the test is named after its reviser, Dr Michael Vinegrad (1994). The test consists of 26 items, on a 5 Likert scale: 1 = never/not at all, to 5 = very often/extremely. The content of the items comprises problems with reading and related skills, including remembering or spelling, for example: *'I have difficulty remembering the meaning of what I've read.'* or *'I make many errors in reading.'* This scale is used to check for potential reading issues, and

the outcome may point to the necessity of a more thorough evaluation. As a result, it might help evaluate adults who may have reading difficulties. The original scale is answered 'Yes' or 'No', and the items are presented in question form, for instance '*Does it take a long time (or more than it should) to read a page of a book?*'. This simple test was administered to 679 adults aged between 18 and 68, 79% of whom were students. 32 students in this group were evaluated as having dyslexia, and thus it was possible to make a comparison between those with dyslexia (an average of 12.7 yes answers) and those without dyslexia (an average of 4.4 yes answers). 90% of those who took the test answered yes to eight or fewer questions (Güzelaydın, 2016). Discriminant function analysis, '*Do you have difficulty distinguishing between right and left?*' etc. showed that 12 questions are especially good indicators for dyslexia (Vinegrad, 1994).

Adult ADHD Self-Report Scale (ASRS-v1.1)

This questionnaire is designed to assess the symptoms of attention-deficit/hyperactivity disorder (ADHD) in adults. The questions on this scale align with DSM-IV criteria and are based on the World Health Organization Composite International Diagnostic Interview 2001 (Kessler, 2005; Kessler, 2005a). The scale is divided into two parts: Part A is the first six items that constitute the ASRS-v1.1 Screener which is the basis for the scale and found to be the most predictive of symptoms consistent with ADHD. Part B includes 12 items that provide additional cues and can serve as further assessment of the frequency of ADHD symptoms. The test comprises 18 items, on a 5 Likert scale: 1 = never, to 5 = very often. This scale has high internal consistency and concurrent validity (Adler, et al., 2006). The ASRS-v1.1 Symptom Checklist has been validated in community-based and

referred persons, with high internal consistency estimates (Cronbach's $\alpha = 0.88-0.89$).²¹ However, there isn't much information on its effectiveness from extensive surveys of adults with and without ADHD.

4.2.3. Procedure

The questionnaires were administered online. The online survey was created by the research team on the Qualtrics platform and required approximately 15-20 minutes to complete. Participants were informed before the questionnaire began that their responses would remain anonymous and that they could leave the survey at any moment. Before completing the self-report measures, each participant provided their informed consent, indicating their voluntary participation in the study.

As already mentioned in the previous paragraphs, the survey is divided into two parts. The first part of the survey consisted of 16 items designed to collect sociodemographic information such as age, date of birth, gender, education level, year of the course, the field of the course; four questions for information about diagnoses; six questions for information about academic results and satisfaction. The second part of the survey was composed of six self-report questionnaires that were specifically chosen to measure self-regulated learning, academic self-efficacy, academic satisfaction, soft skills, dyslexia, and ADHD.

Chapter 5. Results

5.1. Data Analysis

All statistical analyses were performed using JASP (JASP Team, 2024). Firstly, descriptive analysis was conducted to evaluate frequency, mean, standard deviations, and minimum and maximum amounts. The majority of respondents fall within the young age group in the sample. The mean age was 21 years ($SD = 2.2$). The frequency of diagnosis indicates that 13 participants (16.88%) had ADHD, and 64 participants (83.12%) didn't report any diagnosis.

To test the first research hypothesis, we first computed correlations between the variables of interest in the sample that didn't have any diagnosis. Then linear regression models were run to assess the contribution of soft skills (i.e., self-management, social engagement, cooperation, emotional resilience, innovation) from the BESSI-20 questionnaire, study-related factors (self-regulated learning strategies questionnaire, and academic self-efficacy questionnaire), age, year of the study and sex on our outcome variables that are academic satisfaction (academic satisfaction questionnaire) and academic achievement (current grades of students) gradually.

For the second hypothesis, we conducted an Analysis of Variance (ANOVA) to examine the effect of self-reported diagnosis of ADHD on soft skills, academic satisfaction, academic achievement, self-regulated learning, and academic self-efficacy. Participants were divided into two groups: those who self-reported the diagnosis of ADHD diagnosis and those without. This analysis allowed us to identify any significant differences between the two groups across

the variables mentioned above. Subsequently, we performed correlational analyses using the ADHD symptomatology scores derived from the Adult ADHD Self-Report Scale (ASRS-v1.1) as a continuous variable to explore its associations with the same set of variables to see the dimensional view. ADHD symptomatology is divided into two parts to measure the disattention and hyperactivity/impulsivity elements separately. This analysis also enabled us to determine if ADHD traits affect the variables of interest.

5.2. Results

5.2.1. Correlations between Soft Skills, Study-Related Factors, and Academic Factors

Regarding the outcomes of the first hypothesis, a Pearson's correlation analysis was conducted to explore the relationships among age, sex, academic factors (academic satisfaction and academic achievement), study-related factors (self-regulated learning and self-efficacy), and soft skills variables (BESSI-20 questionnaire). Table 5.1 presents the correlation coefficients along with their significance levels. Sex was significantly correlated with current grade ($r = 0.418, p < .01$), suggesting female students have a higher grade that shows a gender difference in academic performance. Current grade, which implies academic achievement, was positively correlated with academic satisfaction ($r = 0.276, p < .05$), self-regulated learning ($r = 0.276, p < .05$), academic self-efficacy ($r = 0.429, p < .01$), and slightly correlated with self-management skills ($r = 0.247, p < .05$). This implies that higher grades

are associated with greater academic satisfaction, self-regulation, and self-efficacy. Academic satisfaction was highly correlated with academic self-efficacy ($r = 0.492, p < .001$), self-regulated learning ($r = 0.429, p < .05$), and all subscales of soft skills: self-management skills ($r = 0.499, p < .001$), social engagement ($r = 0.451, p < .001$), cooperation ($r = 0.539, p < .001$), emotional resilience ($r = 0.429, p < .001$), and innovation ($r = 0.333, p < .01$). This means that students who feel more competent, manage their learning in advanced way, and possess strong soft skills tend to have higher satisfaction with their academic experience. Self-regulated learning showed strong correlations with academic self-efficacy ($r = 0.644, p < .001$), and all soft skills subscales, self-management skills ($r = 0.490, p < .001$), social engagement skills ($r = 0.410, p < .001$), cooperation skills ($r = 0.438, p < .001$), emotional resilience skills ($r = 0.556, p < .001$), and innovation skills ($r = 0.448, p < .001$), suggesting that these skills support students' ability to manage their learning effectively. Academic self-efficacy also showed significant correlations with soft skills subscales: self-management skills ($r = 0.614, p < .001$), social engagement skills ($r = 0.308, p < .001$), cooperation skills ($r = 0.302, p < .001$), emotional resilience skills ($r = 0.456, p < .001$), and innovation skills ($r = 0.386, p < .001$). The results highlight strong interrelationships between academic satisfaction, self-regulated learning, academic self-efficacy, and soft skills. Moreover, these findings suggest that enhancing self-regulation, self-efficacy, and soft skills could improve students' academic satisfaction, and enhancing self-regulation and self-efficacy improve students' academic achievement, not soft skills.

Table 5.1 Pearson’s Correlation Among Variables

Variable	Age	Sex	Current Grade	Academic Satisfaction	Self-Regulated Learning	Academic Self-Efficacy	Self Management Skills	Social Engagement Skills	Cooperation Skills	Emotional Resilience Skills	Innovation Skills
Age	—										
Sex	0.176	—									
Current Grade	0.231	0.418**	—								
Academic Satisfaction	0.114	0.005	0.276*	—							
Self-Regulated Learning	0.054	0.181	0.276*	0.419***	—						
Academic Self-Efficacy	0.116	0.178	0.429**	0.492***	0.644***	—					
Self Management Skills	0.056	-0.199	0.247	0.499***	0.490***	0.614***	—				
Social Engagement Skills	0.102	-0.232	-0.017	0.451***	0.410***	0.308*	0.553***	—			
Cooperation Skills	-0.124	-0.156	0.074	0.539***	0.438***	0.302*	0.500***	0.650***	—		
Emotional Resilience Skills	-0.055	-0.118	0.020	0.429***	0.556***	0.456***	0.636***	0.541***	0.579***	—	
Innovation Skills	-0.038	-0.140	0.116	0.333**	0.448***	0.386**	0.549***	0.679***	0.644***	0.571***	—

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

5.2.2. The Role of Soft Skills and Study-Related Factors on Academic Achievement and Satisfaction

A linear regression analysis was conducted to examine the predictors of the current grade, as shown in Table 5.2. Multiple variables were included in the full model M_1 to predict the current grade. The overall model explained 47.5% of the variance in the current grade ($R^2 = 0.475$), with an adjusted R^2 of 0.350, indicating a substantial improvement over the intercept-only model. Among the predictors, year of study ($\beta = 2.498, p = .010$) and sex ($\beta = 12.835, p = .003$) emerged as significant predictors of current grade. This indicates that students in higher years of study and female students tend to have higher grades, showing a particularly strong positive association.

Table 5.2 Linear Regression of Current Grade – Model Summary

<i>Coefficients</i>										
Model		Unstandardized	Standard Error	Standardized^a	t-value	p-value	R	R²	Adjusted R²	RMSE
M ₀	(Intercept)	69.613	2.016		34.535	< .001	0.000	0.000	0.000	14.675
M ₁	(Intercept)	-4.867	23.920		-0.203	0.840	0.689	0.475	0.350	11.835
	Self-Regulated Learning	6.799	6.338	0.185	1.073	0.290				
	Academic Self-Efficacy	2.399	3.342	0.127	0.718	0.477				
	Self Management Skills	3.038	3.346	0.180	0.908	0.369				
	Social Engagement Skills	-2.229	2.908	-0.141	-0.766	0.448				
	Cooperation Skills	1.693	3.486	0.091	0.486	0.630				
	Emotional Resilience Skills	-4.040	2.919	-0.246	-1.384	0.174				
	Innovation Skills	2.051	2.939	0.116	0.698	0.489				
	Age	1.181	0.917	0.167	1.289	0.205				
	Year of Study	2.498	0.928	0.344	2.691	0.010				
	Sex (Female)	12.835	4.050		3.169	0.003				

^a Standardized coefficients can only be computed for continuous predictors.

In summary, the regression model identifies the year of study and sex as significant predictors of current grade, while other factors contribute positively but not significantly. These results highlight the interplay of sex and year of study factors in academic achievement when predicting students' current grades.

Secondly, the linear regression analysis presented in Table 5.3 examines the predictors of academic satisfaction. The table includes the unstandardized and standardized coefficients for each predictor, as well as their significance levels. The full model (M₁), which includes all predictors, explains 48.1% of the variance in academic satisfaction ($R^2 = 0.481$). The adjusted R^2 of 0.383 suggests that the model is a good fit after accounting for the number of predictors. Cooperation skills have the strongest positive impact on academic satisfaction ($\beta = 0.535$, $p = 0.002$). This indicates that students with strong cooperation skills are significantly more satisfied with their academic life. The academic self-efficacy predictor has a positive and slightly significant relationship with academic satisfaction ($\beta = 0.400$, $p =$

0.027). This suggests that higher academic self-efficacy is associated with greater satisfaction with one's academic experience.

Table 5.3 Linear Regression of Academic Satisfaction – Model Summary

<i>Coefficients</i>										
Model		Unstandardized	Standard Error	Standardized^a	t-value	p-value	R	R²	Adjusted R²	RMSE
M ₀	(Intercept)	3.034	0.105		29.006	< .001	0.000	0.000	0.000	0.837
M ₁	(Intercept)	-0.313	1.051		-0.298	0.767	0.694	0.481	0.383	0.657
	Self-Regulated Learning	-0.115	0.280	-0.062	-0.412	0.682				
	Academic Self-Efficacy	0.400	0.176	0.355	2.274	0.027				
	Self Management Skills	0.146	0.163	0.145	0.896	0.374				
	Social Engagement Skills	0.120	0.145	0.131	0.824	0.413				
	Cooperation Skills	0.535	0.166	0.486	3.227	0.002*				
	Emotional Resilience Skills	0.017	0.134	0.018	0.124	0.902				
	Innovation Skills	-0.251	0.152	-0.250	-1.652	0.104				
	Age	0.029	0.038	0.082	0.764	0.448				
	Year of Study	-0.063	0.043	-0.161	-1.457	0.151				
	Sex (Female)	-0.016	0.211		-0.074	0.942				

^a Standardized coefficients can only be computed for continuous predictors.

5.2.3. The Role of Soft Skills, Study-Related Factors, and Academic Factors on ADHD

Regarding the second hypothesis, in Table 5.4, a series of one-way ANOVA was run on the variables of interest, comparing the group of students with a self-reported diagnosis of ADHD and those without. From the ANOVAs, it emerged differences in self-management skills indicated a statistically significant difference between students with ADHD and those without, $F(1, 75) = 5.501, p = 0.022, \eta^2 = 0.068$, indicating that students with ADHD have significantly lower self-management skills. Also, one-way ANOVA for cooperation skills showed a significant difference between the two groups, $F(1, 75) = 4.680, p = 0.034, \eta^2 = 0.059$, indicating that the students with ADHD are less likely to show cooperative skills

compared to their peers. No differences emerged in the social engagement ($F = 1.718, p = 0.194, \eta^2 = 0.022$) (Table 5.4), emotional resilience ($F = 1.018, p = 0.316, \eta^2 = 0.013$), (Table 5.4), or innovation skills ($F = 0.045, p = 0.833, \eta^2 = 5.982 \times 10^{-4}$), (Table 5.4) dimensions.

Table 5.4 ANOVA - Subscales of Soft Skills

	ADHD Group	Control Group
	Mean (SD)	Mean (SD)
Self Management Skills	2.462 (0.683)	3.039 (0.831)
Cooperation Skills	3.096 (0.839)	3.605 (0.761)
Social Engagement Skills	2.808 (0.785)	3.164 (0.913)
Emotional Resilience Skills	2.769 (1.023)	3.059 (0.927)
Innovation Skills	3.173 (0.793)	3.227 (0.837)

The ANOVA results for current grades ($F(1, 63) = 1.015, p = 0.318$), (Table 5.5), academic satisfaction ($F(1, 75) = 0.128, p = 0.722$), (Table 5.5), self-regulated learning ($F(1, 75) = 0.462, p = 0.499$), (Table 5.5), academic self-efficacy ($F(1, 75) = 2.719, p = 0.103$), (Table 5.5) showed no significant difference between students with and without ADHD. The results indicate that ADHD diagnosis does not significantly impact academic performance, academic satisfaction, self-regulated learning, or academic self-efficacy.

Table 5.5 ANOVA - Academic and Study-Related Factors

	ADHD Group Mean (SD)	Control Group Mean (SD)
Current Grade	74.214 (12.264)	69.613 (14.675)
Academic Satisfaction	3.123 (0.700)	3.034 (0.837)
Self-Regulated Learning	3.204 (0.252)	3.291 (0.449)
Academic Self-Efficacy	2.985 (0.640)	3.350 (0.744)

5.2.4. Correlations between ADHD, Soft Skills, Study-Related Factors, and Academic Factors

Pearson's Correlation analysis shown in Table 5.6 specifically examines the relationships between ADHD symptoms (disattention and hyperactivity/impulsivity) from the Adult ADHD Self-Report Scale (ASRS-v1.1) and other academic and soft skill variables. The correlations reveal important insights into how ADHD symptoms impact academic performance and skill development in university students.

ADHD disattention element showed a significant negative correlation with self-regulated learning ($r = -0.257, p < .05$), academic self-efficacy ($r = -0.304, p < .01$), self-management skills ($r = -0.564, p < .001$), and social engagement skills ($r = -0.233, p < .01$). This indicates that higher levels of inattention are associated with lower self-regulated learning, academic self-efficacy, self-management skills, and social engagement skills.

ADHD hyperactivity/impulsivity elements were significantly negatively correlated with academic self-efficacy ($r = -0.236, p < .01$), self-management skills ($r = -0.345, p < .001$),

and emotional resilience skills ($r = -0.234, p < .001$). This suggests that students with higher hyperactivity/impulsivity symptoms also report lower levels of academic self-efficacy, self-management skills, and emotional resilience skills.

The analysis highlights that one of the ADHD symptoms, the disattention element is significantly related to lower levels of self-regulated learning, academic self-efficacy, self-management, and social engagement skills; other elements, hyperactivity/impulsivity, also negatively affect self-efficacy, self-management, and emotional resilience skills. While these variables are negatively correlated, ADHD symptoms have less impact on other soft skills, such as cooperation and innovation skills. However, even though they have a negative correlation, none of the elements of ADHD has a significant relationship with academic satisfaction and current grade. Moreover, higher ADHD disattention and hyperactivity/impulsivity are moderately associated with self-reported learning difficulties (respectively $r = 0.452, p < .001$; $r = 0.366, p < .01$).

Table 5.6 Pearson's Correlation Among ADHD and Other Variables

Variable	ADHD Disattention	ADHD Hyperactivity/Impulsivity
Current Grade	-0.052	0.025
Academic Satisfaction	-0.219	-0.219
Self-Regulated Learning	-0.257*	-0.131
Academic Self-Efficacy	-0.304**	-0.236*
Self Management Skills	-0.564***	-0.345**
Social Engagement Skills	-0.233*	-0.073
Cooperation Skills	-0.114	-0.119
Emotional Resilience Skills	-0.194	-0.234*
Innovation Skills	-0.196	-0.121
Self-Reported Learning Difficulties	0.452***	0.366**

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

Chapter 6. General Discussion

6.1 Discussion and Conclusion

This study investigated the effect of specific study-related factors and abilities, such as soft skills, on the student's academic success and contentment in university students, also considering the case of students with attention deficit and hyperactivity traits.

Initially, considering the first hypothesis, which is that academic satisfaction and achievement would positively correlate with study-related factors and soft skills, and they are all interconnected, the results largely support this hypothesis. Recent theories suggested that soft skills indirectly influence academic achievement through self-regulated learning and motivation while directly enhancing achievement emotions, motivation, and life satisfaction (Feraco et al., 2022b). Also, numerous studies in the literature suggest a positive link between self-regulated learning and both academic satisfaction and achievement, consistent with this current study (Richardson et al., 2012; Nilson, 2013). The results implied that academic achievement, which is measured by current grades, is positively correlated with academic satisfaction, self-regulated learning, and self-efficacy. However, the correlation between academic achievement and soft skills is not significant. This shows that while contentment from the academy, self-belief, and managing the learning process are essential for improving grades, academic performance may not be directly impacted by soft skills. Also, academic satisfaction showed a great positive correlation with self-regulated learning, self-efficacy, and soft skills. Apart from the academic factors, self-regulated learning and self-efficacy have

positive correlations with soft skills, which implies that all predictors mostly affect each other. These results demonstrate that even though academic success is not influenced by soft skills, academic satisfaction is affected, and the fact that there is a positive relationship between other predictors indicates that there may be an indirect relationship between academic success and soft skills mediated by study-related factors (self-regulated learning and self-efficacy) or academic satisfaction. This probability could be evaluated with more convenient analysis in another research. These findings supported some previous evidence, such as soft skills like adaptability and perseverance indirectly enhance academic success by encouraging self-efficacy, self-regulated learning, and life satisfaction, which together enhance academic satisfaction, motivation, and overall success (Feraco et al., 2021; Feraco et al., 2022b; Feraco et al., 2023; Martin et al., 2012).

Remarkably, the regression models showed that academic satisfaction was predicted by cooperative skills among subscales of soft skills and academic self-efficacy. This proposes that two important factors influencing a student's satisfaction with their studies are their capacity for cooperating in teamwork effectively in group settings like in class with classmates and their level of confidence in overcoming academic obstacles to achieve a goal (Soto et al., 2022). On the other hand, grades were significantly predicted by study year and gender. The students in the advanced year of degree and female students generally perform better, as indicated in the results. These findings imply that making progress in the department by gaining experience affects having greater grades.

Overall, these results demonstrate how closely study-related factors and soft skills are associated, indicating that while self-efficacy and self-regulated learning directly increase

grades and satisfaction, soft skills have a more indirect effect by raising student satisfaction with the learning process aligned with the previous findings (Feraco et al., 2023). In summary, these findings suggest that enhancing self-regulation, self-efficacy, and soft skills could improve students' academic satisfaction, and enhancing self-regulation and self-efficacy improve students' academic achievement, not soft skills.

The following hypothesis posits that the effects of ADHD traits are negatively correlated with students' performance (academic achievement and satisfaction), soft skills, and study-related factors (self-regulated learning, academic self-efficacy) by comparing the two groups of students with and without ADHD traits. In this hypothesis, a correlation was established by measuring the traits of ADHD with predictors of this hypothesis accordingly. At the same time, in order to support this dimensional claim, the correlation between the participants who are categorically diagnosed with ADHD and the predictors of this hypothesis was examined. The results were partly in line with the second hypothesis, with consistent negative relations. The results demonstrated that when comparing students with a self-reported ADHD diagnosis to those without, self-management and cooperation skills were negatively associated with the ADHD group. This emphasizes the need for support in goal-oriented behaviors and cooperative teamwork for students with ADHD in order to help them better integrate into their academic and social surroundings.

On the other hand, the findings of the study revealed a negative relationship between ADHD traits and various academic and personal skills, pointing to the unique challenges experienced by students with high ADHD traits. The results are aligned with previous research that indicates college students with ADHD tend to have lower grades, poorer study

habits, slower progress, and higher dropout rates compared to their peers without ADHD, while inattention negatively correlates with self-regulated learning, reducing study skills (Prevatt and Young, 2014; DuPaul et al., 2021; Shelton et al., 2017). Results indicated that ADHD-related disattention symptoms were associated with lower levels of self-regulated learning, academic self-efficacy, and two subscales of soft skills: self-management and social engagement. This suggests that students who have trouble focusing for extended periods of time can also have trouble controlling their learning processes, remaining confident in their academic ability, interacting with others in a social setting, and focusing on goals and actions consistent with research that shows ADHD is associated with poor organizational skills and more vulnerable in terms of social-communication resulting in lowering academic satisfaction (Ward et al., 1993; Abdul Mu'iz & Binti Jusoh, 2023). Meanwhile, symptoms of hyperactivity and impulsivity negatively correlated with academic self-efficacy and two subscales of soft skills, which are self-management and emotional resilience. This result highlights the difficulties in students' confidence in their academic success, control of their emotions, and ability to handle daily responsibilities. It is also in line with a recent study that indicates increased emotional dysregulation within ADHD traits (Weir, 2024).

In summary, ADHD traits, in general, negatively affect self-regulated learning, self-efficacy, and subscales of soft skills, which are self-management, social engagement, and emotional resilience for students. On the contrary, the results did not indicate a positive correlation between ADHD traits and innovation and creativity components due to impulsivity or hyperactivity as indicated in previous research (Honos-Webb, 2010; Cerezo et al., 2023) There were no significant correlations between ADHD traits and academic

satisfaction and achievements, cooperation skills, innovation skills, study year, and sex. Overall, these results demonstrate how ADHD traits can interfere with a student's ability to organize tasks, interact with peers, maintain emotional well-being, and gain confidence to achieve goals by regulating learning.

Considering all these results, it becomes evident how impactful the factors influencing students' success and satisfaction with their academic lives are. In a context where their academic progress and future careers have great importance, it is essential to address and improve the factors that have both positive and negative impacts. While the importance of study-related factors has been highlighted in previous studies and needs further development, this study also demonstrates the significant influence of soft skills, which have not been emphasized or discussed extensively in the context of academic life. It is, therefore, crucial to develop and promote these skills. Additionally, it is apparent that the awareness and recognition of ADHD, a neurodevelopmental disorder, remain insufficient within society. This condition presents particular challenges for students, making it necessary to first increase awareness of ADHD and then implement the necessary measures and interventions to provide sufficient support. The study aims to highlight that in the future, this comprehensive approach could facilitate the way of enhancing awareness and knowledge, deepening understanding of the subjects, and developing integrated intervention programs that support various crucial aspects of student development.

6.2 Limitations and Future Research Directions

The present study has some limitations. Firstly, the sample size was relatively small, which limited the analysis and the ability to make accurate predictions. A larger sample size would allow for more comprehensive statistical analyses and could lead to more reliable and generalizable findings. With a more significant number of participants, it would be possible to identify stronger correlations for relationships between the variables. Furthermore, the results' generalizability may be restricted by the gender imbalance in our sample. Future research should aim to include a larger and more balanced gender sample to improve the validity of the results and to receive more meaningful conclusions.

Secondly, another limitation is the length of the survey. The study included six questionnaires, making it relatively long to complete. This likely contributed to participant exhaustion, causing some to drop out before completing it. While examining the results of the data, it was observed that none of the participants had a specific learning disability. If this result could be predicted more accurately, the requirement to add the Vinegrad test to the survey to measure dyslexia could be eliminated. Future studies could benefit from more precise questionnaires and shorter survey designs to maintain participant engagement and improve data quality.

Another limitation could be that participants completed self-reporting ADHD traits. Since it is difficult, costly, and ethically sensitive to reach diagnosed ADHD patients in clinics, ADHD characteristics were obtained as self-reports instead of reaching students with diagnosed ADHD. In future studies, data can be collected by considering this situation.

Also, the cross-sectional design of this study may have prevented us from determining the causal direction of the relationships examined as a limitation. Future research could use a longitudinal approach to better understand these connections over time.

The current study aimed to strengthen the current state of the contentment and success of students in their academic life, with the goal of contributing to the importance of effectively raising awareness and individualized interventions for students with and without ADHD and reinforcing the importance of factors such as specific soft skills and study-related factors.

References

- Abdul Mu'iz, N. S. N., & Binti Jusoh, M. (2023). Mental Health Status and Social Communication Skills Among Adults Suspected with Attention Deficit Hyperactivity Disorders (ADHD) Symptoms. *International Journal of Allied Health Sciences*, 7(5). <https://doi.org/10.31436/ijahs.v7i5.833>
- Adler, L.A., Spencer, T., Faraone, S.V., Kessler, R.C., Howes, M.J., Biederman, J., Secnik, K., (2006). Validity of pilot Adult ADHD Self-Report Scale (ASRS) to Rate Adult ADHD symptoms. *Annals of Clinical Psychiatry* 18(3):145-148
- American Psychiatric Association, (1994). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*, 4th ed. American Psychiatric Association, Washington, DC, USA.
- American Psychiatric Association, (2013). DSM-5 Task Force. *Diagnostic and statistical manual of mental disorders: DSM-5™* (5th ed.). American Psychiatric Publishing, Inc. <https://doi.org/10.1176/appi.books.9780890425596>
- American Psychiatric Association, (2022). 'What is ADHD?'. Retrieved June 30, 2024, from https://www.psychiatry.org/patients-families/adhd/what-is-adhd?_ga=1.209308500.756131131.1483380032
- Armstrong, T. (2012). Neurodiversity in the classroom: strength-based strategies to help students with special needs succeed in school and life. ASCD.

- Artino, A.R., Simons, R.J., Konopasky, A. (2022). Self-Regulated Learning. In: Huggett, K.N., Quesnelle, K.M., Jeffries, W.B. (eds) *An Introduction to Medical Teaching. Innovation and Change in Professional Education*, vol 20. Springer, Cham.
https://doi.org/10.1007/978-3-030-85524-6_3
- Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: Freeman.
- Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. New York: Prentice-Hall.
- Bandura, A. (1977). *Social Learning Theory*. Alexandria, VA: Prentice Hall. p. 247. ISBN 978-0-13-816744-8.
- Bandura, A. (1988). "Organizational Application of Social Cognitive Theory". *Australian Journal of Management*. **13** (2): 275-302.
[doi:10.1177/031289628801300210](https://doi.org/10.1177/031289628801300210). [S2CID 143104601](https://doi.org/10.1177/031289628801300210).
- Barkley, R. A. (1997). Behavioral inhibition, sustained attention, and executive functions: Constructing a unifying theory of ADHD. *Psychological Bulletin*, *121*(1), 65-94. <https://doi.org/10.1037/0033-2909.121.1.65>
- Barkley, R. A. (2012). *Executive functioning and self-regulation: Extended phenotype, synthesis, and clinical implications*. New York: Guilford Publications.
- Barnard-Brak, L., Paton, V. O., & Lan, W. Y. (2010). Profiles in self-regulated learning in the online learning environment. *The International Review of Research in Open and Distributed Learning*, *11*(1), 61–80.

- Bellato, A., Arora, I., Hollis, C., & Groom, M. J. (2020). Is autonomic nervous system function atypical in attention deficit hyperactivity disorder (ADHD)? A systematic review of the evidence. *Neuroscience & Biobehavioral Reviews/Neuroscience and Biobehavioral Reviews*, *108*, 182–206. <https://doi.org/10.1016/j.neubiorev.2019.11.001>
- Boekaerts, M. (1999). Self-Regulated Learning: Where We Are Today. *International Journal of Educational Research*, *31*, 445-457. [https://doi.org/10.1016/S0883-0355\(99\)00014-2](https://doi.org/10.1016/S0883-0355(99)00014-2).
- Bonifaz-Delgado, L. V., Martínez-Ávila, M., Carrillo-Nieves, D., Romero-Robles, L. E., & Guajardo-Flores, D. (2023). A study of the relationship between educational background, psychological factors, and soft skills among bioengineering students. *Proceedings of the 21st LACCEI International Multi-Conference for Engineering, Education, and Technology (LACCEI 2023): “Leaders.* <https://doi.org/10.18687/laccei2023.1.1.1578>
- Burman, J.T., Green, C.D., Shanker, S. (2015). “On the Meanings of Self-Regulation: Digital Humanities in Service of Conceptual Clarity” (PDF). *Child Development*. *86* (5): 1507-1521. doi:[10.1111/cdev.12395](https://doi.org/10.1111/cdev.12395). PMID 26234744. S2CID [31507777](https://doi.org/10.1111/cdev.12395).
- Casali, N., Meneghetti, C. (2023). Soft Skills and Study-Related Factors: Direct and Indirect Associations with Academic Achievement and General Distress in University Students. *Educ. Sci.*, *13*,612. <https://doi.org/10.3390/educsci13060612>

Casali, N., Meneghetti, C., Tinti, C., Re, A. M., Sini, B., Passolunghi, M. C., Valenti, A., Montesano, L., Pellegrino, G., & Carretti, B. (2023). Academic Achievement and Satisfaction Among University Students With Specific Learning Disabilities: The Roles of Soft Skills and Study-Related Factors. *Journal of Learning Disabilities*, 57(1), 16–29. <https://doi.org/10.1177/00222194221150786>

CDC, Content Developed by Ummeed (2021). ‘What is ADHD?’

Cerezo, E., González-González, C. S., & Bonillo, C. (2023). Empowering soft skills in children with ADHD through the co-creation of tangible tabletop games. *Universal Access in the Information Society*, 23(1), 3–21. <https://doi.org/10.1007/s10209-023-01041-7>

Chen, H.S., & Lo, H.S. (2012). Development and psychometric testing of the nursing student satisfaction scale for the associate nursing programs. *J Nurs Educ Pract*. Aug; 2(3):25-37.

Conner, M., & Norman, P. (2015). *Predicting and Changing Health Behaviour: Research and Practice with Social Cognition Models: Social Cognitive Theory Ch.7* McGraw-Hill Education (UK).

Daley, D., & Birchwood, J. (2010). ADHD and academic performance: why does ADHD impact on academic performance and what can be done to support ADHD children in the classroom? *Child Care Health and Development*, 36(4), 455–464. <https://doi.org/10.1111/j.1365-2214.2009.01046.x>

- De Beni, R., Zamperlin, C., Meneghetti, C., Cornoldi, C., Fabris, M., Tona, G. D. M., & Moè, A. (2014). Test AMOS-Abilità e motivazione allo studio: prove di valutazione e orientamento per la scuola secondaria di secondo grado e l'università: Nuova edizione [AMOS: Ability and motivation to study. Assessment tests and guidance: New edition]. Trento Edizioni Erickson.
- Deutsch, M., Coleman, P. T., & Marcus, E. C. (Orgs.) (2011). *The handbook of conflict resolution: Theory and practice*. United States: John Wiley & Sons.
- Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). Self-Efficacy, Satisfaction, and Academic Achievement: The Mediator Role of Students' Expectancy-Value Beliefs. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01193>
- Douglas, V. I. (2005). Cognitive Deficits in Children with Attention Deficit Hyperactivity Disorder: A Long-Term Follow-Up. *Canadian Psychology / Psychologie canadienne*, 46(1), 23–31. <https://doi.org/10.1037/h0085821>
- Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher*, 44, 237–251.
- DuPaul, G. J., Gormley, M. J., Anastopoulos, A. D., Weyandt, L. L., Labban, J., Sass, A. J., Busch, C. Z., Franklin, M. K., & Postler, K. B. (2021). Academic trajectories of college students with and without ADHD: Predictors of four-year outcomes. *Journal of Clinical Child & Adolescent Psychology*. Advance online publication. <https://doi.org/10.1080/15374416.2020.1867990>

- Durmuşoğlu, Z. D. U., & Durmuşoğlu, A. (2022). *An Analysis: Soft Skills Required in the Academic Faculty Positions*. <https://doi.org/10.46254/eu05.20220231>
- Faraone, S.V., Banaschewski, T., Coghill, D., Zheng, Y., Biederman, J., Bellgrove, M.A., ... & Wang, Y. (2021). The World Federation of ADHD International Consensus Statement: 208 Evidence-based conclusions about the disorder. *Neuroscience and Biobehavioral Reviews*, 128, 789–818.
- Feraco, T., Resnati, D., Fregonese, D., Spoto, A., and Meneghetti, C. (2022). Soft Skills and Extracurricular Activities Sustain Motivation and Self-Regulated Learning at School. *The Journal of Experimental Education* 90: 550–69.
- Feraco, T., Casali, N., Ganzit, E., & Meneghetti, C. (2022a). Adaptability and emotional, behavioral and cognitive aspects of self-regulated learning: Direct and indirect relations with academic achievement and life satisfaction. *British Journal of Educational Psychology*, 93(1), 353–367. <https://doi.org/10.1111/bjep.12560>
- Feraco, T., Resnati, D., Fregonese, D., Spoto, A., & Meneghetti, C. (2021). Soft skills and extracurricular activities sustain motivation and self-regulated learning at school. *The Journal of Experimental Education*, 1-20. <https://doi.org/10.1080/00220973.2021.1873090>
- Feraco, T., Resnati, D., Fregonese, D., Spoto, A., & Meneghetti, C. (2022b). An integrated model of school students' academic achievement and life satisfaction. Linking soft skills, extracurricular activities, self-regulated learning, motivation, and emotions. *European Journal of Psychology of Education*, 38(1), 109–130. <https://doi.org/10.1007/s10212-022-00601-4>

- Feraco, T., Sella, E., Meneghetti, C. and, Cona, G. (2023). Adapt, Explore, or Keep Going? The Role of Adaptability, Curiosity, and Perseverance in a Network of Study-Related Factors and Scholastic Success. *Journal of Intelligence*11: 34. <https://doi.org/10.3390/jintelligence11020034>
- Frith, U. (1995). Dyslexia: Can we have a shared theoretical framework? *Educational and Child Psychology*, 12, 6–17.
- Gibb, S. (2014), “Soft skills assessment: theory development and the research agenda”, *International Journal of Lifelong Education*, Vol. 33 No. 4, pp. 455-471, doi: 10.1080/02601370.2013.867546.
- González, P.P., Pérez, C.M.A., Cardoso-Jiménez, D. (2020). Psychological well-being and academic performance in university students. *Int. J. Educ. Pol. Res. Rev.* 7 (5):173-186.
- Green, A. L., & Rabiner, D. L. (2012). What Do We Really Know about ADHD in College Students? *Neurotherapeutics*, 9(3), 559–568. <https://doi.org/10.1007/s13311-012-0127-8>
- Guerra-Báez, S. P. (2019). Una revisión panorámica al entrenamiento de las habilidades blandas en estudiantes universitarios. *Psicología Escolar E Educativa*, 23. <https://doi.org/10.1590/2175-35392019016464>
- Güzelaydın, A. (2016). *Çalışan Yetişkinlerde Disleksi ve İş Performansı İlişkisi: Çalışanlar Üzerine Örnek İnceleme*.

- Hale, L., Berger, L. M., LeBourgeois, M. K., & Brooks-Gunn, J. (2011). A longitudinal study of preschoolers' language-based bedtime routines, sleep duration, and well-being. *Journal of Family Psychology, 25*(3), 423–433. <https://doi.org/10.1037/a0023564>
- Henning, C., Summerfeldt, L. J., & Parker, J. D. A. (2021). ADHD and Academic Success in University Students: The Important Role of Impaired Attention. *Journal of Attention Disorders, 26*(6), 893–901. <https://doi.org/10.1177/10870547211036758>
- Honos-Webb, L. (2010). *The gift of ADHD: How to transform your child's problems into strengths*. New Harbinger Publications
- Hoza, B., Gerdes, A.C., Hinshaw, S. P., Arnold, L. E., Pelham, J., William, E., et al. (2004). Self-perceptions of competence in children with ADHD and comparison children. *Journal of Consulting and Clinical Psychology, 72*(3), 382–391.
- Huebner, E. S., Zullig, K. J., & Saha, R. (2012). Factor Structure and Reliability of an Abbreviated Version of the Multidimensional Students' Life Satisfaction Scale. *Child Indicators Research, 5*(4), 651–657. <https://doi.org/10.1007/s12187-012-9140-z>
- JASP Team. (2024). *JASP (Version 0.19.0) Statistical Software*. <https://jasp-stats.org/>
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 114–158). Guilford Press.
- Kechagias, K. (2011). *Teaching and assessing soft skills*. Thessaloniki. 1st Second Chance School of Thessaloniki, Neapolis, Thessaloniki
- Kessler, R.C., Adler, L.A., Ames, M., Demler, O., Faraone, S., Hiripi, E., Howes, M.J., Jin, R., Secnik, K., Spencer, T., Ustün, T.B., Walters, E.E. (2005a). The World Health

Organization Adult ADHD Self-Report Scale (ASRS): a short screening scale for use in the general population. *Psychological Medicine* 35(02):245-256

Kessler, R. C., Adler, L. A., Spencer, T., (2005). Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist. World Health Organization.

Laker, D.R., Powell, J.L. (2011). The differences between hard and soft skills and their relative impact on training transfer. *Hum Resour Dev Q* 22:111–122

LaMorte, W.W. (2016). *Behavioral Change Models: The Social Cognitive Theory*. Boston University School of Public Health. https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories5.html#headingtaglink_1

Lawrence, D., Houghton, S., Dawson, V., Sawyer, M., & Carroll, A. (2021). Trajectories of academic achievement for students with attention-deficit/hyperactivity disorder. *British Journal of Educational Psychology*, 91(2), 755–774. <https://doi.org/10.1111/bjep.12392>

Lent, R.W., Sheu, H.B., Singley, D., Schmidt, J.A., Schmidt, L.C., and Gloster, C.S. (2008). Longitudinal relations of self-efficacy to outcome expectations, interests, and major choice goals in engineering students. *J. Vocat. Behav.* 73, 328–335. Doi:10.1016/j.jvb.2008.07.005

Limone, P., Sinatra, M., Ceglie, F., Monacis, L. (2020). Examining Procrastination among University Students through the Lens of the Self-Regulated Learning Model. *Behavioral Sciences*. 10(12):184. <https://doi.org/10.3390/bs10120184>

- Linehan, M., & Koerner, K. (1993). A behavioral theory of borderline personality disorder. In Paris, J. (Orgs.), *Borderline personality disorder: Etiology and treatment* (pp. 103-121). Washington, DC: American Psychiatric Press.
- Lin, S., Keysar, B., & Epley, N. (2010). Reflexively mindblind: Using theory of mind to interpret behavior requires effortful attention. *Journal of Experimental Social Psychology, 46*(3), 551-556.
- Maher, B.S., Bitsko, R.H., Claussen, A.H., et al. (2023). Systematic Review and Meta-analysis of the Relationship Between Exposure to Parental Substance Use and Attention-Deficit/Hyperactivity Disorder in Children. *Prev Sci. 25*:291-315.
- Major, A., Martinussen, R., & Wiener, J. (2013). Self-efficacy for self-regulated learning in adolescents with and without attention deficit hyperactivity disorder (ADHD). *Learning and Individual Differences, 27*, 149–156. <https://doi.org/10.1016/j.lindif.2013.06.009>
- Mak, A. D. P., Lee, S., Sampson, N. A., Albor, Y., Alonso, J., Auerbach, R. P., Baumeister, H., Benjet, C., Bruffaerts, R., Cuijpers, P., Ebert, D. D., Gutierrez-Garcia, R. A., Hasking, P., Lapsley, C., Lochner, C., & Kessler, R. C. (2021). ADHD Comorbidity Structure and Impairment: Results of the WHO World Mental Health Surveys International College Student Project (WMH-ICS). *Journal of Attention Disorders, 26*(8), 1078–1096. <https://doi.org/10.1177/10870547211057275>
- Marin-Zapata, S.I., Román-Calderón, J.P., Robledo-Ardila, C. *et al.* (2022). Soft skills, do we know what we are talking about? *Rev Manag Sci 16*, 969–1000. <https://doi.org/10.1007/s11846-021-00474-9>

- Martin, A. J., Nejad, H. G., Colmar, S., & Liem, G. A. D. (2012). Adaptability: Conceptual and empirical perspectives on responses to change, novelty, and uncertainty. *Journal of Psychologists and Counsellors in Schools*, 22, 58–81. <https://doi.org/10.1017/jgc.2012.8>
- Mills, N., Pajares, F., and Herron, C. (2007). ‘Self-efficacy of college intermediate French students: relation to achievement and motivation’. *Language Learning* 57(3):417–42.
- National Institute of Mental Health, (2021). *Attention-Deficit/Hyperactivity Disorder in Adults: What You Need to Know* Retrieved June 30, 2024, from <https://www.nimh.nih.gov/health/publications/adhd-what-you-need-to-know#pub1>
- National Research Council. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. The National Academies Press.
- Nilsen, E. S., Mewhort Buist, T. A., Gillis, R., & Fugelsang, J. (2013). Communicative perspective-taking performance of adults with ADHD symptoms. *Journal of Attention Disorders*, 17(7), 589-597.
- Nilson, L.B. (2013). *Creating Self-Regulated Learners: Strategies to Strengthen Students’ Self-Awareness and Learning Skills* (1st ed.). Routledge. *Chapter 1, What Is Self-Regulated Learning and How Does It Enhance Learning?* <https://doi.org/10.4324/9781003443803>
- OECD (2017). *OECD Skills Outlook 2017: skills and global value chains*. OECD Publishing, Paris.
- Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory into Practice*, 41(2), 116–125. https://doi.org/10.1207/s15430421tip4102_8

- Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: a path analysis. *J. Educ. Psychol.* 86:193. doi:10.1037/0022-0663.86.2.193
- Panadero, E. (2017). A Review of Self-Regulated Learning: Six Models and Four Directions for Research. *Front. Psychol.* 8:422. doi: 10.3389/fpsyg.2017.00422
- Park, D., Tsukayama, E., Goodwin, G. P., Patrick, S., & Duckworth, A. L. (2017). A tripartite taxonomy of character: Evidence for intrapersonal, interpersonal, and intellectual competencies in children. *Contemporary Educational Psychology*, 48, 16–27.
- Paulhus, D. L., & Martin, C. L. (1987). The structure of personality capabilities. *Journal of Personality and Social Psychology*, 52, 354–365.
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, 18, 315–341. <https://doi.org/10.1007/s10648-006-9029-9>
- Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451–502). San Diego, CA: Academic.
- Pintrich, P. R., & Zusho, A. (2002). The development of academic self-regulation: The role of cognitive and motivational factors. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 249–284). San Diego, CA: Academic.
- Pliszka, S. (2007). AACAP Work Group on Quality Issues. Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. *J Am Acad Child Adolesc Psychiatry*. 46(7):894-921

- Prevatt, F., & Young, J. L. (2014). Recognizing and treating attention-deficit/hyperactivity disorder in college students. *Journal of College Student Psychotherapy, 28*(3), 182–200. <https://doi.org/10.1080/87568225.2014.914825>
- Rabiner, D. L., Anastopoulos, A. D., Costello, J., Hoyle, R. H., & Swartzwelder, H. S. (2008). Adjustment to college in students with ADHD. *Journal of Attention Disorders, 11*, 689-699. doi:10.1177/1087054707305106
- Rainsbury, E., Hodges, D., Burchell, N., Lay, M. (2002). Ranking workplace competencies: student and graduate perceptions. *Asia-Pacific J Coop Educ 3*:8–18
- Ramos, A. M., Barlem, J. G. T., Lunardi, V. L., Barlem, E. L. D., Da Silveira, R. S., & Bordignon, S. S. (2015). Satisfaction with academic experience among undergraduate nursing students. *Texto & Contexto Enfermagem, 24*(1), 187–195. <https://doi.org/10.1590/0104-07072015002870013>
- Reddy, L. A., Newman, E., & Verdesco, A. (2015). Use of self-regulated learning for children with ADHD: Research and practice opportunities. In T. Cleary (Ed.), *Self-regulated learning interventions with at-risk youth: Enhancing adaptability, performance, and well-being* (pp. 15–43). American Psychological Association. <https://doi.org/10.1037/14641-002>
- Richardson, M., Abraham, C., & Bond. R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin, 138*(2), 353-387. <https://doi.org/10.1037/a0026838>

- Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75, 453–465. <https://doi.org/10.1177/1080569912460400>
- Rolf, J. S., Scharff, L., & Hodge, T. (2012). Does “thinking about thinking” impact the completion rates of pre-class assignments? Paper presented at the Joint Mathematics Meetings, Boston, January 4.
- Saman, A., and Wirawan, H. (2024). "Predicting students' soft skills: the role of psychological capital, psychological well-being, and grade levels", *Education + Training*, Vol. 66 No. 1, pp. 17-34. <https://doi.org/10.1108/ET-10-2022-0405>
- Sewell, M. N., Yoon, H. R., Lechner, C. M., Napolitano, C., Rammstedt, B., Roberts, B., & Soto, C. J. (2023). *Assessing Social, Emotional, and Behavioral Skills in Just a Few Minutes: 96-, 45-, and 20- Item Short Forms of the BESSI* [Preprint]. PsyArXiv. <https://doi.org/10.31234/osf.io/4b2eu>
- Schunk, D. H. (2005). Self-Regulated Learning: The Educational Legacy of Paul R. Pintrich, *Educational Psychologist*, 40:2, 85-94, DOI: 10.1207/s15326985ep4002_3
- Shaw-Zirt, B., Popali-Lehane, L., Chaplin, W., et al. (2005). Adjustment, social skills, and self-esteem in college students with symptoms of ADHD. *J Atten Disord* 8:109-120.
- Shelton, C. R., Addison, W. E., & Hartung, C. M. (2017). ADHD and SCT Symptomatology in Relation to College Students' Use of Self-Regulated Learning Strategies. *Journal of Attention Disorders*, 23(14), 1719–1728. <https://doi.org/10.1177/1087054717691134>

- Soto, C. J., Napolitano, C. M., & Roberts, B. W. (2021). Taking skills seriously: Toward an integrative model and agenda for social, emotional, and behavioral skills. *Current Directions in Psychological Science*, 30(1), 26–33. <https://doi.org/10.1177/0963721420978613>
- Soto, C. J., Napolitano, C. M., Sewell, M. N., Yoon, H. J., & Roberts, B. W. (2022). An integrative framework for conceptualizing and assessing social, emotional, and behavioral skills: The BESSI. *Journal of Personality and Social Psychology*, 123 (1), 192– 222.
- Telef, B. B. (2020). The Relation between Happiness, School Satisfaction, and Positive Experiences at School in Secondary School Students. *TED EĞİTİM VE BİLİM*. <https://doi.org/10.15390/eb.2020.5587>
- Thomas, R. P., Lynda, A. A., Robert, H. B. (2012). *Public Health for an Aging Society*. JHU Press. pp. 249–252. [ISBN 978-1-4214-0535-3](https://doi.org/10.1215/00141801-1234567890). Retrieved 16 September 2012.
- Torrano, F. & González-Torres, M. C. (2004). Self-Regulated Learning: Current and Future Directions. *Electronic Journal of Research in Educational Psychology*. 2.
- Vinegrad, M. (1994) Revised Adult Dyslexia Checklist, *Educare*No:48, s:21- 23
- van-der Hofstadt, C. J., Gómez, J. M. (2013). *Competencias y habilidades profesionales para universitarios*. Madrid: Díaz de Santos.
- Waddington, J. (2023). Self-efficacy. *ELT Journal*, 77(2), 237–240. <https://doi.org/10.1093/elt/ccac046>

- Ward, M.F., Wender P.H., & Reimherr, F.W. (1993). The Wender Utah Rating Scale: an aid in the retrospective diagnosis of attention deficit hyperactivity disorder. *Am. J. Psychiatry* **5**: 885–890.
- Weber, M.R., Finley, D.A., Crawford, A., Rivera, D. (2009). An exploratory study identifying soft skill competencies in entry-level managers. *Tour Hosp Res* 9:353–361. <https://doi.org/10.1057/thr.2009.22>
- Weir, K. (2024). Emotional dysregulation is part of ADHD. See how psychologists are helping. *Monitor on Psychology*, 55(3). <https://www.apa.org/monitor/2024/04/adhd-managing-emotion-dysregulation>
- Wender, P. H., Wolf, L. E., & Wasserstein, J. (2001). Adults with ADHD. *Annals of the New York Academy of Sciences*, 931(1), 1–16. <https://doi.org/10.1111/j.1749-6632.2001.tb05770.x>
- Whitmore, P.G., & Fry, J.P. (1974). *Soft skills: definition, behavioral model analysis, training procedures*. National Technical Information Service, Springfield.
- Wilcox, G., & Nordstokke, D. (2019). Predictors of University Student Satisfaction with Life, Academic Self-Efficacy, and Achievement in the First Year. *Canadian Journal of Higher Education*, 49(1), 104–124. <https://doi.org/10.47678/cjhe.v49i1.188230>
- Winne, P. H. (1995). Self-regulation is ubiquitous, but its forms vary with knowledge. *Educational Psychologist*, 30(4), 223–228.
- World Economic Forum, (2016). *New vision for education: Fostering social and emotional learning through technology*. World Economic Forum.

- Young, S. (2005). Coping strategies used by adults with ADHD. *Personality and Individual Differences*, 38(4), 809–816. <https://doi.org/10.1016/j.paid.2004.06.005>
- Zappulla, C., Pace, U., Lo Cascio, V., Guzzo, G., & Huebner, E. S. (2013). Factor Structure and Convergent Validity of the Long and Abbreviated Versions of the Multidimensional Students' Life Satisfaction Scale in an Italian Sample. *Social Indicators Research*. <https://doi.org/10.1007/s11205-013-0418-4>
- Zimmerman, B. J. (2001). Achieving academic excellence: A self-regulatory perspective. In M. Ferrari (Ed.), *The pursuit of excellence through education* (pp. 85-110). Mahwah, NJ: Erlbaum.
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice*, 41, 64-72.
- Zimmerman, B. J. (1998). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 1–19). The Guilford Press.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663–676. <https://doi.org/10.3102/00028312029003663>

Zimmerman, B. J., & Schunk, D. H. (2011). Handbook of self-regulation of learning and performance. Routledge/Taylor & Francis Group.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (1989). *Self-regulated learning and academic achievement: Theory, research, and practice*. Springer-Verlag Publishing.
<https://doi.org/10.1007/978-1-4612-3618-4>