EFFECT OF IMPLEMENTED POLICIES IN TÜRKİYE AND
SWEDEN ON EQUAL OPPORTUNITY AND HIGHER
EDUCATION OUTCOMES DURING COVID-19 PERIOD

A THESIS
SUBMITTED TO ABDULLAH GÜL UNIVERSITY
SOCIAL SCIENCES INSTITUTE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE

By
Ayşenur Dalan
April, 2024
Kayseri, Türkiye

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SCIENTIFIC ETHICS COMPLIANCE

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

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Signature :

REGULATORY COMPLIANCE

M.Sc. thesis titled "Effect of Implemented Policies in Türkiye and Sweden on Equal Opportunity and Higher Education Outcomes During COVID-19 Period" has been prepared in accordance with the Graduate Thesis Preparation Guidelines of the Abdullah Gül University, Social Sciences Institute.

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ACCEPTANCE AND APPROVAL

M.Sc.thesis titled "Effect of Implemented Policies in Türkiye and Sweden on Equal Opportunity and Higher Education Outcomes During COVID-19 Period" and prepared by Ayşenur Dalan has been accepted by the jury in the Data Science for Business and Economics Graduate Program at Abdullah Gül University, Social Sciences Institute.

…. /…. / 2024

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The acceptance of this M.Sc. thesis has been approved by the decision of the Abdullah Gül University, Social Sciences Institute, Management Board dated …../…../….. and numbered ……….……..

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Date and Place	: April, 2024 – Kayseri, Türkiye

ABSTRACT

This thesis delves into the impact of COVID-19 policies implemented in Türkiye and Sweden on equal opportunity within higher education and explores the consequential higher education outcomes. The research employs a mixed-methods approach, incorporating both qualitative and quantitative methodologies. Through an examination of socio economic structure, education system, the study elucidates the distinctive approaches taken by Türkiye and Sweden. The findings contribute significantly to a comprehensive understanding of global education policy responses during crises, emphasizing the pivotal role of ensuring equal opportunity. By scrutinizing the specific measures undertaken by both countries, this study not only informs the on education policy during extraordinary times but also provides valuable insights for policymakers, educators, and stakeholders seeking to enhance equal opportunity and foster positive outcomes in higher education.

Keywords: COVID-19, Higher Education, Equal Opportunity, Türkiye, Sweden

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Anabilim Dalı, Program   : Veri Bilimi

Tez Danışmanı   : Umut Türk

Tez Başlığı   : COVID-19 Döneminde Türkiye ve İsveç'te Uygulanan Politikaların Fırsat Eşitliği ve Eğitim Çıktıları Üzerine Etkisi

Tarih ve Yer   : Nisan, 2024 – Kayseri, Türkiye

ÖZET

Bu tez, Türkiye ve İsveç'te uygulanan COVID-19 politikalarının yükseköğretimde fırsat eşitliği üzerindeki etkisini ve bunun sonucunda ortaya çıkan yükseköğretim sonuçlarını incelemektedir. Araştırma, hem nitel hem de nicel metodolojileri içeren karma bir yöntem yaklaşımı kullanmaktadır. Çalışma, sosyo-ekonomik yapı ve eğitim sisteminin incelenmesi yoluyla Türkiye ve İsveç'in farklı yaklaşımlarını ortaya koymaktadır. Bulgular, fırsat eşitliğinin sağlanmasının çok önemli rolünü vurgulayarak, krizler sırasında küresel eğitim politikalarının kapsamlı bir şekilde anlaşılmasına önemli ölçüde katkıda bulunmaktadır. Her iki ülke tarafından alınan özel önlemleri inceleyen bu çalışma, olağanüstü dönemlerde eğitim politikası hakkında bilgi vermenin yanı sıra, fırsat eşitliğini geliştirmek ve yükseköğretimde olumlu sonuçları teşvik etmek isteyen politika yapıcılar, eğitimciler ve paydaşlar için de değerli içgörüler sunmaktadır.

Anahtar Kelimeler: COVID-19, Yükseköğretim, Fırsat Eşitliği, Türkiye, İsveç

ACKNOWLEDGEMENT

While experiencing the happiness and pride of completing my thesis; I would like to thank my esteemed instructor Assoc. Prof. Umut Türk, who shed light on my academic journey with his knowledge and experience and guided me with patience and humility, and my esteemed instructors Associate Prof. Fatma Armağan Teke Llyod and Associate Prof. Harika Süklün who took part in my thesis defence jury and guided my study with their feedback.

Throughout my thesis, I would like to thank my dear friends Selin Gökçe Evereklioğlu, Deniz Taşağal, Merve Nur Özgel, Sena Kaba, Ahsen Dilanur Alparslan, who always motivated me with their support.

Furthermore, I would like to thank my dear mother Yıldız Aburşu, my father Murat Aburşu and my sister Cansu Delikan, who encouraged me under all circumstances and whose endless love and support I felt.

Finally, I would like to thank my dear husband, Mehmet Melih Dalan, who encouraged me and inspired me to do better in every moment of my life and who supported me in every decision I made.

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1. INTRODUCTION

The COVID-19 pandemic began in late 2019 and swiftly escalated into a global crisis (Pollard et al., 2020). Initially manifesting flu-like symptoms (ChenN et al., 2020), the rapidly surging cases, deaths, and transmission rate necessitated the implementation of restrictive measures to contain the outbreak. As it evolved into a worldwide crisis, various countries adopted diverse health policies, leading to a range of containment measures. These included enforcing social distancing, mandating mask-wearing, imposing travel restrictions, implementing curfews, and transitioning to distance education by suspending face to face education. Consequently, numerous workplaces shifted to remote operations, and individuals strived to adjust to new living arrangements.

The pandemic prompted profound changes in the education sector. Schools interrupted their regular operations due to the unpredictability of the disease, prompting the transition to distance education. The continuous flow of education, even amidst crisis, and the ability to swiftly establish necessary infrastructure and plans in emergencies became crucial for ensuring equal opportunities for everyone. Addressing the factors contributing to educational inequality, understanding the variables affecting students' academic performance, and devising solutions in this context are pivotal in creating an education strategy to mitigate the impact of ongoing and potential crises.

Countries with varying education systems adopted dissimilar approaches to combat the pandemic. Analyzing the academic outputs of nations with differing income, welfare, and educational standards will elucidate the effectiveness of pandemic policies on academic productivity. This thesis aims to analyze the influence of measures taken during the COVID-19 period in Türkiye and Sweden—two countries divergent in income levels, educational systems, and pandemic strategies—on equal opportunities and academic outcomes. Considering the differences in socio-economic factors, education systems and policy responses, this thesis aims to answer the research question:" What are the effects of various pandemic-induced education policies implemented in Türkiye and Sweden during the COVID-19 pandemic on equality of opportunity and higher education outcomes?

1.1 Pandemics in the world

Throughout history, pandemic diseases have been a significant issue profoundly affecting human societies. Major pandemics occurred in different periods of human history. For instance, the Justinian Plague (AD 541-542) was a plague caused by the Yersinia pestis bacterium, leading to significant loss of life in Europe and the Mediterranean region. In the Middle Ages, the Great Plague, known as the Black Death (AD 1347-1351), resulted in the death of a substantial portion of the population, profoundly altering the demographic structure of Europe (Hays, 2005, Ludvigsson, 2023). Measures taken against plague outbreaks included quarantine practices, movement restrictions, isolation of infected individuals, the use of health certificates, hygiene measures, disinfection efforts, and the establishment of separate areas for patient care (Devaux, 2013). Additionally, general hygiene and quarantine practices, such as disinfecting homes and belongings, cleaning streets, and quarantining suspected areas, were commonly observed (Slack, 1988).

In more recent history, the Spanish Flu pandemic that occurred in 1918-1919 resulted in the loss of millions of lives and had a significant global impact (Huremović, 2019). The Spanish Flu, spreading worldwide between 1918 and 1919, was a pandemic that led to the deaths of millions of people. The term "Spanish Flu" is somewhat misleading because Spain was not the origin of the flu. Its name stemmed from Spain's neutrality during World War I and its less stringent censorship of the press compared to countries involved in the war. Consequently, when cases began to emerge and were freely reported in Spain, it appeared that the flu was more widespread there, leading to the misconception that it originated from Spain (Trilla et al., 2008). Factors such as deficiencies in healthcare services, lack of communication, and societal measures accelerated its spread and impact during this pandemic. Referred to as the Great Influenza pandemic, it's likened to COVID-19 not just for its immense death rate but also for triggering a severe global economic crisis (Barro et al., 2020).

The discovery and global spread of AIDS (acquired immune deficiency syndrome) is one of the major pandemics of the modern era and is still an ongoing health problem. It is a disease caused by the human immunodeficiency virus (HIV). HIV targets the immune system and makes the body vulnerable to infections and other

diseases. The disease usually occurs when the immune system weakens, making the person more vulnerable to infections and other serious health problems (Hays, 2009).

Historically, pandemics have had a major impact on societies' health systems, social structures and access to medical knowledge. Just like other pandemics in history, the COVID-19 pandemic has profoundly affected human history and societies, leading to significant changes in medicine, health policies and social organization. COVID-19 is a severe respiratory disease (Nalbandian et al., 2021). It was initially caused by an unknown virus and associated with lung infections. Although the source of the virus during its transmission to humans is unclear, genomic analyses revealed that it is phylogenetically related to bat viruses as graptical abstract below (Shereen et al., 2020).

Figure 1 Phylogenetically related bat viruses and Sars-Cov-2
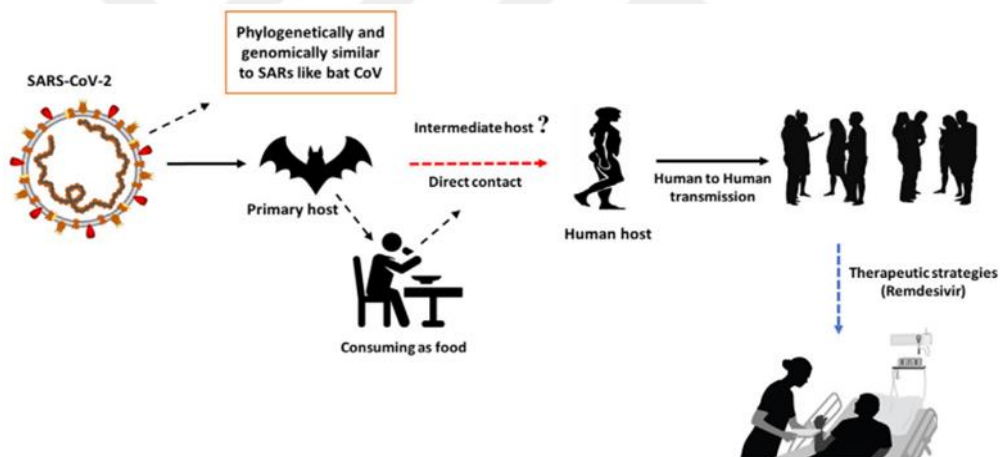
Note: 1) Data source: (Shereen et al., 2020)

In a study examining the development of pandemics, it was emphasized that the COVID-19 outbreak, like other pandemics, emerged as a result of human changes in the environment, and it was discussed that science is a method of treating diseases, but it may not always be sufficient, and that the way to reduce the risk of future pandemics may depend on the coordination between humans and natüre (Morens & Fauci, 2020). In another study on the emergence and fight against COVID-19, the genetics of the disease (SARS-CoV) was determined as a result of the analyses made after the reported pneumonia cases, and it was named SARS-CoV-2 due to its phylogenetic relationship with bat viruses. It was also emphasised that artificial intelligence

applications related to the treatment process of the disease will be an effective tool for doctors' decision-making process and appropriate treatment methods thanks to its fast analysis feature (Ciotti et al., 2020).

1.2   COVID-19 In Türkiye

The COVID-19 process in Türkiye began similarly to worldwide cases with similar symptoms emerging towards the end of 2019. The first confirmed COVID-19 case in Türkiye was on March 11, 2020, considered the official start of recorded cases in the country. Following the identification of the first case, the government implemented widespread measures aimed at reducing social interaction and transmission risks, including travel restrictions, curfews, temporary closure of schools, and the postponement or cancellation of events. Moreover, regular press releases were held to inform the public and raise awareness, emphasizing the importance of individual precautions like wearing masks, hand hygiene, and social distancing. Measures were tightened or relaxed during periods of increasing or decreasing cases. Throughout this process, the Ministry of Health regularly shared updated information regarding COVID-19 cases and the measures taken.

The effects of the COVID-19 pandemic are not limited to the number of cases and deaths. In a study, the psychological, social and economic effects of the pandemic were focussed on and it was stated that the public's attitude towards the pandemic was shaped by a high sensitivity and maximum protection effort. Although the level of social trust was lower than other scales, it was observed above average (Bostan et al., 2020). Pandemic conditions have also had various effects on mental health. Factors such as isolation, uncertainty, anxiety and social distance have triggered or worsened mental health problems such as stress, anxiety, depression and loneliness. While people were trying to adapt to a different lifestyle than usual, lack of social connections, financial worries or pandemic-related risks also affected the situation. During the pandemic, there was a greater need for communities, support services and mental health resources to mitigate or prevent these impacts. In this process, it was important for individuals to maintain routines, healthy habits and support networks to protect their own mental health. Morgul et al. (2021) suggested that pandemic conditions have an impact on mental health and can create psychological fatigue.

Açikgöz & Günay (2020), who discussed the pandemic process from an economic perspective, suggested that the pandemic may offer economic and political opportunities for some countries if it is controlled early. It was emphasized that the world layout would change after the pandemic and Türkiye should develop new strategies to adapt to this change.

In Türkiye, mandatory measures have been taken to prevent the spread of Covid-19. These measures were implemented by the government according to the course of cases and regardless of the voluntariness of individuals. Mandatory measures implemented by the government include the obligation to wear masks in public areas and public transport, curfews at certain hours and for certain age groups, regulation of public transport vehicles according to social distancing rules and capacity limitations, schools switching to distance education, cancellation or online organization of public events such as concerts, meetings, etc., local quarantine measures specific to the region according to the intensity of cases. There are different opinions on the implementation of restrictions to prevent the spread of the disease. Güner et al. (2020) stated that strict quarantine rules will reduce the disease and that the number of cases continues to increase in countries where mandatory measures are not taken. In a study addressing the travel restrictions of the pandemic, it was stated that although the focus is usually on the economic effects of travel restrictions, the indirect effects are less examined. These indirect effects were associated with the negative effects of travel restrictions on well-being and mental health, rather than the positive health effects of physical activities such as walking or cycling(Shortall et al., 2022).

Figure 2 A timeline for COVID-19 in Türkiye

By March 11, 2020, the officially first case in Türkiye .

The government took both preemptive and restrictive measures.

Travel restriction and postponement or cancellation of events.

From 23 March, students were subjected to distance education.

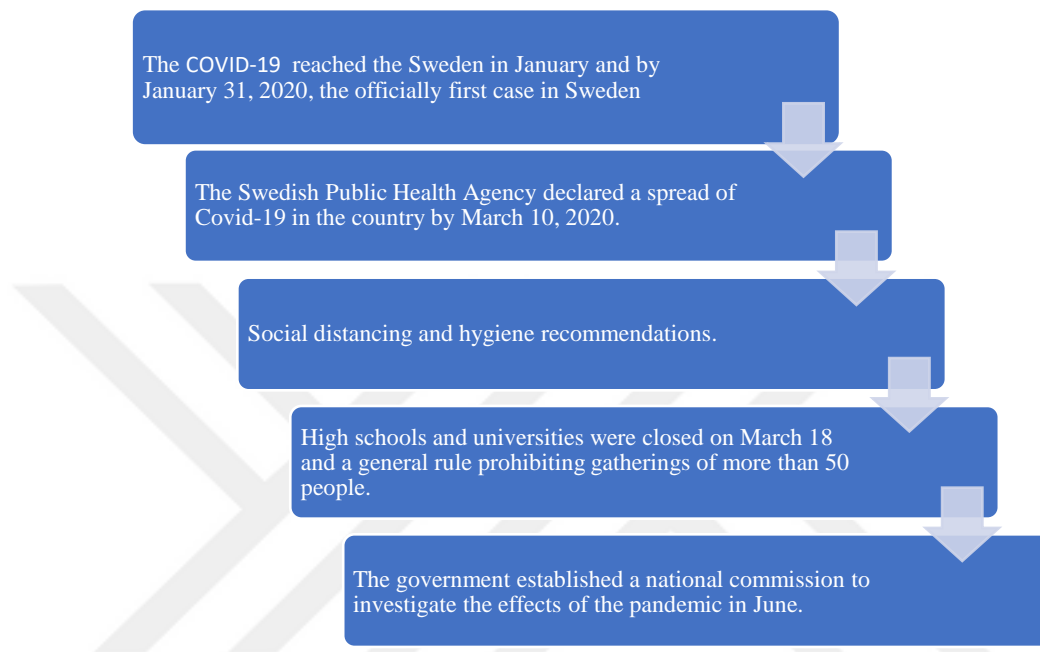Curfews and local quarantine measures were imposed in April.
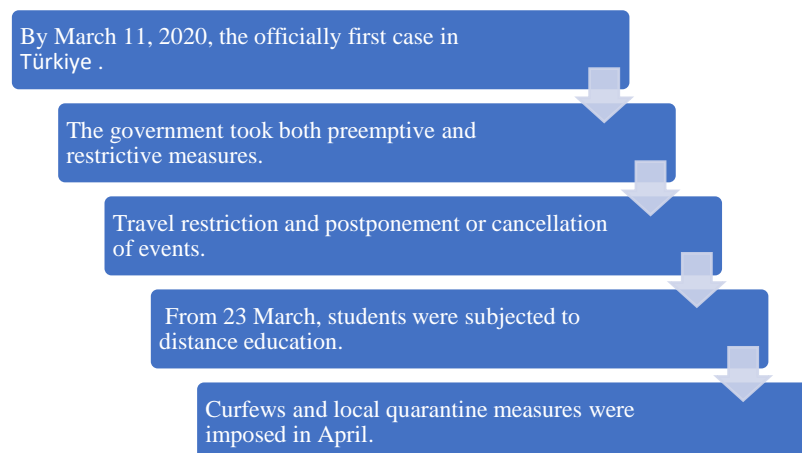
1.3 COVID-19 In Sweden

The COVID-19 outbreak in Sweden began when news of the virus reached the country in mid-January (Ludvigsson, 2020). By January 31, 2020, the pandemic had reached Sweden (Chen et al., 2022). The first case was officially reported on January 31, and by March 10, 2020, the Swedish Public Health Agency declared a societal spread of COVID-19 in the country (Rücker et al., 2022). Sweden, like many other countries during Covid-19, has taken various measures to prevent the spread of the virus. Firstly, measures such as social distancing rules and the obligation to wear masks were implemented to reduce contact between individuals. However, Sweden, unlike other countries, had taken milder and less restrictive measures against the pandemic. For example, they applied fewer of the strict lockdown or quarantine measures implemented in some countries and called on individuals to maintain personal responsibility. This represented a more relaxed approach to slowing the spread of the virus. However, Sweden's policies have been met with controversy and criticism. In June 2020, the Swedish government established a national commission to investigate the effects of the pandemic. This commission recommended that voluntary rather than mandatory measures protect personal freedom in Sweden. In addition, according to the commission reports, more comprehensive measures against COVID-19 should be taken in the first wave(Ludvigsson, 2023). In a study comparing the restriction methods of the pandemic, France and Germany's view that the pandemic can be managed with radical restriction methods, while in Sweden, the view that the pandemic can be managed through voluntary compliance of the population rather than restrictions came to the forefront (Kuhlmann et al., 2021).

Countries' methods of coping with the disease are possible with restrictions such as curfews, closure of collective closed areas, travel bans, as well as individual measures such as wearing masks, following hygiene rules, not being in closed environments, and social distancing. According to this view, which is also adopted in Sweden, it is possible to manage the pandemic process by being conscious and sensitive to the environment without the coercive measures taken by the state. Sweden's strategy for managing the pandemic process has been based on the co-operation between the government and society (Kavaliunas et al., 2020). While other countries decided to close down completely after a break in education for a while with

the emergence of the disease, Sweden first decided to close secondary education institutions during the pandemic in early 2020. However, primary schools and pre-schools, with some exceptions, took the decision after assessing their own situation (Bergdahl & Nouri, 2021).

Figure 3 A timeline for COVID-19 in Sweden

The COVID-19 reached the Sweden in January and by January 31, 2020, the officially first case in Sweden

The Swedish Public Health Agency declared a spread of Covid-19 in the country by March 10, 2020.

Social distancing and hygiene recommendations.

High schools and universities were closed on March 18 and a general rule prohibiting gatherings of more than 50 people.

The government established a national commission to investigate the effects of the pandemic in June.

1.4   The History of Distance Education

Education can be defined as an uninterrupted process from birth to the end of an individual's life, aiming to provide knowledge, skills, and values. The development of societies is closely linked to cultivating educated individuals. Education enhances individuals' knowledge, skills, and abilities, thereby creating a more productive workforce and supporting economic growth. It encourages technological and scientific advancement, contributes to increasing societal welfare, and enhances individuals' social skills and cultural awareness. Societies that cultivate a qualified workforce tend to be ahead in terms of economic competitiveness. Therefore, education significantly influences the overall development, economic prosperity, and social cohesion of societies. It has played a role in the continuous development of individuals, the transmission of societal heritage, and contributed to societal progress and advancement (Fägerlind & Saha, 2016). It is evident that education is not only a necessary process for individual competence but also a critical factor that fosters societal development.

The implementation forms of education have historically varied across different periods and societies. The understanding and method of education in societies reflect the evolution of education. Education continues to evolve in line with the needs of society and technological advancements. Considering the fundamental periods and transformations in the historical development of education: from ancient times to the Middle Ages, educational forms significantly evolved and different education systems emerged due to religious-political changes. In ancient times, local education emphasizing methods such as rote learning and quoting classical works was prevalent (Hằng et al., 2015). With the Industrial Revolution, access to education increased for the masses. The compulsory education process was shaped by the accumulation of knowledge and experiences from industrial revolutions, leading to the cumulative progress of educational practices (Floud, 1994). With globalization, education became more integrated internationally. International student exchange programs, global education standards, and international exams enhance international collaboration in the field of education. Alongside the development of computer technology, digitization in education increased. Computers, the internet, and other technological tools began to play a significant role in education. Distance learning, online education, and digital resources became widespread.

Societal changes have been observed to influence the evolution and implementation of education. The necessity for education to continue uninterrupted has triggered the development of educational models according to the prevailing needs. The COVID-19 pandemic necessitated the mandatory shift to distance learning to ensure the continuity of education. Distance learning, which traces its origins back to the 1700s, has evolved over time with technological advancements (Harting & Erthal, 2005). The early stages of distance learning involved materials sent via mail. Students received mail packets containing study materials, books, and assignments. Particularly during the 19th century, this system was popular in providing remote access to education. Starting from the early 20th century, radio and television were utilized to disseminate educational materials to the masses. Special education programs, lessons, and educational content were broadcasted. During this period, especially in the United States, radio and television were recognized as significant tools for distance education. The development of computer technology significantly transformed distance learning. Since the 1970s, computers and the internet have facilitated the digitization of

educational materials. Educational institutions could reach students through online classes and digital platforms. In recent years, with the use of mobile devices such as smartphones and tablets, learning has become mobile. Lessons were delivered to students through applications, making content portable.

The implementation of distance education in Türkiye has a historical context dating back to the 1980s. The Open Education Faculty at Anadolu University was established in the 1982-83 academic year, marking the initial incorporation of distance education in higher education in Türkiye (Bozkurt, 2017). The COVID-19 pandemic, since March 23, 2020, accelerated the transition to online learning at all educational levels, including universities, prompting the adoption of distance education (Koçoglu & Tekdal, 2020). The pandemic compelled academic experts to reconsider traditional face-to-face learning and consider distance learning as a feasible option to mitigate the risk of infection for students before the resumption of conventional activities (Adnan & Anwar, 2020). Additionally, research on distance learning in Türkiye has been ongoing since the 1980s, aligning with the global trend of utilizing distance education methods and techniques (Korkmaz et al., 2021).

2. LITERATURE REVIEW

2.1 Education In COVID-19

Various measures have been implemented in the field of education to mitigate the impact of COVID-19. These measures varied by country and region, but some strategies are common. Many educational institutions shifted from traditional face to face classes to online learning to ensure continuity in education. Some institutions adopted hybrid learning models, combining online and face to face instruction to accommodate different learning preferences and maintain social distancing. This model combines face-to-face classroom instruction with online learning, offering flexibility and adaptability to ensure continuity in education during challenging times (Nasution et al., 2022).

Teachers and professors have used video conferencing tools such as Zoom, Microsoft Teams, and Google Meet for distance education and virtual classrooms. Several studies have highlighted the significance of Zoom as a widely used platform for distance education during the COVID-19 pandemic(Serhan, 2020, Purwati & Khairunisa, 2022, Fatoni, 2021, Ganesha et al., 2021). Similarly, Microsoft Teams emerged as a prominent tool for managing learning activities during the pandemic, particularly in higher education institutions(Mardhiyyah et al., 2022). Google Meet also gained traction as an essential platform for online learning during the COVID-19 pandemic (Joia & Lorenzo, 2021, Fuady et al., 2021). Overall, the use of Zoom, Microsoft Teams, and Google Meet has significantly contributed to the continuity of education during the COVID-19 pandemic. These platforms have provided essential tools for distance education, enabling educators to engage with students effectively and ensuring the delivery of educational content in a virtual environment.

Educational materials and resources have been made available digitally to support distance education, including e-books, online libraries, and interactive content (Rahmawati & Hasfat, 2021). Training programs were provided to educators to enhance their skills in delivering effective online instruction and utilizing digital tools. The COVID-19 pandemic has indeed accelerated the adoption of distance learning tools and led to an increased demand for educators to be trained in using these

platforms effectively. Numerous studies have shed light on the challenges and opportunities associated with training educators for distance learning during the pandemic. For example, Adnan & Anwar (2020) highlighted the transition to distance education as a viable option to fill the classroom gap during the pandemic and emphasized the need for educators to adapt to this new teaching style. Similarly, Li et al. (2022) emphasized the need for enhanced visual, auditory, and kinesthetic distance education, pointing to the need for specialized training to use these tools effectively. Amir et al. (2020) discussed the transition to distance education methods during the pandemic, underlining the importance of educators providing education through distance education platforms. Furthermore, Lassoued et al. (2020) emphasized the rapid adoption of distance education in higher education, bypassing obstacles and difficulties, indicating the need for comprehensive training for educators. Ismaili (2021) highlighted the positive attitudes and willingness of students to engage in distance learning classes, indicating the potential for e-learning platforms in higher education institutions. Moreover, Al-Hussein et al. (2021) emphasized the lack of readiness and training among users, including students, teachers, and parents, to effectively utilize distance education tools. Sari & Nayır (2020) highlighted the lack of application, technology support, and distance education training, indicating the need for comprehensive training programs for educators.

In regions where face to face classes continued, health and safety measures were implemented, these measures include the use of face masks, regular hand hygiene, social distancing, and adherence to infection control protocols (Ilesanmi et al., 2020). The implementation of infection prevention measures, such as wearing face masks, has been recognized as a crucial preventive measure to limit the spread of COVID-19 within educational institutions (Aragão et al., 2022). The transition from traditional face-to-face education to distance education has been emphasized as a defense tool in the fight against the COVID-19 (Kara, 2021). This shift has necessitated the adoption of online learning platforms and the development of hybrid learning models to maintain learning effectiveness at the higher education level post-COVID-19 pandemic (Haningsih & Rohmi, 2022).

2.2 Distance Education-Face to Face Education

Distance education is not a model that emerged as an alternative to face-to-face education only during crisis moments such as the COVID-19 period; on the contrary, it is an educational model with roots dating back much further, aiming to respond to the educational needs of societies and constantly adapting to the dynamics of change with technology. The roots of distance education can be traced back to the 19th century, where the first attempts were made through printed course materials sent by mail (Kang, 2021). This form of education continued to develop and by 1910 the University of Queensland in Australia had established a Department of Correspondence Studies, marking the official beginning of distance education in the country (Pregowska et al., 2021). Over time, the distance education model has continued to develop with developing technology and digitalisation. The COVID-19 pandemic has played an important role in reshaping education and has led to an increase in the use of distance education to ensure the safety and continuity of the educational process (Sindiani et al., 2020). The evolution of distance education has brought along some difficulties such as technological infrastructure, accessibility and hardware inadequacy. This situation has caused differences of opinion in the literature in terms of the advantages and disadvantages of distance education. The fact that the pandemic has suddenly increased the need for distance education has emphasized the importance and effectiveness of this education model. The general opinion in the researches conducted before the pandemic was that distance education could not replace face-to-face education. In 2019, in a study on the advantages and disadvantages of distance education, it was suggested that although there are situations where distance education can provide the same effect as traditional classroom education, students should choose the one that suits their goals when choosing education models (Sadeghi, 2019). In another study examining distance education in terms of education and society before Covid-19, it was determined that distance education can be costly for students, although it is advantageous in terms of serving more students and having low costs. Although the flexibility of distance education for students stands out, it has been suggested that it cannot completely replace classroom education (de Oliveira et al., 2018). In addition, although it is argued that distance education will become a dominant education model in the world, it is stated that without wall classrooms that will develop in line with technology and innovative advances will not replace

traditional education (Radović-Marković, 2010). Although distance education, which has evolved in line with the advancement of technology, is flexible and useful, it is stated that there may be problems in terms of adaptation because not every student's use of technology is the same (Vlasenko & Bozhok, 2014). In the studies conducted before the pandemic, although there was a general perception that distance education will have a much different position in the future and that it is a subject that needs to be researched, different evaluations were made in academic, psychological and social terms after the pandemic. The pandemic has accelerated the spread of online learning at all levels of education. Masalimova et al. (2022) also provided an opportunity to introduce digital learning, paving the way for the redesign of higher education and the development of effective teaching-learning strategies (Karakose, 2021, Pokhrel & Chhetri, 2021). In addition, the pandemic has led to the adoption of emergency distance teaching and virtual learning (Anthony Jnr & Noel, 2021). The transition to distance learning has also created challenges, particularly in the field of medicine, and has disrupted face-to-face teaching in medical schools globally (Gaur et al., 2020), highlighting the need to address the burden on medical education and training by focusing on the role of telemedicine and tele-education during and after the pandemic (Sharma & Bhaskar, 2020). It has also raised concerns about the impact on students' intrinsic motivation in distance undergraduate education (Uraiby et al., 2022).

Studies on distance education during or after the pandemic are not limited to advantages and disadvantages. Pandemic conditions have affected students' distance education experiences in various ways. Quarantine processes, physical restriction of their movements, distance from the classroom environment, and the necessity of distance education have affected students academically, psychologically and motivationally. In a study conducted with undergraduate students, almost half of the students answered questions about their distance education experiences as increasing their anxiety (Unger & Meiran, 2020). At different levels of education, in different departments, the experiences of both students and teachers are diversified. Therefore, it is important to benefit from these experiences in order to create an effective lesson plan. Creating an education plan that responds to both the academic and psychological needs of students can reduce the negative effects of the pandemic on education. Sari & Nayır (2020) suggested that school administrators should create an action plan by dividing teachers into sections according to their experience and skills. In this way, it

is stated that it can help students to create both psychological and academic programmes. Considering the general situation, it was suggested that the participants were not ready for distance education (Sari & Nayır, 2020). In order to minimize the negative effects of the pandemic, communication is as important as the education plan. Students' communication with both educators and classmates is effective for the efficiency of distance education. In a study conducted with pre-service teachers regarding the problems encountered in Covid-19, it was stated that students encountered problems such as inability to communicate with classmates and the need for socialization, as well as technical problems such as lack of internet and materials required for distance education (Özüdoğru, 2021).On the other hand, due to the quarantine conditions during the pandemic period, it was underlined that the emotional state and motivation of students are related to the bond they establish with their teachers and classmates, thus underlining the importance of the communication mechanism between students and teachers (Baltà-Salvador et al., 2021). In addition, technical improvement studies on the motivation of students in the distance education process were also analyzed. Improving technical infrastructures enables students to access distance education materials faster and more reliably. Providing equal opportunities to economically disadvantaged students causes students to adapt more to distance education and the education process to be more efficient. In a research conducted with higher education students in Bangladesh, it was emphasized that students were psychologically affected due to the problems caused by online education and that support was needed to reduce these disruptions and that internet infrastructure improvements should be addressed urgently in order to continue education without interruption (Dutta & Smita, 2020). In a study carried out in Indonesia, the success of online learning during the COVID-19 pandemic was attributed to the preparedness of technology aligned with the curriculum and the support and cooperation of all stakeholders such as the government, schools, teachers, parents and the community (Rasmitadila et al., 2020).

2.3 Education in Sweden

The education system in Sweden is comprehensive, inclusive, and known for its student-centered approach. The Swedish education system is deeply rooted in the Nordic welfare model, promoting traditional social democratic values such as inclusion, participation, citizenship, and equality (Mock-Muñoz de Luna et al., 2020). Education is compulsory for children between the ages of 7 and 16. This period includes the nine-year Grundskola (primary and lower secondary school). The Swedish education system emphasizes individualized learning. Teachers strive to adapt their teaching methods to meet the needs and learning styles of individual students (Andreasson et al., 2013).

Sweden avoids the use of standardized testing at the primary and lower secondary levels. Instead, assessment is often based on continuous evaluation, grades, and teacher feedback. The Swedish educational system's emphasis on centralized practices of evaluation and assessment, reflects the significance of assessment in ensuring the effectiveness of the decentralized education system in Sweden (Allan, 2014). Moreover, the transition from primary to lower secondary school underscores the importance of objective and valid assessment information to support students' needs during this critical period (Strand, 2020). After completing Grundskola, students can choose to attend a three-year upper secondary school called Gymnasieskola. Here, they can choose from various academic and vocational programs (Halldén, 2008). Sweden places a strong emphasis on vocational education and training (VET). Vocational programs at the upper secondary level provide students with practical skills and knowledge for specific careers (Olofsson & Thunqvist, 2018). The education system allows for flexibility in choosing educational pathways. Students can transition from upper secondary school to higher education or directly enter the workforce after completing vocational training.

The higher education system in Sweden, known as "högskola" and "universitet," is characterized by a strong emphasis on decentralization and quality assurance (Andersson et al., 2004). Additionally, quality assurance (QA) regimes have become increasingly dominant as a regulatory tool in the management of higher education sectors globally, including in Sweden (Jarvis, 2014). The comprehensive quality

assessments of Swedish higher education institutions are discussed in conjunction with stimulating innovation and continuous improvement (Wiklund et al., 2003). This emphasis on decentralization has aimed to make education more accessible to those living in less densely populated areas, contributing to educational expansion in Sweden (Chudnovskaya & Kolk, 2017). Additionally, the Swedish higher education system has been influenced by internationalization policies, with expected benefits including positive reputational and material outcomes for the higher education sector and positioning Sweden as a reliable and progressive international partner (Alexiadou & Rönnberg, 2022).

Sweden has a higher education system, with universities and university colleges offering bachelor's, master's, and doctoral programs. Many programs are offered in English, attracting a diverse international student population. In Sweden's higher education, the use of languages is influenced by various factors, including globalization, internationalization, and the country's multilingual context. English has gained prominence as an academic language in Swedish universities, with its use being a pragmatic reality in the sciences and as an additional or auxiliary language in the humanities and social sciences (Bolton & Kuteeva, 2012). Higher education in Sweden encourages student autonomy and critical thinking. Students are expected to actively engage in their learning and contribute to class discussions. Swedish universities are known for their research-oriented approach. The research-oriented approach in universities in Sweden is characterized by a multifaceted and dynamic landscape, influenced by various factors such as internationalization, language policy, and educational development. The Swedish higher education system has increasingly embraced a research-oriented approach, emphasizing the integration of research activities into teaching, and learning processes. This approach is reflected in the development of a national standards framework based on the Scholarship of Teaching and Learning, highlighting the importance of visible proofs of excellence in teaching and learning as an increasingly important aspect of institutional branding (Lindberg-Sand & Sonesson, 2008). The research-oriented approach in Swedish universities is also evident in the development of a new typology classifying university-industry interactions into training-oriented, diffusion-oriented, service-oriented, development-oriented, and research-oriented, highlighting the multifaceted nature of research collaborations and knowledge transfer (Schaeffer et al., 2017).

Sweden places a strong emphasis on inclusive education, aiming to provide equal opportunities for all students, regardless of their background or abilities. The relationship between equal opportunity and education in Sweden is multifaceted and influenced by various factors, including social mobility, educational expansion, and gender equality. In countries such as Sweden, where serious income equalization policies have been pursued successfully, the equalization of conditions is believed to have had an additional impact on reducing the class differential in the ability to bear the costs of education (Breen et al., 2009).

Overall, the Swedish education system is characterized by its commitment to equality, individualization, and a holistic approach to education at all levels. The system values creativity, critical thinking, and lifelong learning.

2.4 Education in Türkiye

In Türkiye, the education system is divided into formal and informal education. Formal education is defined as education provided regularly in school settings with programs planned according to specific age groups and levels. This type of education is typically conducted in official educational institutions and follows curricula determined by the government. It includes various levels such as preschool, primary school, middle school, high school, and university (Türk & Kılıç, 2015). On the other hand, informal education is a more flexible and comprehensive type of education that is not usually conducted in formal educational institutions or traditional classroom settings. It aims to reach individuals through different methods and provide educational opportunities without being bound to a specific classroom environment. Informal education programs often cater to adults, workers, or specific groups with special education programs. This type of education can be delivered through various platforms such as distance learning, online courses, seminars, workshops, educational materials, and community centers. Informal education plays an important role in providing educational opportunities to a wider audience and increasing access to learning (Türkoğlu & Sanem, 2011). In Türkiye, compulsory education covers children aged 5-13 and is mandatory. Türkiye has adopted the 4+4+4 compulsory education system, consisting of 4 years of primary school, 4 years of middle school,

and 4 years of compulsory secondary education. Secondary education includes general, vocational, and technical education institutions.

The higher education system in Türkiye is characterized by continuous reforms and developments (Ergin et al., 2023). Turkish higher education aims to meet the nation's needs by providing both knowledge-focused universities and vocational schools for employment-oriented training (Karavar & Atay, 2022). Higher education in Türkiye encompasses a wide range of universities and institutions offering various undergraduate and graduate programs. Türkiye has both public and private universities spread across the country. These universities offer programs in diverse fields such as engineering, social sciences, natural sciences, humanities, arts, and health sciences. Undergraduate education typically lasts four years in Türkiye. Students can choose from a variety of programs leading to bachelor's degrees in their chosen field of study. The curriculum is designed to provide students with both theoretical knowledge and practical skills. Graduate education includes master's and doctoral programs. Master's programs generally last two years and offer students the opportunity to specialize in a particular area of study. Doctoral programs, on the other hand, focus on advanced research and usually take at least four years to complete. Higher education institutions in Türkiye are overseen by the Council of Higher Education (YÖK), which ensures quality standards and accreditation of programs. Accreditation processes are in place to assess the quality of education provided by universities. Türkiye is also increasingly focusing on internationalisation efforts in higher education, with many universities offering programmes in English and actively participating in international research collaborations, student exchanges and partnerships with foreign institutions. Türkiye has made efforts to increase access to higher education by expanding university capacity and providing scholarships and financial aid to students in need. However, access to higher education can still be challenging for some segments of the population, particularly those from lower socio-economic backgrounds or rural areas.

Overall, higher education in Türkiye offers a wide range of opportunities for students to pursue their academic and career goals, with a focus on quality, diversity, and internationalization.

3. DATA COLLECTION

In this section, the data sources and descriptive statistics are provided. The study encompasses the analysis of data obtained through a survey conducted with 494 university students selected from a public university and the administrative registers of the students before and during the COVID-19 pandemic. The students were categorized based on their academic status (undergraduate, graduate, doctoral), and their academic performance during the COVID-19 distance education process was evaluated, with 484 undergraduate students, 8 graduate students, and 2 doctoral students being examined. The distance education process was evaluated from the students' perspective by considering the variables affecting their academic achievement, classroom performance, and motivation. The data were obtained through surveys conducted with students and information collected from the Register's Office. Information provided by the Student Register's Office includes the output of educational and training activities of the students and the student performance evaluations, while survey output includes students' socioeconomic structure, family income, education level, and distance education experiences. Survey data has been used to examine the educational outcomes of this thesis in accordance with the equal opportunity perspective. Therefore, when preparing the survey questions, variables that can influence students' academic achievements while also creating inequality of opportunity have been taken into account. In the first part of the section, fundamental information such as students' gender, place of residence, household size, family education levels and occupations, income levels, and other essential details are included. The second part of the section focuses on data that may influence their study motivation. In the last part, family situations are examined from economic, social, and psychological perspectives. The survey comprises data on students' socioeconomic status, income, access to personal space and computers, family support, and COVID-19-related concerns.

The variables classification and their definitions used in the survey within this thesis are presented in the table below.

Table 1 Variables and descriptions collected from the survey.

Variable Name	Description
Gender	It represents the gender distribution
Residence	It states the places where students live
Household Size	It indicates the number of individual living in the same household.
Family Education Level	It displays the last level of education completed by the students' parents.
Family Occupation	It contains information about the professional groups of students' parents
Income Level	It shows the monthly earnings of students.
Study Motivation	It contains information about students' study experiences and their attitudes toward learning.
Family Situation	It provides information about the economic, social, and psychological aspects of students' family lives during the COVID-19 period

The survey was sent online to a total of 1000 students, including Turkish and foreign nationals, in December 2020 and a total of 494 students responded.

Table 2 Variables and descriptions collected from the Register office.

Variable Name	Description
Courses	Refers to the courses in which students are enrolled.
Final Exam Result	Refers to 2018-2019 spring semester and 2019-2020 spring semester final grades
Nationality	Refers to the nationality of the students
Grade	Refers to the grade point average of students

3.1 Descriptive Statistics

The detailed descriptive statistics are presented in the following plots.

Figure 4 Distribution of respondents by gender
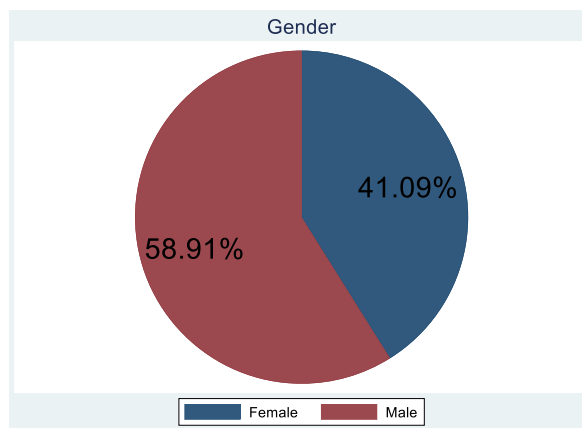
This thesis selected a public university as the sample, with a total of 494 participants in the survey. Among them, 484 were undergraduates, 8 were graduate students, and 2 were pursuing a doctorate. The survey included 58.91% male students and 41.09% female students, reflecting a gender distribution proportionate to the university's overall student population.

Figure 5 Distribution of respondents by residence
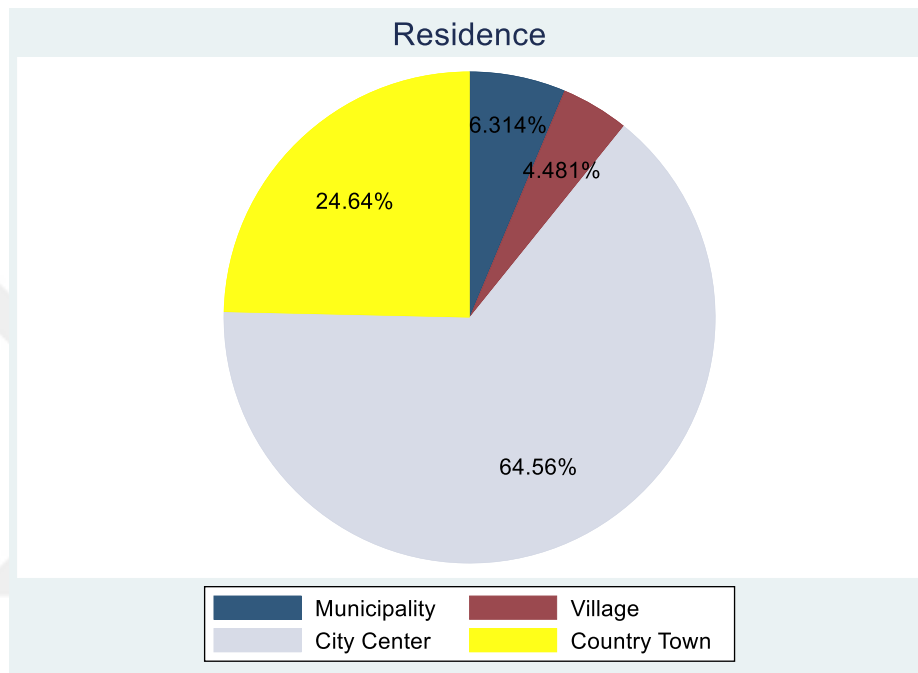
When inquired about their place of residence, students provided the following responses: 6.31% in a municipality, 4.48% in a village, 64.56% in the city center, and 24.64% in a country town. It's noteworthy that Kayseri, the city center where the students' universities are situated, accounts for the majority of respondents. Consequently, based on the survey results, 35.44% of the students reside in a location smaller than the city where their university is located.

Figure 6 Distribution of the amount of individual in the same house
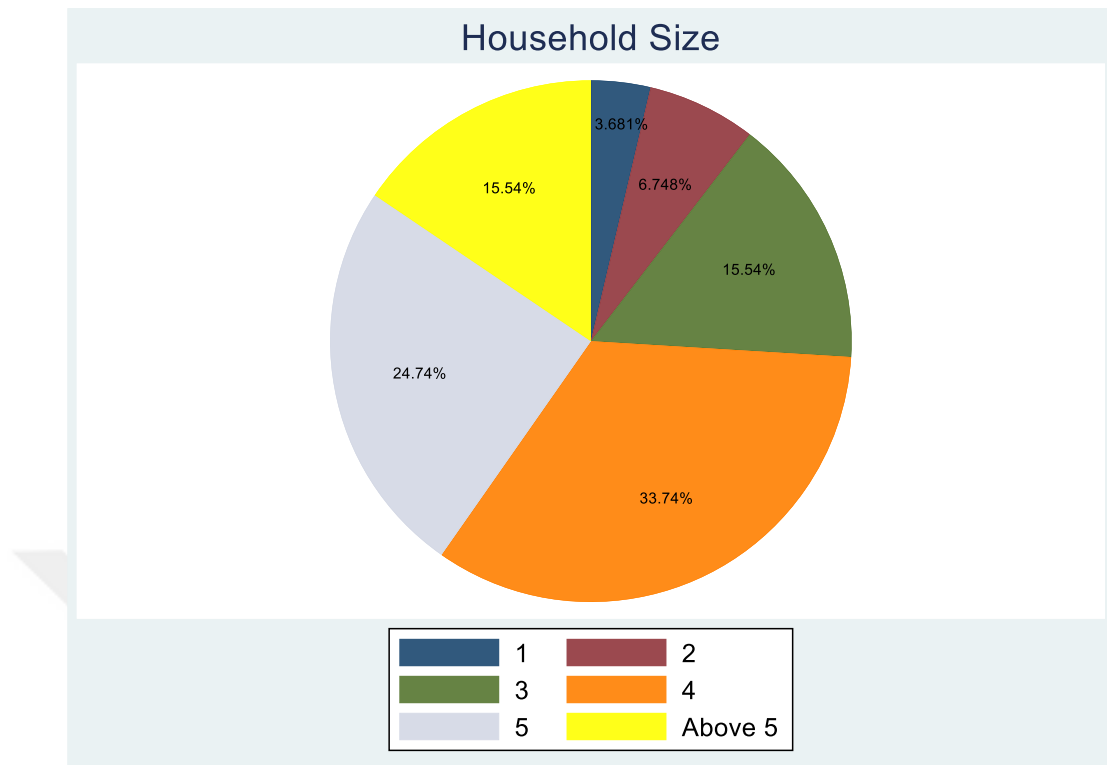
During the period of face to face education, courses were conducted in physical school environments. However, with the transition to distance education, courses shifted to an online format, and students began connecting to their educational resources from their homes. One of the physical factors influencing the educational environment was the size of the students' households, indicating how many people resided in the same residence.

When inquiring about household sizes, it was observed that 33.74% of the students lived with four individuals, 24.74% with five individuals, and 15.54% lived with five or more people. Notably, 74% of the students reported that their households consisted of four or more individuals, aligning with the typical family structure in Türkiye.

Based on the 2021 data, households characterized by a single nuclear family and those including at least one nuclear family and other individuals together make up roughly 78% of the total population, supporting the observations in this study.

Table 3 Ratios by Household Types, 2014-2021

Household Types	Percentage of total households (%)							
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
One-person household	13,9	14,4	14,9	15,4	16,1	16,9	17,9	18,9
Household consisting of a single nuclear family	67,4	66,9	66,4	66,1	65,3	65,1	65,2	64,4
Nuclear family consisting of only spouses	14,1	14,3	14,2	14,2	14,1	13,9	13,5	13,5
Nuclear family consisting of spouses and children	45,7	44,8	44,0	43,5	42,3	42,0	42,0	40,8
Nuclear family with one parent and children	7,6	7,8	8,2	8,5	8,9	9,2	9,7	10,1
Nuclear family consisting of father and children	1,5	1,6	1,7	1,8	1,9	2,0	2,2	2,3
Nuclear family consisting of mother and children	6,1	6,2	6,5	6,7	7,0	7,2	7,5	7,8
Household consisting of at least one nuclear family and other persons	16,7	16,5	16,3	16,0	15,8	15,0	14,0	13,5
Household consisting of more than one person, not a nuclear family	2,1	2,2	2,4	2,5	2,8	3,0	2,8	3,2

Note: 1) Data source: Türkiye İstatistik Kurumu (2021). https://data.tuik.gov.tr/Bulten/Index?p= Istatistiklerle-Aile-2021-45632

Figure 7 Distribution of parents' education level
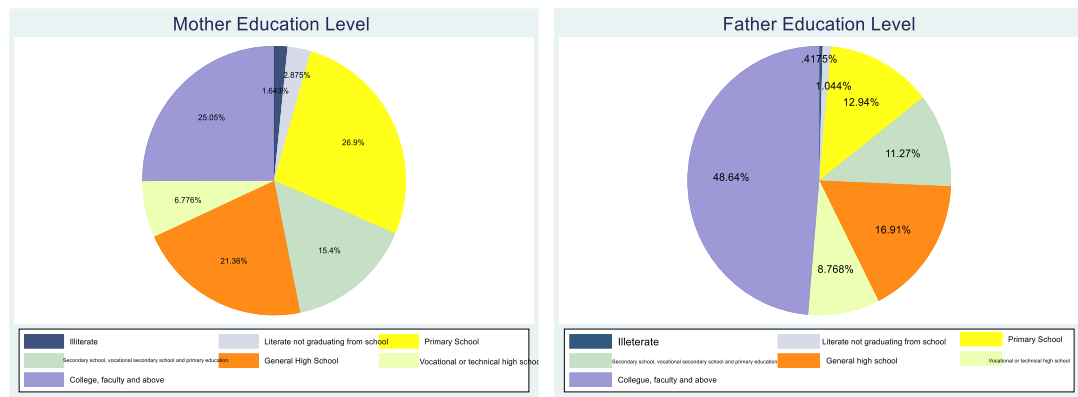

To ascertain the highest educational attainment of students' parents, a question was posed to the students, which offered seven education levels to choose from. These education levels encompassed Illiterate, Literate but not completing school, Primary school, Secondary school, vocational secondary school, general high school, college, and faculty or higher education.

Regarding the mothers' education levels, it was found that 21% possessed a General high school degree, and 25% had a college, faculty, or higher degree. In contrast, when examining the fathers' education levels, it became apparent that 17% had completed General high school, while a significant 49% had achieved a college, faculty, or higher degree. This observation highlights that the fathers' education levels, particularly at the college, faculty, or above level, were nearly double those of the mothers.

Figure 8 Distribution of parents' occupation
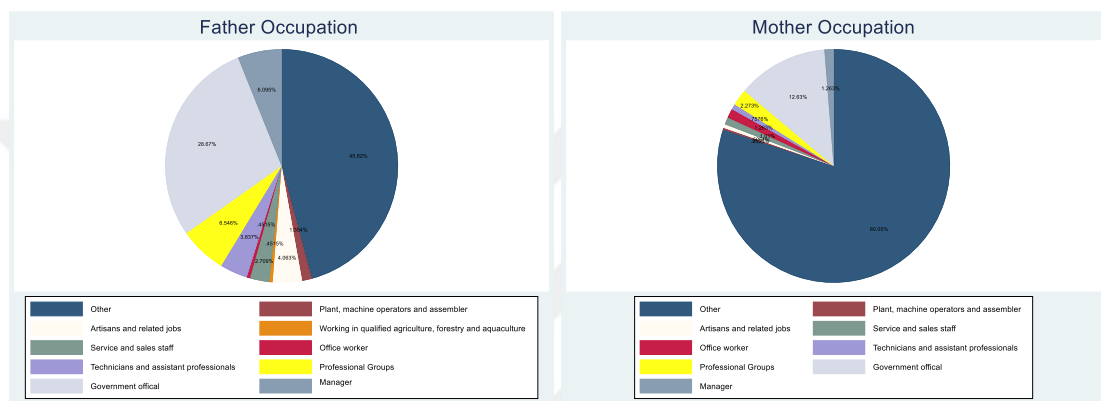
Note: Occupation criteria: International Labour Organization (2024) https://ilostat.ilo.org/resources/ concepts-and-definitions/classification-occupation/

To ascertain the occupations of students' parents, a question was posed to the students, presenting a choice of 10 occupation groups. These occupation groups included Government officials, Professional Groups, Technicians and assistant professionals, Office Workers, Service, and sales staff, those involved in qualified agriculture, forestry, and aquaculture, Artisans and related jobs, Plant and Machine operators and assemblers, Managers, and an 'Other' category for occupations not falling within the specified groups.

In terms of their fathers' occupations, 29% of students reported that their fathers were Government officials, while 13% indicated that their mothers held similar positions. However, it was noteworthy that a significant majority of students reported their parents' occupations as being different from the specified categories, leading them to select the 'Other' category.

3.2 Income Level

Figure 9 Distribution of income level
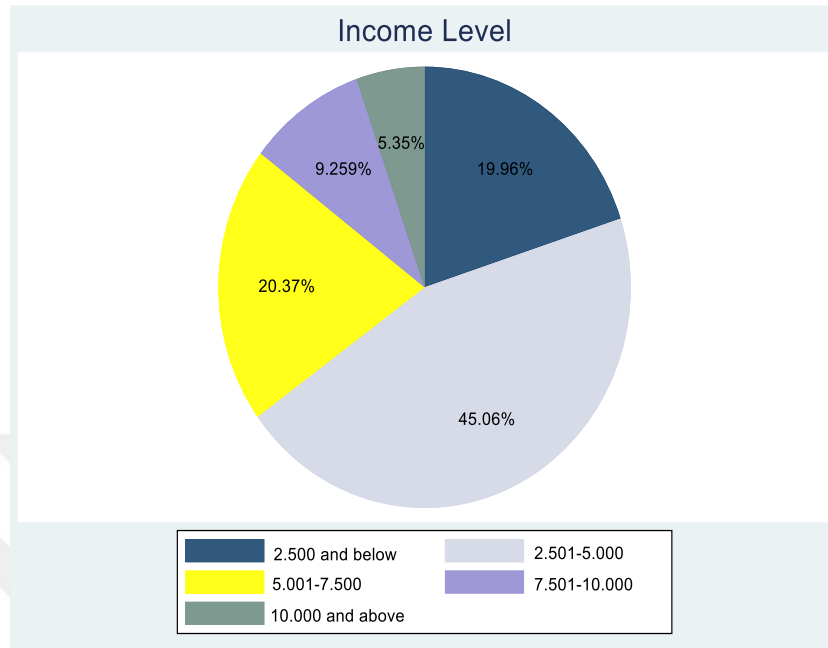
Income level is a significant indicator of inequality of opportunity. In the context of education, it can be argued that the impact of income disparities has become more pronounced during the COVID-19 period (Haelermans et al., 2022). In the distance education process, although students' expenses such as transportation, nutrition, and housing seem to decrease, the job losses in many sectors have led to a reduction in household incomes and an increase in unemployment levels (Feyisa, 2020). According to survey data, this situation has created additional needs for students continuing their education from home, such as access to the internet, acquiring a computer/tablet, and contributing to the family economy by seeking employment. Within the survey, respondents were presented with five distinct income ranges to indicate their income level. A notable finding is that 45% of the students reported their income falling within the 2,501-5,000 TL range. It's important to highlight that in 2020, the minimum wage in Türkiye was set at 2,323 TL. Consequently, the survey results revealed that 20% of the students had incomes below the minimum wage threshold.

3.3 Study Motivation

This section is dedicated to exploring students' educational experiences and their assessments of distance education. It delves into the factors that impact students' academic performance. To gauge the effectiveness of the distance education phase, the initial step involved an analysis of the time spent on computers, which served as an educational tool, and a comparison of weekly study hours during distance education with those during face to face classes. Subsequently, students were surveyed regarding their perceptions of distance education and their experiences with course dropouts during this period, including the underlying reasons. Additionally, the section investigates aspects such as students' time management, the influence of their study environments on their study motivation, and their engagement with classmates during study sessions.

Figure 10 The amount of time students spend on their computers daily
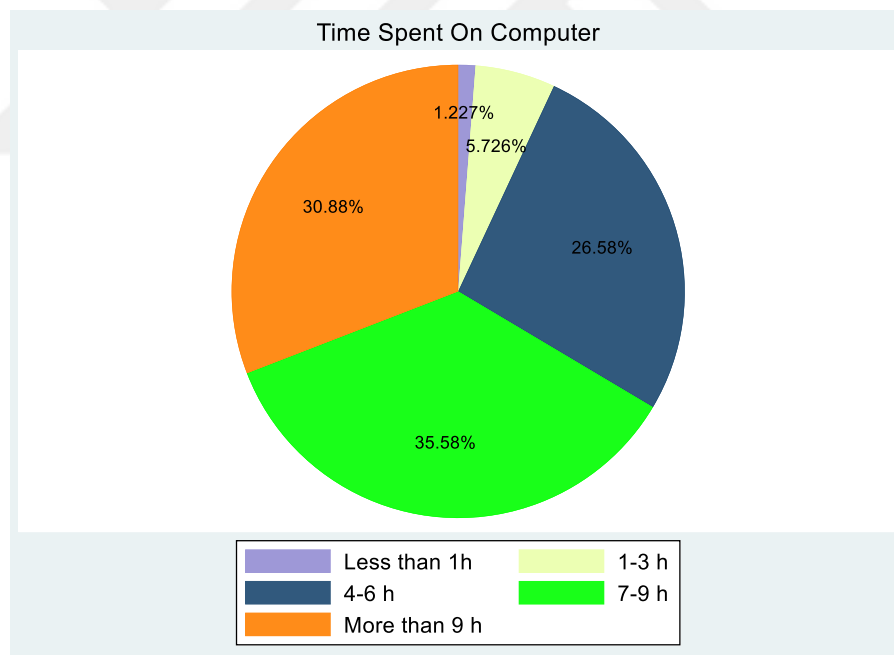
Computers have become the means for students to access education in the distance education era. Students take their courses via the internet and complete their homework, projects and even exams using computers. Therefore, the time spent on computers is closely related to the efficiency of education. During the COVID-19

pandemic It was observed that the majority of the students spent 4 hours or more on the computer.

Figure 11 Weekly study time in distance education period compared to face-to-face education period

Weekly study time in distance education period compared to face-to-face education period

- 24.09% — Decrease
- 48.19% — Increased
- 27.72% — Not changed

| Decrease | Not changed | Increased |
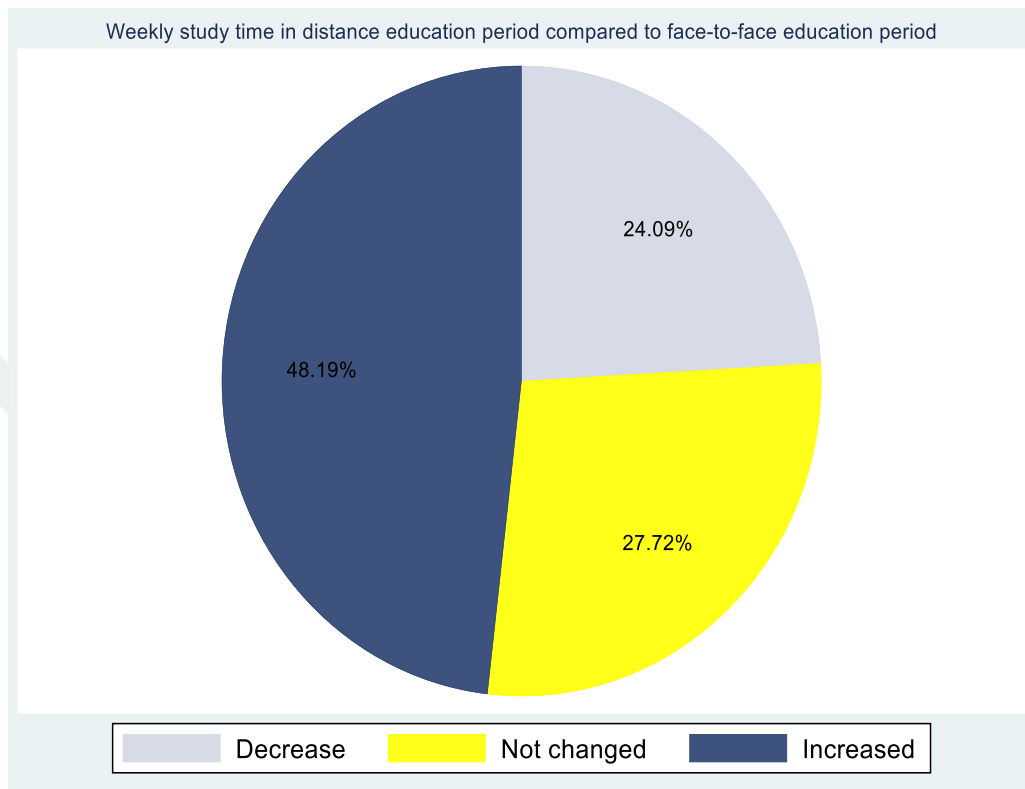
Regarding their weekly study hours, 48% of students noted an increase when compared to the face-to-face education period. An examination of the success rates in online-administered exams revealed a notable surge compared to the face to face education phase. This increase has raised concerns about the potential for academic dishonesty during exams.

To address this issue, the university in question has implemented an alternative approach to mitigate the risk of cheating. In specific courses, students are required to submit projects instead of taking traditional exams. Consequently, students need to allocate extra time for project preparation, which may have contributed to the overall increase in their weekly study hours.

Figure 12 Experience of transition to distance education
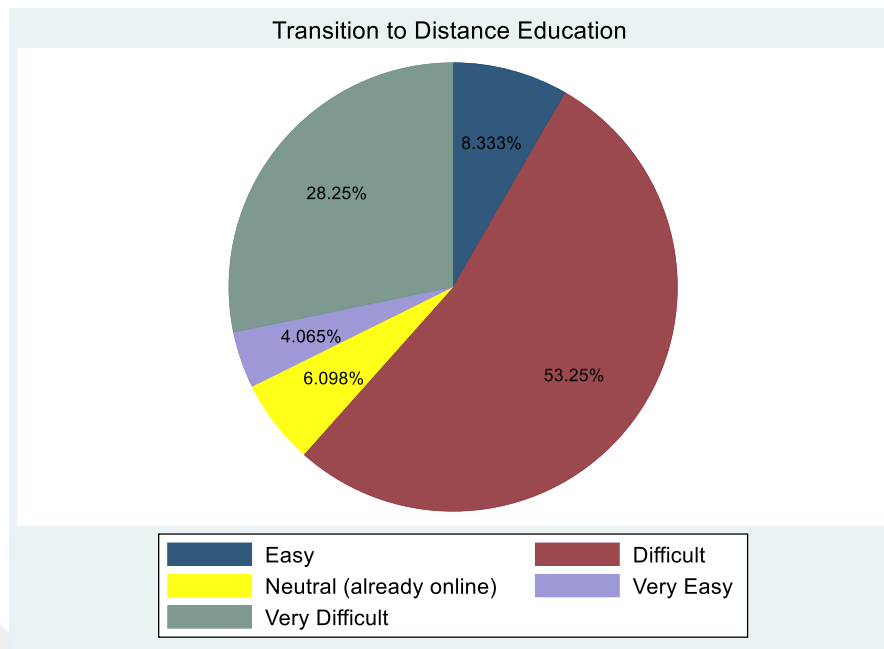
Within the survey, students were questioned about their perceptions of the shift to distance education. It was found that 12% of students considered the transition to be easy, while a substantial majority of 82% found it to be challenging. Although students' experiences during the abrupt shift from face to face classes to distance education varied, the predominant sentiment conveyed difficulties encountered in this process.

A similar study conducted at Adıyaman University involved surveying 325 students from various academic departments. In that study, 44% of the students expressed that distance education exacerbated socioeconomic disparities among students (Saltürk & Güngör, 2020).

Table 4 The existence of courses dropped in the spring term with the transition to distance education

Drop course	YES	NO	TOTAL
n	128	349	477
Percent	26.83	73.17	100

Among the students who participated in the survey, 27% mentioned dropping courses during the transition to distance education.

Table 5 Reasons for dropping the course

Reasons	Not Follow	Boring	Limited Access	Overlapping Lesson
1 (Absolutely I disagree)	21 (16.67)	18 (14.27)	41 (32.80)	81 (64.29)
2	19 (15.08)	20 (15.75)	25 (20.00)	16 (12.70)
3	23 (18.25)	27 (21.26)	20 (16.00)	11 (8.73)
4	27 (21.43)	23 (18.11)	10 (8.00)	7 (5.56)
5 (Absolutely I agree)	36 (28.57)	39 (30.71)	29 (23.20)	11 (8.73)
Total *(%)*	126 (100)	127 (100)	125 (100)	126 (100)

The global nature of the COVID-19 pandemic has brought about similar challenges in the field of education across countries. Students transitioning to distance education have faced technical inadequacies, lack of motivation, adaptation issues, and more. Some have even been compelled to drop out of school or abandon their courses. In Greece, the pre-existing economic crisis coupled with the challenges of COVID-19 has increased social exclusion, leading to a higher rate of students dropping out of school (Tsolou et al., 2021). Similarly, in Spain, students struggling to adapt to distance education could contribute to an increase in the already high dropout rates (Azorín, 2020). Early detection of the reasons behind students not continuing their education or dropping out is crucial for taking preventive measures. Examining not only official records but also attendance rates can assist in predicting these situations (Dorn et al., 2021). Examining the reasons for dropping in the survey courses, 50% mentioned their inability to keep up with the classes, 40% found the courses unengaging, 31% had limited access to necessary resources, and 14% mentioned schedule conflicts as the reasons for dropping courses. The high percentage of students who had to drop courses due to limited access underscores the inadequacy of technological infrastructure. Due to the COVID-19 pandemic, school closures necessitated an urgent transition to online education. Technology has been perceived as a solution to educational challenges by ensuring accessibility for everyone in the field of education. (Yassine et al., 2022).

Table 6 Using time more efficiently during online education

Degree	Number (%)
1 (Absolutely I disagree)	159 **(33.06)**
2	99 **(20.58)**
3	111 **(23.08)**
4	59 **(12.27)**
5 (Absolutely I agree)	53 **(11.07)**
Total *(%)*	481 **(100)**

In addition to attending their classes, students need to use their time efficiently to fulfill assignments, exams, projects, and other responsibilities. Efficient time management is not only important for meeting academic obligations but also for allocating time to their social activities. Approximately 54% of the students stated that they could not use time efficiently.

Table 7 The difficulty studying while at home

Degree	Number (%)
1 (Absolutely I disagree)	45 (9.38)
2	54 (11.25)
3	80 (16.67)
4	89 (18.54)
5 (Absolutely I agree)	212 (44.17)
Total (%)	480 (100)

Of the students who participated in distance education from their homes, 63% mentioned having difficulties studying while at home. One of the factors that can affect academic success is the learning environment. Students who attended their classes in the school environment had the opportunity to study with their friends or alone in campus areas and libraries. Most importantly, they had the freedom to choose their study environments. Due to the pandemic, not only schools but almost all indoor spaces were closed. The unpredictable course of the disease and the increasing number of cases led to curfews, where people were only allowed to go to places like markets and bakeries to meet their basic needs until a certain hour. The decision to close universities and all other educational institutions until the end of the term and continue education online resulted in students having only their homes as their study environments and increased academic concerns. Other variables that could affect their education at home will be discussed in the "Family Situation" section.

Table 8 Working together with classmate

| Degree	Number (%)
1 (Absolutely I disagree)	149 (**31.11**)
2	107 (**22.34**)
3	95 (**19.83**)
4	79 (**16.49**)
5 (Absolutely I agree)	49 (**10.23**)
Total *(%)*	479 (**100**)

While fulfilling their academic responsibilities in their university life, students were able to collaborate with their friends on their courses and socialize at the same time. They could do their projects and homework together and follow their lessons together. It can be said that bringing students together in a physical environment strengthened the bond of trust and friendship between them. The communication of the students who came together in virtual classrooms during online education was limited to following the screen projected by the instructors. The inability of students to come together to study without a group project, homework, presentation, etc., or to come together only in a virtual environment weakened social ties. Approximately 54% of the students stated that they did not study with their classmates.

3.4 Family Background

This section delves into the economic and psychological factors that influence the academic achievements of students who embarked on distance education alongside their families. In the preceding section, we discussed the challenges students faced while studying at home in terms of their study motivation and the educational environment. In this section, firstly examining the presence of students' dedicated study environments and their access to personal computers. Evaluating the distance education period with regard to equal opportunities is of utmost importance for ensuring the equitable realization of the right to education for all. Having private spaces and personal computers can significantly enhance students' access to education. Another crucial consideration in terms of education accessibility is the presence of others in the household engaged in distance education. When multiple household members are connected to distance education, it can lead to shared use of educational environments and resources, potentially causing issues such as difficulty in attending classes, connecting to synchronous lessons, and meeting assignment deadlines.

Another variable under scrutiny in the context of family circumstances is the economic situation during the COVID-19 pandemic. The pandemic's impact led to disruptions in various sectors, business closures, and an increase in job layoffs. Consequently, some students' families faced similar challenges and may have had to take on additional work responsibilities. In addition to their academic commitments, students assumed responsibilities like assisting family members with household tasks. In the subsequent sections, the roles, and responsibilities that students undertook to support family members outside their academic obligations will be explored. Additionally, an investigation will be conducted to determine whether familial expectations placed additional pressure on students during this period. The final section will include an analysis of the anxieties experienced by students as a result of the pandemic.

Figure 13 Distribution of students having their own room (left) and having their own computer (right)
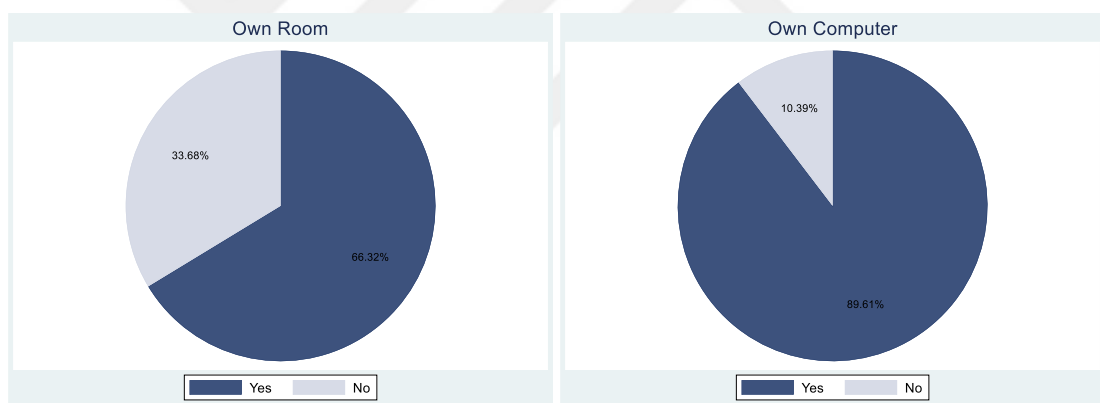
The education, which was given face-to-face in the classroom environment by the instructors in person, started to be given by the instructors via the internet in virtual classrooms due to the pandemic. In this respect, the COVID-19 process has been a process that has transformed both the educational environment and the educational tool. Classrooms have been replaced by areas where students can access education, and it has become important for students to have their own workspaces. Computers were also used as an educational tool in the face-to-face education period, but they have become the primary means of direct access to education in the distance education period. Therefore, it is very important for each student to have their own computers in order to continue their education uninterruptedly and equally. The survey included a

question regarding students' computer ownership status. In the survey, students were asked whether they have their computers and rooms. 66.32% have their own room and 89.61% have their own computer. Bulut (2021) conducted a similar study at Ordu University using the survey method. It has found that %41 of students has own computer and %64 has own room. In another study conducted with 325 students using a descriptive survey method to investigate the transition to distance education, 80% of the students mentioned having their own room, and 76% stated they had their own computer (Saltürk & Güngör, 2020).

Figure 14 Distribution of people accessing online education in the same household
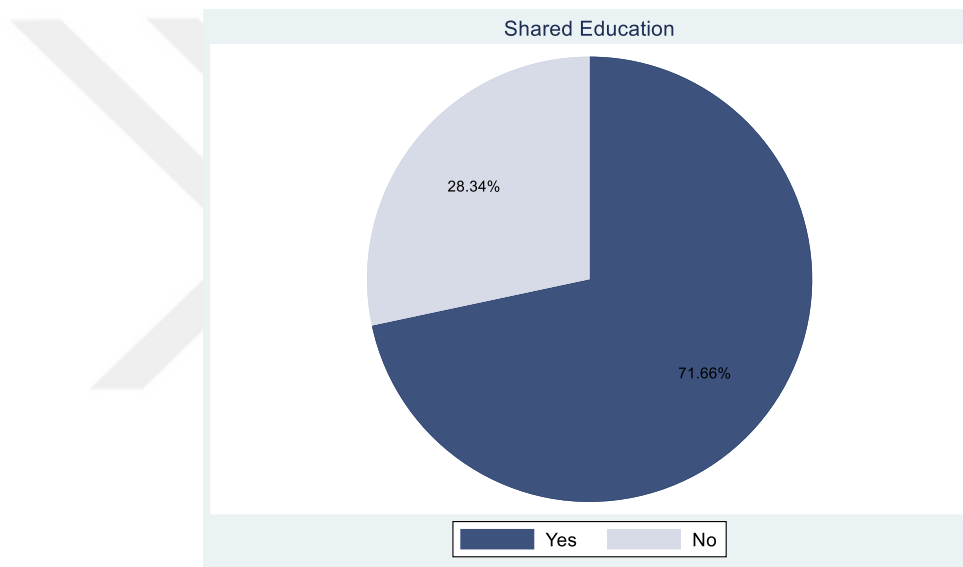
During the COVID-19 period, students were asked if there were other people accessing distance education in the same house. 71.66% stated that they shared same house with other people accessing distance education. Students who previously experienced face to face classes with their peers in physical classrooms were compelled to transition to online education during the pandemic, accessing lessons through virtual classrooms on the internet. They did not experience any time or space incompatibility as they shared the learning environment with the same course participants. However, as students connected to online education from their family homes, the presence of other individuals accessing distance education in the same household became crucial. This situation led to shared usage of both educational environments and tools. In case of overlapping lesson times of students in the same

house, one or more of the students cannot attend synchronous lessons, for students who have to share the same room, one of the students cannot find the necessary material and environment in the time period that the other student allocates for studying, and all students receiving distance education cannot pay due attention to both their lessons and their responsibilities such as homework, projects, presentations, etc. These problems resulted in students receiving low grades, failing to pass their courses, failing to submit their homework on time, and thus decreasing their academic achievement.

Figure 15 Distribution of the situation of job loss in the family (left) and the student has to work in a job (right)

One of my family member lost her/his job in the process | I had to find a job

13,99% | 4.393%

86.01% | 95.61%

Yes Hayır | Yes No
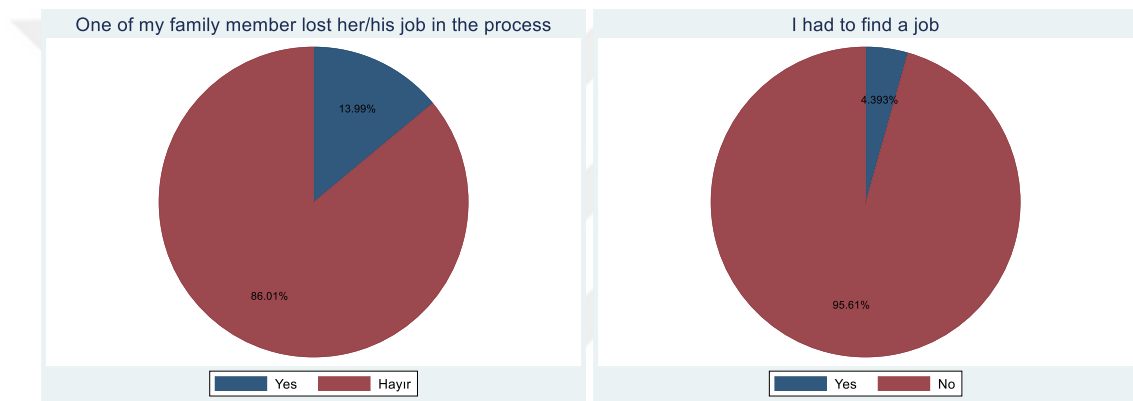
The fact that the COVID-19 outbreak affected the whole world, the increase in the number of cases, and the uncertainty about the measures to be taken against the disease led to an economic crisis. The rapid spread of the virus affected economic activities and caused great uncertainty (Ozili and Arun, 2023) Due to the curfews, many sectors became unable to do business, and most workplaces had to decide to reduce staff and close (Donthu & Gustafsson, 2020). People who were laid off had difficulty finding new jobs due to restrictions. Most people continue to look for alternative ways of earning a living in order to support their households and meet their basic needs, even at a minimum level. The decline in household income has made it necessary for other members of the household to participate in the family economy. According to a report published by the Word Bank, the COVID-19 pandemic is projected to increase the unemployment rate, significantly reduce household incomes, and reduce investments in education, and it has been determined that countries should pay more attention to education budgets in order to minimize learning losses due to

COVID-19 (Al-Samarrai et al., 2020). In another study focusing on emotional and economic status, it was found that students with insufficient financial status were negatively affected by pandemic conditions (Aristovnik et al., 2020). In the presence of such a situation, the existence of students who have to work and fall behind in their academic lives or even have to interrupt their education reveals the severity of inequality of opportunity in education during the COVID-19 period. 14% of students stated that one of their families lost their job during the COVID-19 term. Among which 4% had to find a job. Note that for a small university this points out a potentially greater problem if the whole country is projected.

Table 9 Helping any of your family members in the spring term while accessing distance education, apart from course activities

Help	Mother	Father	Sibling
Never Helped	31 (6.58)	63 (13.96)	41 (8.97)
Very Little	57 (12.10)	85 (18.81)	66 (14.44)
Little	69 (14.65)	57 (12.61)	53 (11.60)
Neutral	78 (16.56)	100 (22.12)	100 (21.88)
Much	138 (29.30)	76 (16.81)	109 (23.85)
Very Much	98 (20.81)	71 (15.81)	88 (19.26)
Total *(%)*	471 (100)	452 (100)	457 (100)

Individuals sharing the same environment have responsibilities to fulfill both towards each other and the environment they are in. Whether its roommates sharing a dorm, students studying in the same class, family members sharing a home, or colleagues sharing an office, responsibilities have always existed in every aspect and period of life. When these responsibilities are fulfilled, smooth relationships can be maintained in the environments we find ourselves in. Therefore, due to restrictions, individuals staying at home have increased workloads, and students continuing their education at home have additional responsibilities towards other family members aside from their academic duties. Students can fulfill responsibilities not only at home but also in the workplace by helping their parents, siblings, or others. They have expressed that 50% help their mothers, 33% help their fathers, and 43% help their siblings.

Table 10 The pressure of family during the period of distance education

Degree	
1 (Absolutely I disagree)	187 (39.20)
2	76 (15.93)
3	122 (25.58)
4	54 (11.32)
5 (Absolutely I agree)	38 (7.97)
Total *(%)*	477 (100)

It is very important for both academic and psychological conditions of students who have experienced dramatic changes in every part of life due to the pandemic and who have to keep up with these changes to receive family support. In a study investigating the contribution of social support to students' academic resilience during the COVID-19 process, it was observed that the most effective support was family support (Permatasari et al., 2021). During the distance education period, which they stated that they had mental and psychological difficulties, the correct approach of families to students is necessary for them to spend this period more comfortably. In a study investigating ways to effectively cope with depressive and anxious symptoms during the process of quarantine and isolation under pandemic conditions, it was found that family support reduced anxiety and depression symptoms (Mariani et al., 2020). Students who need both internal and external motivation during the COVID-19 period may increase their desire to learn thanks to family support (Nadya & Pustika, 2021). In cases where students cannot meet the expectations of their families, they may experience a feeling of inadequacy and may experience disorders such as stress and anxiety disorders. Students who spent the distance education period with their families were asked whether family expectations were challenging. 55.14% of the students stated that family expectations were not challenging.

Table 11 The level of concern during Covid-19

Degree	Myself	My family	Damaging others
Never	73 (**15.47**)	10 (**2.11**)	26 (**5.51**)
Hardly Ever	102 (**21.61**)	20 (**4.22**)	24 (**5.08**)
Sometime	159 (**33.69**)	61 (**12.87**)	87 (**18.43**)
Often	75 (**15.89**)	116 (**24.47**)	126 (**26.69**)
Very Often	63 (**13.35**)	267 (**56.33**)	209 (**44.28**)
Total *(%)*	472 (**100**)	474 (**100**)	472 (**100**)

The COVID-19 period is a complex period for individuals of all age groups, in which they cannot see the end, cannot take precautions other than staying at home and wearing masks, but still cannot prevent the transmission of the disease. It has been observed that the disease is easier to overcome in young individuals than in middle-aged individuals, while the immune systems of middle-aged and older individuals may be inadequate to fight the disease and cause more damage and even life-threatening (Gómez-Belda et al., 2021). It can be said that the lack of a specific medication and treatment for the disease increases the anxiety levels of students in the young age group. In addition to the anxiety of contracting the disease, students also brought along concerns such as the fear of transmitting the disease to others, the fear of transmitting the disease to someone in their family, the course of the disease being at a vital level, and the fear of losing one of their family members. The rates in the questionnaire also support this situation. While 81% of the students were worried about their families, 71% were worried about harming others and 29% were worried about themselves.

3.5 Regression Analysis

The regression analysis employs logistic regressions for both Türkiye and Sweden, with the probability of passing the exam as the dependent variable. Since passing grades are not available in Sweden, the Turkish sample is adjusted based on the passing grade threshold (minimum 64 out of 100). This ensures comparability between the two samples in the regression framework. Covariates such as Age, Gender, Education Level, and Type of study are incorporated into the analysis. To compare passing rates between the Pre-COVID-19 and COVID-19 periods, a dummy variable "covid" is introduced. By interacting this dummy variable with specified covariates, the regression model accommodates varying effects during the Pre-COVID-19 and COVID-19 periods. Table 14 presents the results derived from the logistic regression method, with the first column indicating outputs for Sweden and the second for Türkiye. Only interaction terms are reported as they contain the relevant information.

Table 14 reveals that during the COVID-19 period, the probability of passing an exam has increased with age in Sweden. The variable age is not statistically significant in Turkish university. Furthermore, while gender does not significantly

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affect outcomes in Sweden compared to the Pre-COVID-19 period, female students in Turkish universities performed relatively worse during the COVID-19 period. Existing literature in Türkiye suggests that female students typically outperform male students in higher education (Türk, 2021). However, additional responsibilities such as household chores and caregiving for siblings during COVID-19 may have adversely impacted female students' performance. This finding underscores a significant disadvantage that distance education may pose to female students in Türkiye from an equality of opportunity perspective. Universities can mitigate such disparities by ensuring equal access to facilities for all students, regardless of background. During COVID-19, students did not have uniform access to university facilities, potentially increasing disadvantages for certain groups, such as female students.

Education level serves as a covariate, indicating whether a student is enrolled in undergraduate (assigned the value 0) or graduate (assigned the value 1) studies. Findings suggest that, compared to the Pre-COVID-19 period, graduate students performed better than undergraduate students, whereas the opposite trend was observed in Turkish universities. This difference may be attributed to the laboratory-intensive courses at the graduate level, which students may not have had equal access to during COVID-19 in Türkiye. Conversely, in Sweden, although courses were conducted online, universities remained open, allowing Swedish students to utilize laboratories and libraries.

Similar observations are noted with the covariate "type of study," which is assigned the value 0 for social science students and 1 for science students. In Sweden, science students demonstrated better performance during the COVID-19 period, with the probability of passing an exam significantly higher than that of social science students. Conversely, Turkish social science students exhibited better performance, potentially due to the lesser application and laboratory intensity associated with social science courses.

To comprehensively examine changes and effects, interactions are graphically presented below.

Table 12 Results from the logistic regression

VARIABLES	(1) Sweden	(2) Türkiye
Covid		
Age		
Covid**X**Age	0.034***	-0.014
	(0.011)	(0.032)
Gender		
Covid**X**Gender	-0.016	-0.481*
	(0.111)	(0.281)
Education Level		
Covid**X**EducationLevel	0.462*	-0.681***
	(0.268)	(0.203)
Type of Study		
Covid**X**Type of Study	0.662***	-0.203**
	(0.244)	(0.081)
Constant	0.372**	3.447***
	(0.166)	(0.242)
Observations	21,703	17,887
Robust standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

The plots below depict changes in the probability of passing against the interaction terms of covariates with the variable "covid." Figure 14 illustrates that the variable Age does not yield significant effects for Türkiye. Conversely, for Sweden, age positively correlates with passing rates in both the Pre-COVID-19 and COVID-19 periods, with the COVID-19 period indicating a higher probability of success.

Gender emerges as a significant predictor of passing probability in Türkiye, with female students experiencing higher success probabilities in the Pre-COVID-19 period and lower success in the COVID-19 period compared to male students. Specifically, the probability of passing decreases by almost 10% for female students while remaining stable for male students, holding all else constant. In contrast, there are no significant differences between the Pre-COVID-19 and COVID-19 periods for Swedish universities.

Education level information encompasses undergraduate, master's, and PhD levels for the Turkish university. While students appear more successful during the Pre-COVID period, this difference has notably increased, particularly for PhD students. As discussed earlier in this chapter, higher-level studies entail laboratory work, intensive library use, and close interaction with advisors, factors that may have been compromised during COVID-19 in Türkiye due to university closures. In Sweden, however, the COVID-19 period did not negatively impact graduate students; in fact, their success rates increased by 0.06. This phenomenon could be attributed to less crowded university facilities and more focused work, as students likely utilized university resources only when necessary, creating a more relaxed and spacious working environment.

The last interaction demonstrates a similar effect regarding university access. While social science students were more successful before and during COVID-19 in Türkiye, this difference has further increased during the pandemic. Conversely, in Sweden, science students exhibited higher success rates during the COVID-19 period, with a probability difference of 0.04.
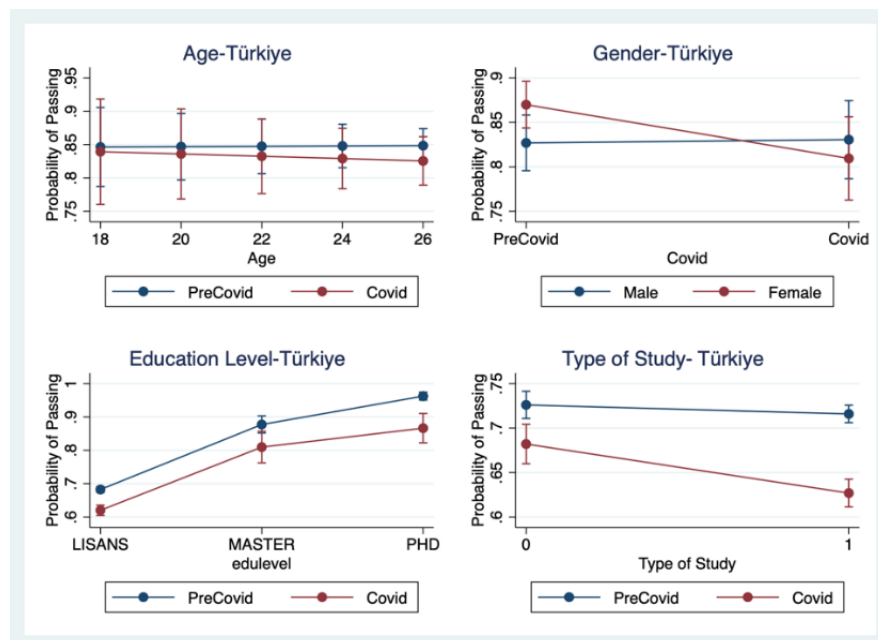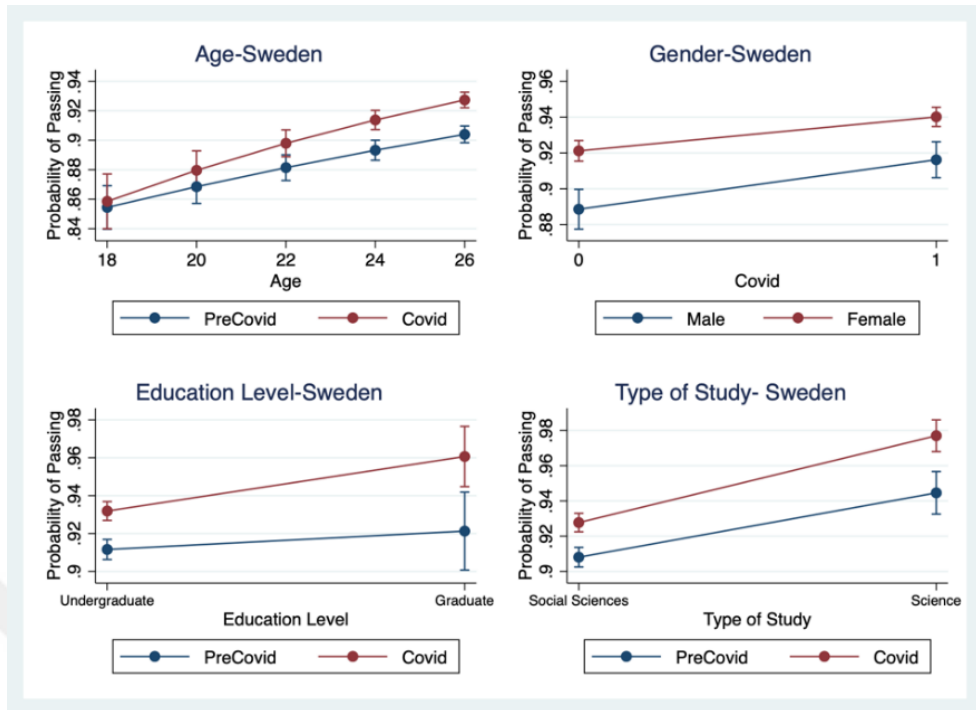
Figure 16 Interaction plots for Türkiye

Figure 17 Interaction plots for Sweden

4. DISCUSSION

In this section, the main findings of the research and the results obtained will be analysed. This analysis is important in terms of evaluating the extent to which the purpose of the research has been achieved, examining how the findings are compatible with the literature and understanding how they contribute to the knowledge in our field.

In the event of another pandemic or natural disaster that significantly impacts society, ensuring continuity of education and developing an emergency education plan is crucial. The majority of existing literature underscores the necessity of an urgent action plan. For instance, the Chinese government implemented the "Suspending Classes Without Stopping Learning" policy to ensure continuity in teaching activities despite school closures during the COVID-19 outbreak (Zhang et al., 2020, Gao et al., 2022). This underscores the significance of adapting swiftly to unforeseen circumstances and utilizing online education platforms to minimize disruptions in learning (Huth et al., 2022).

In this thesis, it is aimed to evaluate the academic outputs of both countries in terms of inequality of opportunity due to the policy differences they implemented during the COVID-19 period. Sweden has handled the process of combating COVID-19 differently from many countries in the world. It did not impose a comprehensive lockdown or strict restrictions. Instead, the government recommended social distancing and personal hygiene measures to the public to prevent the spread of the pandemic. Educational institutions at pre-school and primary school level remained open, but high schools and universities switched to distance learning. Study spaces such as libraries and laboratories also remained open. In Türkiye, however, mandatory lockdown measures were implemented, leading to a complete transition to distance education. Depending on the situation of cases, curfews and quarantine measures were imposed. While Sweden pursued a more relaxed policy in combating Covid-19, Türkiye adopted a stricter approach (Casalone et al., 2023). The difference in policies adopted by both countries regarding COVID-19 has also influenced higher education outcomes in various ways. With the transition to distance education, it has been observed that the academic achievement of Turkish students who cannot physically access educational institutions, especially for laboratory-intensive departments,

decreased. Keeping universities open worked well for Sweden in many respects and allowed students to overcome potential drawbacks of restricted access to university facilities.

While gender does not significantly affect results in Sweden, it emerges as an important factor at universities in Türkiye, possibly due to the additional household responsibilities assumed by female students, which changes success rates in favour of male students. The increased burden of household chores can elevate stress levels among female students and adversely affect their overall life satisfaction. Therefore, additional responsibilities such as household chores can exacerbate gender-based inequalities and from the perspective of equal opportunities, it can be said that female students are disadvantaged. In Sweden, the openness and accessibility of university facilities may have reduced inequality among students. In Türkiye, students did not have access to university facilities during COVID-19 and may have increased inequality for disadvantaged groups such as female students. Another study in the literature supports this situation. It suggests that the pandemic has also affected children's mental health, well-being, and academic performance, with girls potentially struggling more than boys in terms of overall life satisfaction and conflict with parents (Halldorsdottir et al., 2021). Moreover, the COVID-19 pandemic has exacerbated gender-based inequalities experienced by women, leading to a rise in conventional gender roles and widening gender disparities in various aspects of daily life (Skar et al., 2022).

5. CONCLUSION

This thesis examines the impact of the COVID-19 pandemic on the field of education, specifically investigating the effects of different policy approaches in countries such as Türkiye and Sweden on educational opportunities and academic achievements. The pandemic has deeply affected education systems worldwide and highlighted the importance of digital solutions such as distance learning. However, policy decisions and practices during this period have varied between countries. This study explores how Türkiye's implementation of stringent measures contrasts with Sweden's more relaxed approach and its implications for student outcomes and equity. The findings provide valuable insights into how the pandemic has shifted the balances in educational opportunities. This endeavor aims to contribute to our understanding of how education policies and practices may shape up against future pandemics or emergencies.

While the second part of the thesis analyses the academic outcomes arising from the policy differences between Sweden and Türkiye, it first focuses on the effects that may hinder equal opportunities in Türkiye. When analysing a sample of students at a public university in Türkiye, the thesis was able to reveal potential disadvantages emerged in the higher education in Türkiye. The fact that approximately 20% of the students' income level is below the minimum wage, 35% of them reside in a place smaller than the city centre and have limited resources such as technological infrastructure and access to the internet creates inequality in terms of education.

During the COVID-19 pandemic, distance education has greatly increased the role of computers. Computers became one of the main tools that enabled students to attend classes, access teaching materials, complete assignments and communicate with instructors. In addition, it became possible for students to access online resources through computers to conduct research and obtain information. In this process, computers formed an important part of the transformation in education and played a critical role in the successful implementation of distance education. As online examinations increased the likelihood of cheating, instructors requested examinations for some courses in the form of project presentations in order to prevent this situation.

This practice resulted in an increase in the amount of time students spent using computers and, consequently, an increase in weekly study time.

One of the results that should be addressed in the analysis of the survey data in the distance education process was the reasons for students to drop a course. While the fact that students drop out due to limited access emphasises the lack of technological infrastructure, the fact that students drop out due to conflicting courses underlines the inadequacy of the effective syllabus. In this case, it may be the responsibility of instructors to create an effective syllabus. Instructors can coordinate their course schedules to ensure non-overlapping class times, they can allow students to have a more flexible schedule by offering alternative course options or making up classes, they can provide material support and resources to students who are unable to attend class, and they can prevent dropouts.

During the face-to-face education period, students had the opportunity to socialize in campus life outside their classrooms and could choose their study environments themselves. With the transition to distance education, social interaction among students who could not come together with their friends outside their virtual classrooms decreased and their study environments became only their homes. This situation may cause a perception that students' freedom is restricted.

For students who take lessons in the physical conditions of the school during face-to-face education, the distance education process brings with it the ability to adapt to their own physical conditions. The majority of students have indicated that they have their own room and own computers. However, having other individuals in the same household engaged in distance education has led to the sharing of both educational environments and resources. This situation may lead to a decrease in students' performance.

One of the significant findings of this thesis is the presence of students who are forced to find employment due to one of their family members being unemployed. While this situation represents a small percentage within the university sample, it increases the likelihood of obtaining more striking results at the national level. It is essential to identify and address any condition that may hinder students' equal access

to education. This thesis signals a topic that requires further investigation for future educational planning. Furthermore, given the economic challenges brought about by the pandemic, there is a crucial need for more research on both financial and non-financial measures that can be taken to support students who are compelled to compromise their right to education.

In the second part of the thesis, two public universities in Sweden and Türkiye were empirically analysed by a Logit model. The findings indicated that in Sweden, the fact that students had access to educational institutions such as laboratories and libraries while distance education was in progress positively affected their distance education experience and their academic success was positively affected by this situation. The strict policy followed by Türkiye has disadvantaged students in departments that require close coordination with the instructor and have laboratory-intensive courses in terms of academic achievement. In Türkiye, the relatively lower academic output of students in the social sciences is affected, which creates an obstacle to equal opportunities between departments. Sweden has avoided this obstacle by allowing liberalized access to educational institutions. While the gender factor does not affect academic achievement in the Swedish data, the observation that the achievement of female students in Türkiye has decreased compared to the pre-COVID-19 period again underlines the factors that may prevent equal opportunities among students. The increased responsibilities of female students compared to male students such as cleaning, cooking and sibling care at home may have negatively affected their achievement.

In conclusion, the findings of this thesis show that education policies need to be strengthened in various aspects in order to ensure that education is not interrupted, and an inclusive and fair education approach is adopted for all. In the distance education process, students' access to educational materials and digital platforms was critical and therefore more investment is needed for technological infrastructure. In order to meet the academic and technical needs of students, efforts should be made to ensure that their access to resources is not restricted, and educational materials are diversified. In addition, the factors that may negatively affect the academic success of students who are disadvantaged in terms of equal opportunities in society should be focused on. Creating flexible course programs according to the academic needs of students and

providing access to resources requires the development of hybrid learning systems. In this way, students can benefit from the advantages of both distance education and face-to-face interactive courses. These systems will provide students with a richer learning experience and make it easier for them to adapt quickly to sudden changes.

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