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# Factors Influencing Access to Higher Education in Turkey

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## Abstract

Participation in higher education provides long-term opportunities, and thus, it is considered a vital process. Additionally, higher education has an important role in the distribution of equality and social justice in a society. Even people who do not have higher education benefit from it, as higher education contributes to social justice. Hence, higher education needs to be considered with a broader perspective and should not be reduced to the questioning of individual success. Considering the significance of higher education, this review aims to examine the factors that influence access to higher education in Turkey. In alignment with its purpose, the review uses a documentary survey method and examines relevant records, documents, and statistics. Finally, the review presents data in accordance with the research purpose.

**Keywords:** higher education, higher education access, social equality, sociocultural factors

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## 1. Introduction

From the last quarter of the twentieth century, the process of transition to a knowledge society has begun in the developed countries, and a new global economic structure called knowledge economy has been formed. In this new structure, the economic power, knowledge, and learning levels of the individuals and the competitiveness of the countries are often measured by the human and social capital [1]. This process has increased expectations from the universities responsible for the production and sharing of knowledge and has become a focus of attention for higher education societies in almost all countries. Hence, the demand for higher education has increased rapidly all over the world. According to the reports of international organizations such as the World Bank, United Nations Educational, Scientific

and Cultural Organization (UNESCO), and the Organisation for Economic Co-operation and Development (OECD), the number of students receiving higher education in the world is increasing rapidly. In the last 20–25 years, the expansion and promotion of higher education have become political goals in both developed and developing countries. Numerical data also indicate that efforts to reach these goals have resulted in considerable success. Worldwide, the number of higher education students, which was 13 million in 1960 (0.43% of the world population), reached 82 million in 1995 (1.43% of the world population), and 137 million in 2005 (2.11% of the world population). This number exceeded 152.5 million in 2007 (2.27% of the world population). The number of students in higher education is doubling every 15 years on a global basis. It is predicted that this number will reach 200 million students in 2020 [1, 2].

Increased demand and enrolment rates in the higher education system do not indicate that all segments of society are equally able to benefit from higher education. In many countries, there is a huge difference between higher education participation rates of different social and cultural groups. Despite various projects and policies of governments, institutions and other political entities, there is still inequality in access to higher education in many countries [3–5]. The studies on higher education have revealed the existence of material and cultural inequalities and hierarchies. Researchers have explored the role of education in the production of dominant cultures and classes and its role in maintaining social and economic inequalities [6–11]. The inequality that exists in the beginning and continuing stages of higher education has been examined by many researchers starting from the 1960s until today [3, 5, 12–21]. These studies mainly aim to reveal the effects of social stratification on higher education. The research results show that socioeconomic and sociocultural factors, especially the factors such as the income status, education level of the parents, and the living area, are determinants of the higher education attendance and continuation for young adults in many countries. The research results show that the difference between the entrance rates of individuals coming from different social classes is increasing gradually, and the problems arising from these social differences are getting deeper. Higher classes are even more represented in higher education than they have been in the past [22–24].

As in many countries, higher education access and the following processes are experienced similarly in Turkey. In this article, the problem of access, which is still faced in Turkey despite the rapid expansion of the system of higher education in recent years, is evaluated on the basis of social equality. In this respect, the problem of social inequality experienced during the process of access to higher education is described with a deeper viewpoint. With the theoretical framework of social justice, the study focuses primarily on the general structure of the higher education system in Turkey and the current point reached by the expansion of higher education. The goal of this study is to show the effect of the determinants of higher education access. However, when access to higher education is considered, it is not be correct to regard the problem as only coming from the university. Because the right to have access to higher education requires a discussion beyond the problems arising from the supply-demand imbalance, the benefiter of higher education and the effects of socioeconomic background characteristics on this process are examined.

## 2. History and general structure of higher education system in Turkey

With the proclamation of the Turkish Republic in 1923, there has been rapid development in the field of higher education as in every other area such as economy, agriculture, human rights, politics, etc. [25]. The first radical changes to the higher education system in the Republic era were made with the 1933 university reform. Later, attempts were made to reform with the laws of 1946 and 1973. The last radical change in Turkey's higher education system has come with the Law No. 2547 issued in 1981. The last radical change in the higher education system in Turkey has been put into practice with the Law Number 2547 issued in 1981 [26, 27]. In line with these reforms, the developments experienced in the field of higher education in Turkey have been summarized in four periods below.

**First Period – 1933 Reform:** Before the foundation of the Turkish Republic, Darülfünun was the institution that was accepted as a university in the Ottoman Empire period. Shortly after the proclamation of the Republic, in 1924, this institution bearing the name of Darülfünun-u Osmani was named Istanbul Darülfünun with the Law Number 493. The Faculties of Medicine, Law, Theology and Science affiliated to Istanbul Darülfünun were founded, and the university was transformed into a “Supplementary Budget” administration. As a result, practitioners took an important step toward the goal of making universities independent organizations [26]. However, Istanbul Darülfünun, which was taken over from the Ottoman Empire and considered as the main higher education institution of the country, was not able to show the development expected by the Turkish society, as the society expected to witness innovations in educational practices. As a result, the necessity of a comprehensive reform toward the university began to be discussed despite the interest shown between 1923 and 1932 [28, 29].

In this direction, the 1930s were the years when major breakthroughs began in higher education in Turkey. During this process, the most important of these developments in higher education was the 1933 university reform [28]. In 1933, Professor Albert Malche, who was invited from Switzerland to renovate Darülfünun, prepared a report about the university. The report contained statements on Darülfünun's structure and functioning. The report stated that Darülfünun did not play a sufficient role in the settlement of the Turkish Revolution, opposed or resisted reforms, did not have a supervisory unit, did not conduct scientific studies, and worked in isolation from society. Based on these reasons, in the same year, Darülfünun was closed with the Law Number 2252 and reopened with the name of “Istanbul University” in November 1933 [26]. The laws and regulations envisaging fundamental changes in the administration of Istanbul University, the first university of the Republic of Turkey, have entered into force since this date, and the “university” statement in Turkish legislation was mentioned in the law 2252 for the first time [28].

**Second Period – 1946 University Reform:** The year 1946 was a turning point for Turkey in terms of higher education. In 1946, the elections were held in Turkey through a multiparty system from a one-party system, and the university reform was also carried out with the new law, number 4936 [30]. In 1946, universities were given a new and advanced status by linking universities

and affiliated units, and linking institutions and their functioning with legal regulations in line with the aims determined by the university reform, which was established with the law number 4936. With this law, universities were organized in a structural unity. A new institution named “Inter-University Council” was formed for the managerial dimension of this unity [26]. With this law, the definition of universities was revised. The revised version pointed out that universities should have science and management autonomy. At the same time, attention was paid to the process of scientific processes such as research and examination [31]. Universities gained autonomy in financial, scientific, and managerial terms in this period.

With the change of government in 1950, the structure of the Turkish universities adopting the Continental European model underwent a significant change. The new government, which attached greater importance to the free market economy, believed that an American University model would meet the human power need of a growing economy. Hence, the government focused on spreading the university system across the country [29]. In this direction, after 1950 s, there have been significant developments in higher education in accordance with the social demand. The most important of these developments has been the dissemination of colleges and universities to regional centers [32].

**Third Period – 1973 Reform:** In 1973, the issue of reform in education came to the agenda again and the universities law numbered 1750 was put into practice [33]. A new and positive provision brought by the law number 1750 was the establishment of a “Higher Education Council” that was developed in order to conduct necessary investigations, researches and evaluations in order to direct higher education and to provide coordination among higher education institutions [28]. Apart from this, the academic, administrative, and financial structure introduced by law number 4936 in 1946 was preserved by this law [29].

**Fourth Period – 1982 University Reform:** Significant developments were witnessed in higher education institutions in Turkey between 1946 and 1981. However, lack of coordination and cooperation among higher education institutions and problems in planning and supervision during this period caused the development in higher education institutions to fall behind the expectations of the society from universities. In addition, the political, social and economic problems that emerged between 1960 and 1980 further increased the deterioration in higher education. As a result, higher education institutions faced management and financial resource problems. For this reason, a radical reform at the end of the seventies became inevitable, and at the end of this process, the Higher Education Law Number 2547 was adopted on November 6, 1981, in order to plan, coordinate and supervise higher education in Turkey. Some of the articles of Higher Education Law No. 2547 were amended after a short time (20 April 1982), and the authority of the Council of Higher Education (YÖK) established in accordance with this law was expanded. YÖK was redefined as a constitutional institution in order to direct the important activities of higher education institutions such as regulation, supervision, teaching, and research [29].

In the years prior to the 1981 university reform, the Turkish higher education system consisted of five types of institutions: universities, academies affiliated with the Ministry of National Education, two-year vocational colleges and conservatories mostly affiliated with the Ministry of National Education, Annual education institutes, and Common Institution



of Higher Education (YAYKUR). With this law, all the higher education institutions in the country have been united under the Higher Education Council (YÖK). Academies have been transformed into universities, educational institutes to education faculties, and conservatories and vocational colleges have been linked to universities. Also, non-profit foundations that aim to establish higher education institutions have been permitted.

### 3. The current structure and management of higher education in Turkey

The current structure and management of the higher education system in Turkey were established based on the Higher Education Law No. 2547 issued in 1981. Various changes have been made to the law in time. According to this law, higher education within the National Education System of Turkey consists of secondary education-based associate degree (at least 2 years), undergraduate (at least 4 years) and graduate (master's degree, doctoral degree, expertise in arts and proficiency in arts) degrees. The superior boards of higher education in Turkey are the "Higher Education Council," "Higher Education Supervision Board," and "Inter-university Council." Universities and high technology institutes and their faculties, institutes, colleges, vocational schools, conservatories, research and application centers are considered as Higher Education Institutions (Law Number 2547, Article 3). The financing of higher education, which is considered as a public service in Turkey, is carried out by two basic methods. Constitutionally, public finance has been used in state universities, and special financing system has been used in foundation universities. State universities are financed by the budget of public financing. The second largest income source of the universities is the circulating capital [2]. Although the administration of higher education, under the Law Number 2547 on higher education, is based on the Anglo-Saxon model [34], its funding sources and budget still operate according to Continental European Model principles [34]. This can be called a mixed model application.

### 4. Expansion of higher education in Turkey

Higher education in Turkey is regarded as necessary to gain access to certain occupational fields, possess social status, and acquire the ability to realize oneself individually [35]. For this reason, in parallel with the developments around the world, the expansion of higher education in Turkey has gained momentum since the 1980 s, and the number of students and institutions in higher education has increased every year [2, 36, 37].

**Table 1** shows the student numbers in higher education in Turkey from 1985 to 2015.

The number of total higher education students, which was 2914 in 1923 (Turkey's population was approximately 13 million people), the date of the foundation of the Republic of Turkey, increased to 346,476 in 1977–1978 (Turkey's population was 41.02 million people). In the following years, this number decreased steadily to 237,369 in 1980–1981 (Turkey's population was 44.73 million people) [29]. As seen in **Table 1**, from this date onwards, the total number

| Year      | Associate degree | Undergraduate | Graduate | Formal education total* | Open education and distance education total** | Total number of registered students |
|-----------|------------------|---------------|----------|-------------------------|---|-------------------------------------|
| 1984–1985 | 45.642           | 287.087       | 19.156   | 351.885                 | 65.456  | 417.341                             |
| 1989–1990 | 62.671           | 353.869       | 40.665   | 457.205                 | 228.295                                       | 685.500                             |
| 1994–1995 | 127.922          | 502.083       | 66.979   | 696.984                 | 477.315                                       | 1.174.299                           |
| 1999–2000 | 218.099          | 713.259       | 84.054   | 1.015.452               | 488.569                                       | 1.503.981                           |
| 2004–2005 | 402.404          | 871.091       | 137.265  | 1.410.760               | 695.591                                       | 2.106.351                           |
| 2009–2010 | 613.077          | 1.152.265     | 206.775  | 1.972.117               | 1.557.217                                     | 3.529.334                           |
| 2014–2015 | 896.031          | 1.897.692     | 406.817  | 3.200.540               | 2.862.346                                     | 6.062.886                           |

\*Associate and undergraduate students are included in the number of secondary education students. Graduate students include postgraduate, doctoral and medical specialist students.

\*\*Total number of students in distance and open education; these programs consist of associate, undergraduate and graduate students.

Source: Gürüz [29] and ÖSYM [43].

**Table 1.** Number of students in higher education in Turkey (1985–2015).

of students continuously increased to 1,503,981 in 1999–2000 (Turkey's population was 67.80 million people), 1,557,217 in 2009–2010 (Turkey's population was 72.56 million people), and 6,062,886 in 2015 (Turkey's population was 78.74 million people). The total number of students for the year 2015 is 6,062,886. Of these students, 5,615,293 are in state universities and 447,593 are in foundation universities. Of the students, 3,366,658 are male and 2,786,228 are females. According to 2015 data, 3,200,540 students are studying in structured programs. The total number of students in open education is 2,803,064, and the number of students studying in distance education programs is 59,282.

In line with the increasing number of students in Turkey, the number of institutions in higher education has also increased, especially since 1992. There are currently 23 state and two high-tech institutes, established during the period of 1992–1994 and 41 state and 21 foundation universities, established during the period of 2006–2009; these increases also accelerated the increase in the number of students. In addition to state universities, the number of foundation universities has also started to increase rapidly since 1996, and with the 50 universities established in 1996–2010 period, the total number of foundation universities has reached 54. As of 2008, universities were established in all major cities. In 2015, the number of institutions in higher education reached 193, of which 109 were state, 76 were foundation universities, and 8 were foundation vocational high schools [2, 38].

## 5. Supply inadequacy in higher education

The rate of formal higher education enrollment in Turkey increased from 5.6% in 1980 to 9.4% in 1990, to 17.9% in 2000 and to 35.6% in 2010 and to 39.5% in 2015 [2, 38, 39]. The most important indicator of the inability of the schooling rate to reach the desired level in higher

education is the number of students who have applied and placed in the university for years. **Table 2** lists the number of students who applied for and entered the university during the period between 1980 and 2015.

The numbers in **Table 2** show that 32.5% of those who applied to universities in 1985, 30.4% in 1995, 37.3% in 2005, and 46.2% in 2015 have gained access to these universities. Turkey, experiencing a rapid population growth from 1960 to 1990 s, has experienced a moderate rate of population growth since the beginning of 2000. According to TUIK data, the annual rate of population growth declined to 13 in a thousand in 2010. It is estimated that the rate of population growth will fall to 7.7 in a thousand by 2025. In Turkey, where the young population is higher compared to other countries in Europe, the school-age population (5–24 years of age) is expected to show a slight change toward 2025 by decreasing from 34.5 to 29.5% of the total population [40]. The age population in higher education is expected to be 5.064 million in 2020 and 5.077 million in 2025.

According to Tanrikulu [36], if the historically continuing tendencies regarding the financing, the number of students, and teaching staff in higher education continue and if there is no policy intervention, the demand for higher education of young people in Turkey will not be met in 2025. Tanrikulu's research predicted that the rate of organized schooling, which is the most important indicator of access to higher education [36], would reach 53.7% in 2025, and Turkey will continue to lag behind developed countries. It is estimated that the rate of settlement of formal education, which shows the demand level of higher education supply, will reach only 38.7% in 2025. These indicators show that the demand for higher education, which cannot be met in Turkey today, will continue to exist in 2025 as well.

Moving from statistics for higher education, it will be correct to say that there is still an important supply-demand imbalance regarding the level of higher education in Turkey. The demand for higher education tends to continue due to the following factors [41]:

- Transition rates from primary education to secondary education continue to rise.
- Schooling rates and number of graduates in secondary education continue to increase.

| Year | The number of applicants | Success | Success rate (%) |
|------|--------------------------|---------|------------------|
| 1980 | 466,963                  | 41,574  | 8.9              |
| 1985 | 480,633                  | 156,065 | 32.5             |
| 1990 | 892,975                  | 196,253 | 22.0             |
| 1995 | 1,265,103                | 383,974 | 30.4             |
| 2000 | 1,407,920                | 439,061 | 31.2             |
| 2005 | 1,844,891                | 688,840 | 37.3             |
| 2010 | 1,587,866                | 874,306 | 55.1             |
| 2015 | 2,126,684                | 983,090 | 46.2             |

Source: ÖSYM [43].

**Table 2.** The number of students who applied to university entrance exam in Turkey and succeeded (1980–2015).



- Adult demands for higher education are increasing, and the age range is expanding.
- The social demand for higher education (the learning society) is continuing.
- The individual benefits of higher education remain important. In this context, employment participation, relative earnings, and individual outcomes tend to rise.
- The participation of females is growing faster than the participation of males.

## 6. Higher education placement system and central examinations in Turkey

While the demand for higher education and the number of high school graduates has been continuously increasing, the total capacity of higher education institutions in Turkey has not increased in parallel with these numbers [42]. The increasing demand for higher education has forced universities to seek student selection and placement methods. Hence, a central examination system has been used in order to solve the problem of accumulation experienced during the process of accessing higher education in Turkey [42]. Although the structure of the central examinations has changed frequently, the existence of these exams has not yet come to an end. In 1974, a decision was made for launching a center that would administer the university entrance exam. As a result, the Inter-university Student Selection and Placement Center was established. Under the name of the Student Selection and Placement Center (OSYM), this center has been preparing central exams for secondary school graduates who wish to enter higher education institutions since 1981 [2].

In Turkey, the university entrance system has been implemented in a two-stage, 6-exam structure since 2010. The first stage is the Higher Education Transition Examination (YGS), and the second is the Undergraduate Placement Examination (LYS), which consists of five separate examinations. In 2015, a total of 2,126,670 candidates applied for ÖSYS in order to enter higher education. Of these candidates, 1,987,484 have entered YGS. There were 1,779,850 candidates who entered the exam and passed the 140 point limit. There were 1,369,147 participants who have passed the 180-point limit. According to the numbers revealed by OSYM [43], in 2015, 983,090 students were placed in universities (417,714 undergraduate students, 195,791 associate students, 171,445 associate students without examination and 198,140 open education students).

The university placement exam aims to choose the ones who are appropriate for the quotas among many candidates [2]. A centralized exam, based on multiple-choice questions, has been conducted in order to eliminate the possibility of student mistrust. However, the existing student placement exam takes only the score superiority among those who apply to a program into account. The candidate may ignore his/her own interests and abilities and can often turn to a profession that he will not be interested in the future. In addition, students who graduate from some public schools and private high schools in Turkey can be placed in one of their first choices according to the exam results. The share of these students in the total number of students in secondary education is below 10%. The other majority either tries to

keep up with a program that they are not interested in, or tries to change their program by taking the exam multiple times in the following years. The centralized examinations objectively measure the competence and knowledge of students [2]. Obviously, it is not realistic to expect a centralized exam to solve the social and economic inequalities experienced in entering the university. However, this should not be the reason for ignoring the fact that exam results play a decisive role in the placement of students in higher education institutions and contribute to the maintenance of this disparity [2].

The supply-demand imbalance in higher education creates adverse effects especially on the functioning of secondary education and increases the demand for after-school support; the imbalance puts the families under a financial burden and most importantly creates adverse effects on the psychology of young people and their families [40]. The inability to establish a proper balance between supply and demand also contributes to the formation of competition in the field of higher education. The imbalance between supply and demand has led to competition in some programs. The fact that the competition is so comprehensive makes it inevitable that there are winners and losers [1].

The negative effect of the examination system is felt in the whole education process, starting from the elementary school level. Families whose social and economic conditions are appropriate usually make long-term educational plans for their children. As a consequence, they look for ways to increase the chances of their children in this tough long-lasting race [35]. For this reason, the existing examination system is effective in changing the nature of the relationship established with knowledge. Acquisition of knowledge to succeed in exams leads to its instrumentalization and therefore externalization to its subject [44]. This process that accelerates the commodification of knowledge is influential in the transformation of all relations in the educational process. Educational achievements are measured by exams and tests, and the reduction of achievement to success in the central exams creates a competitive environment among the students and the teachers [45] and makes learning associated with drudgery.

The reduction of the examination system to a technical level by ignoring the economic and social influences of the entrance system makes the attempts for improving the system inefficient. For this reason, access to the university should be considered in a comprehensive way, taking into account social, economic and political consequences [46]. Otherwise, the education system supported at every stage by “student selection” processes will reproduce the differences and inequalities that the capitalist system has created and deepened in the society [47]. Rare examples, such as the placement of students from different socioeconomic classes in higher education programs that demand high scores, are the most basic arguments for advocating centralized exams. However, studies conducted in Turkey reveal that there is a relationship between exam achievement and the socioeconomic origin of students, the type of school they finish, their parents’ educational status, and the geographical region where they come from. Although inequalities in education are accepted by almost all segments of the society, the opportunity given by the exam is appealing to people from all segments of life [45].

## 7. Determinants of higher education access in Turkey

Educational indicators and research in Turkey demonstrate that not all individuals benefit equally from educational services. In Turkey, there are inequalities based on socioeconomic status, gender and living area of the student in terms of education access and quality [48]. These inequalities continue to become more apparent in the higher education phase. Due to the difference between regions and school types, children of families with good income can be better prepared for higher education. There is also a difference between higher education access for females and males. This difference has not shown any significant decline in the past few years. All these points show that there are inequalities in access to higher education [49].

Research in Turkey reveals that socioeconomic factors such as parents' educational level [1, 45, 50–52] and income level [51–53] are the most important determinants of benefiting from university and test achievement. Additionally, factors such as the type of school attended before higher education, and the quality of the education received [54–56], residence type [51, 55–58], after-school support and attendance of private courses [37, 52, 59–61] are listed as other factors affecting university access.

## 8. Basic determinants of socioeconomic status

One of the indicators that show how effective socioeconomic factors are in benefiting from the right to higher education in Turkey is the education expenditure of households. Expenditures made by the household to benefit from the education service are considered as special costs of education [62]. The share and the amount of total education expenditures in Turkey vary greatly among different income groups. **Table 3** shows education expenditures in Turkey according to 20% income groups.

According to the income in 2014, the share of the first 20% group with the lowest income in total education services expenditures is 2.2%, while the share of the fifth 20% group is 64.7%. As shown in **Table 3**, the education expenditures of the families with the highest income group are 25.9 in 2004, 17.2 in 2008, 29.0 in 2012 and 29.4 in 2014, all much higher than the families with the lowest incomes. These ratios show that education expenditures increase as income increases in Turkey, and therefore, the families in the highest income group provide better education opportunities for their children than the families with lower incomes.

The growing tendency for parents to participate in the private cost of education makes the social mobility of education inaccessible for the low-income families [63]. Despite the large increase in student numbers in the last two decades, the university student profile is usually composed of higher income segments. This situation is even more evident at state universities that require high scores. It is striking that even a very large part of the most successful foundation universities consist of students who score lower on the university entrance examination. This gives the students who may not pass the entrance exam the chance to enter a university due to the financial power of their families. Consequently, by creating a new privileged group, the role of education in balancing the differences in different segments of society is restricted [64].

| Income group | 2004  |   | 2008  |   | 2012  |   | 2014  |   |
|--------------|---|---|---|---|---|---|---|---|
|              | Share of total educational expenditures (%) | Amount of educational expenditures (1. %20 = 1) | Share of total educational expenditures (%) | Amount of educational expenditures (1. %20 = 1) | Share of total educational expenditures (%) | Amount of educational expenditures (1. %20 = 1) | Share in total educational expenditures (%) | Amount of educational expenditures (1. %20 = 1) |
| 1. % 20      | 2.3   | 1   | 3.3   | 1   | 2.3   | 1   | 2.2   | 1   |
| 2. % 20      | 5.4   | 2.3   | 6.5   | 2.0   | 5.6   | 2.4   | 5.6   | 2.5   |
| 3. % 20      | 10.2  | 4.4   | 14.0  | 4.2   | 9.0   | 3.9   | 10.6  | 4.8   |
| 4. % 20      | 22.5  | 9.8   | 19.6  | 5.9   | 16.3  | 7.1   | 16.9  | 7.7   |
| 5. % 20      | 59.6  | 25.9  | 56.6  | 17.2  | 66.8  | 29.0  | 64.7  | 29.4  |

Source: TUIK 2004, 2008, 2012, 2014 Household budget survey.

**Table 3.** Education expenditures in Turkey according to 20% income groups (2004–2014).

## 9. Important part of expenses used for central exam preparation

The most important part of the education expenditure of the household in Turkey includes the expenditures made for central exam preparations. The increasing selectivity of central examinations in Turkey has led to efforts to obtain this opportunity in large sections of society who plan their future based on having access to higher education. Thus, parents have been making every sacrifice for their children to make them benefit from higher education. This situation has led to the formation of the “test preparation” sector that has been constantly extending [37]. Individuals wishing to achieve in this competitive environment have turned to institutions and practices that may be alternatives to schools in order to increase their success in university exams [65]. The most important institutions that emerged as an alternative to schools were after-school support centers that underwent structural change in 2015. In addition, practices under different names such as private courses, extra study sections, student coaching have become alternatives for families who were willing to spend their incomes for the sake of making their children successful in the university placement exam [42].

In 2005, the Turkish Education Association (TED) conducted a comprehensive survey to determine the size of the expenditure for after-school support institutions. According to the survey, the expenditure made by the students who entered ÖSS in 2004 to enter the university was 8.4 billion dollars and 9.2 billion dollars in 2005. The average expenditure per person in the preparation process for the university on the side of the families was \$ 4708 in 2004 and \$ 5322 in 2005. In 2004, the share of budget per student in higher education was \$ 1990 [37]. The results of another study carried out by the Turkish Education Association in 2010 also show that the test preparation sector has brought about a serious financial burden on families. Expenditures made by the families for the preparatory work each year are about 16 billion TL (about 5 billion dollars). The distribution of the preparatory expenditures made by the families in one year area is as follows: After-school support center: 5,707,811,064 TL (1.7 billion dollars), expenses for test preparation, book magazines and similar materials: 2,160,968,761 TL (635 million dollars), tuition and course payments for the preparation of the test: 1,267,398,136 TL (\$ 372 million), expenses for transportation, meals and other expenses 5,198,178,895 TL (1.5 billion dollars), tuition fee payments: 2,374,954,883 TL (\$ 698 million).

Bakıs et al. [66] state that after-school support, expenditures do not create benefits for students. According to the authors, this process creates a system based on reinforcement and competition rather than qualification and creating benefits based on it. The lack of a “diploma” which is the basic feature of the educational benefit is also another reason for the ineffectiveness after-school support process. The authors state that one of the world’s most irrational educational systems emerges in terms of economic acceptance, given the size of the expenditure that individuals make to participate in a race that only 15–20% will succeed.

## 10. The influence of the quality of education received prior to higher education on access to higher education

One of the factors affecting the higher education goals and decisions of the individuals in Turkey is the quality of the education they have received before the higher education.



The quality of education that individuals receive before the higher education, especially at the level of secondary education, can directly affect the higher education goals. The level of secondary education not only affects individuals' access to higher education, but also their preferences of universities and departments in higher education.

The most important reason why the level of secondary education in Turkey is so effective in higher education access and higher education decision is the difference in qualifications between school types in secondary education. For many years, certain types of schools in secondary education have provided qualified education opportunities, so their graduates are more successful in achieving higher education. Higher education access statistics in accordance with school types support this situation [42].

**Table 4** lists the number of candidates who applied to higher education according to various school types in 2015.

The results on **Table 4** show that the school types that had higher university entrance rates in 2015 are the Science and Anatolian High Schools, as it was in the past. Again, as in past years, the number of students who are placed in undergraduate programs from vocational-technical high schools is still very low.

One of the most important evidences of the qualitative differences among school types in secondary education in Turkey is the placement rate into the university. On the other hand, there are also other national and international exams, which aim to evaluate the school types in terms of academic achievement. If the types of schools in secondary education are examined in terms of academic performance in these exams, the secondary education programs that have lower achievement rates are noticed [67]. For example, the results of all the PISA exams between 2003 and 2012 display that the schools with the best performance in all fields in Turkey are Science, Anatolian and Teacher high schools. Conversely, the average of the high schools with the lowest average scores is multi-programmed high schools, vocational schools, and general high schools [48].

In mathematics literacy, which is one of the main fields in PISA 2003, Turkey ranks first among OECD countries in terms of inter-school inequality. This situation was not the case in PISA 2006 results. Turkey is 11th among 30 OECD countries and 19th among 57 countries in terms of school inequality in the main field of science literacy. In intra-school success, inequality among students is below OECD average. In other words, the inequality between schools in Turkey is deep, and the inequality within the schools is relatively low. When the average mathematics achievement scores of PISA 2012 for different schools in Turkey are examined, it is obvious that serious differences between the schools still persist. When we examine how much of the variance (change) in PISA 2012 mathematics scores is caused by the difference between schools, it is seen that Turkey is one of the countries with the highest rate of differences in schools among the OECD countries. In Turkey, 62% of the difference in PISA 2012 mathematics scores is the result of differences between school types [68]. Studies conducted using PISA data in Turkey show that student achievement is related to school type [69–74].

In the study conducted by Berberoğlu [69], it was found that general high school, vocational high school, and Anatolian vocational high schools showed low performance levels among the schools participating in PISA 2003. Berberoğlu found that general high schools and primary schools were well below international averages, and that the Anatolian High Schools

| School type                  | ÖSYS applicants | Placed in undergraduate programs |                     | Placed in associate degree* |                     | Open education   |                     | Total number of student placement |                     |
|------------------------------|-----------------|----------------------------------|---------------------|-----------------------------|---------------------|------------------|---------------------|-----------------------------------|---------------------|
|                              |                 | Candidate number                 | Placement ratio (%) | Candidate number            | Placement ratio (%) | Candidate Number | Placement ratio (%) | Candidate number                  | Placement ratio (%) |
| General high school          | 816.179         | 126.084                          | 15.4                | 114.059                     | 14.0                | 86.072           | 10.6                | 326.215                           | 40.0                |
| Private high school          | 8.228           | 2.286                            | 27.8                | 971                         | 11.8                | 491              | 5.9                 | 3.748                             | 45.5                |
| Anatolian high school        | 294.672         | 147.391                          | 50.0                | 19.017                      | 6.5                 | 6.183            | 2.1                 | 172.591                           | 58.6                |
| Science high school          | 16.241          | 9.602                            | 59.1                | 146                         | 0.9                 | 87               | 0.5                 | 9.835                             | 60.6                |
| Private science high school  | 5.471           | 3.547                            | 64.8                | 69                          | 1.3                 | 50               | 0.9                 | 3.576                             | 65.4                |
| Social sciences high school  | 2.706           | 1.548                            | 57.2                | 22                          | 0.8                 | 8                | 0.3                 | 1.578                             | 58.3                |
| Fine arts high school        | 6.276           | 187                              | 2.3                 | 397                         | 6.3                 | 178              | 2.8                 | 762                               | 12.1                |
| Teacher high school          | 43.684          | 25.929                           | 59.4                | 967                         | 2.2                 | 708              | 1.6                 | 27.604                            | 63.2                |
| Religious Vocational School  | 149.727         | 25.511                           | 17.0                | 14.429                      | 9.6                 | 29.527           | 19.7                | 69.467                            | 46.4                |
| Commercial vocational school | 123.442         | 9.474                            | 7.7                 | 42.240                      | 34.2                | 14.609           | 11.8                | 66.323                            | 53.7                |
| Technical high school        | 81.976          | 11.291                           | 13.8                | 28.665                      | 35.0                | 4.517            | 5.5                 | 44.473                            | 54.3                |
| Industrial Vocational School | 211.390         | 5.937                            | 2.8                 | 61.253                      | 29.0                | 14.774           | 7.0                 | 81.694                            | 38.6                |

| School type  | ÖSYS applicants | Placed in undergraduate programs |                     | Placed in associate degree* |                     | Open education   |                     | Total number of student placement |                     |
|--|-----------------|----------------------------------|---------------------|-----------------------------|---------------------|------------------|---------------------|-----------------------------------|---------------------|
|  |                 | Candidate number                 | Placement ratio (%) | Candidate number            | Placement ratio (%) | Candidate Number | Placement ratio (%) | Candidate number                  | Placement ratio (%) |
| Vocational school for girls  | 158.879         | 13.485                           | 8.5                 | 42.785                      | 26.9                | 17.761           | 11.2                | 74.031                            | 46.6                |
| Vocational school of health  | 53.717          | 2.761                            | 5.1                 | 15.405                      | 28.7                | 8.151            | 15.2                | 26.317                            | 49.0                |
| Tourism vocational high school   | 15.320          | 1.741                            | 11.3                | 5.443                       | 35.5                | 1.328            | 8.7                 | 8.512                             | 55.6                |
| *Vocational-technical high school students who are enrolled in associate degree programs are also students who pass without examination.<br>Source: ÖSYM [43]. |                 |                                  |                     |                             |                     |                  |                     |                                   |                     |

**Table 4.** The number of higher education applicants and placed candidates by school types in Turkey (2015).

reached high achievement levels. Using PISA 2003 data, Çifçi [71] found that school type, school district, gender, and geographical region influenced students' achievement rates in Turkey. Yılmaz [75] investigated the variables related to the science literacy of Turkish students using PISA 2006 data and found that most of the students' variation in science literacy scores originated from the differences between schools. Using PISA 2006 data, Dinçer and Uysal Kolasin [73] found that a student studying in Anatolian High School received 66–79 points higher than a student in general high school. However, a student who is studying in general high school had 22–27 points higher than a student who is studying in vocational high school. In a study that used student questionnaires and cognitive skill tests obtained from PISA 2003, 2006, and 2009 PISA tests, Yalçın [74] exposed the ongoing qualitative difference between high schools. Science schools were the most successful school type in these three PISA exams. The Anatolian High Schools were one of the most effective schools in the 2009 and 2006 PISA exams. They also had a successful score in the 2003 PISA exam, although it was not as high as 2009 and 2006 results.

In Turkey, individuals who graduate from the same level of education can develop themselves at different levels after entering higher education as a result of the differentiation of the quality of their education [76]. For these reasons, demand for “elite” high schools is high. Because graduates of these schools are more successful at university entrance exams, students find themselves in high-quality, “respected” universities with high demands [61]. Higher education statistics and surveys reveal that access to these schools in Turkey is more dependent on socioeconomic factors. For example, 51% of the students in Science High School in 2013 and 42% of the students in Anatolian High School come from families with the highest socioeconomic level. On the other hand, 23% of the students in the vocational high school and 30% of the students in the other secondary education institutions have the lowest socioeconomic rate of 20% [7].

Children of socioeconomically better families are more likely to have access to selective schools, as well as to receive more qualified training when they have access to these more sophisticated school types. Ultimately, their academic achievements are at a higher level than their peers [77].

Aedo et al. [78] argue that the stratification of schools in secondary education in Turkey and the central examination system applied to secondary education in transition to secondary education make large differences between the achievements of students attending these schools. Likewise, the ERG [65] report emphasizes that the reasons for schools being so separated according to socioeconomic status in Turkey are the division of schools into types in secondary education, the differences in quality among schools, and the central examination system. As pupils are placed in schools in accordance with the competitive examination systems, student achievement and quality differences between school types and schools are intensified. As the qualitative differences become more intense, the competition in examinations increases, and thus, the differences created by socioeconomic background increase as well. Over the years, these processes have become interconnected, and at school level, there has been a breakdown according to socioeconomic roots.

Objective and subjective evaluations of the quality of secondary education show that this teaching process has serious problems in terms of quality and does not provide sufficient

basis for higher education to students. There is consensus on the drawbacks of choosing university students based on only a single university entrance exam. The university exam takes only the final scores into consideration and places students in higher education institutions regardless of their competence. The exam ignores the shortcomings of the students who achieve to pass it. Consequently, higher education has to deal with the inadequacy of secondary education [2].

## 11. Conclusion

Higher education participation is important because of opportunities for the individual's life. Higher education has an important role in terms of collective distribution of equality and social justice within a society. Higher education also contributes to social justice for the majority of people not directly involved. Such a view takes higher education beyond the limits of individual achievement to a broader contribution it makes to the society [4].

The increase in the number of students and institutions in Turkey suggests that higher education is in a trend of massification [42]. However, the massification of higher education and democratization is not synonymous concepts. The massification of higher education is a necessary but inadequate condition for democratization. For the democratization of higher education, it is necessary that the benefit of higher education does not depend on the individual's socioeconomic background and that the university student profile reflects the general population structure of the society in a proportional manner [57]. Access to higher education is concerned with ensuring that those who wish to benefit from it can pursue education without constraints other than their personal efforts and abilities. Expansion and participation in higher education are also expected to serve this purpose [1, 79].

The main determinant of access to higher education in Turkey is socioeconomic status. Socioeconomic status characteristics affect not only the educational opportunities provided, but also the ways in which students perceive themselves and their education. In this sense, the students do not decide how much they meet the requirements of the application field with their higher education decisions and at the same time decide how suitable these choices are in terms of socioeconomic characteristics [1]. In other words, students' social and economic backgrounds determine their educational preferences [80].

The socioeconomic characteristics of the students' families still have a conclusive influence in benefiting from higher education, as the current education system is inadequate to remove the disadvantages created by the socioeconomic status of the family on student achievement and orientation. For this reason, in order to limit the effect of socioeconomic characteristics on access to higher education and to enable competence-based student selection, establishing the distribution of similar opportunities before higher education should be one of the priorities of the educational policies [1]. Socioeconomic status features are so pivotal in education that components such as learning and teaching processes cannot diminish the role of socioeconomic status in education. Hence, social inequalities are not eliminated through education; they are even produced by it. However, education is an important tool of social mobilization.



Education should be used at the highest level of potential to reduce social inequalities. This is also an important requirement of a democratic and pluralistic society order [65].

Higher education is an educational right and a milestone. Every secondary school graduate should benefit from it in accordance with his/her abilities and interest. In a social order that is built upon democratic, egalitarian and fair decisions, the conditions to benefit from higher education should be constructed [35]. The only condition for eliminating the problems encountered during transition to higher education is to prevent the education from creating social injustices. Thus, education can play a part in removing social inequalities and stop the reproduction of these inequalities [45]. It is not possible for the necessary remedies to be limited solely to those mentioned here. For this reason, in order for all individuals and community members to benefit from equal rights to higher education, it is necessary to inform and direct the individuals about higher education and to remove obstacles in front of them starting from primary education [17]. In particular, for Turkey, it is still important to focus on and investigate the inequalities experienced in the education levels experienced before higher education.

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