International Journal of Management Economics and Business, Vol. 20, No. 1, 2024
Uluslararası Yönetim İktisat ve İşletme Dergisi, Cilt 20, Sayı 1, 2024

Research Article / *Araştırma Makalesi*

FACTORS AFFECTING REGIONAL YOUTH UNEMPLOYMENT: MICRO-EVIDENCE ON INDIVIDUALS*

Gülsüm USLU[1], Halim TATLI[2]

ABSTRACT

This study aims to investigate the individual factors affecting regional youth unemployment in Turkey's TRB1 Region at the micro level. A face-to-face survey technique was used as the data collection method. Surveys prepared for youth unemployment were applied to 400 young people aged 15-24 in the TRB1 Region using a random sampling method. The data obtained from the surveys were analyzed using logistic regression. Independent variables were selected based on the results of the independent variable selection hypothesis. As a result of the analysis, it was revealed that the probability of unemployment for young people who are high school, university, and graduate school graduates is lower than that of young people who are middle school graduates. The probability of unemployment for young people whose fathers are elementary, middle school, high school, and university graduates is lower than that of young people whose fathers are illiterate. In general, young people who trust people are less likely to be unemployed than young people who do not trust people. Also, the youth's family per capita income was found to have a positive effect on reducing their unemployment probability. No significant relationship was found between gender, health status, and youth unemployment.

Keywords: *Youth Unemployment, Participation and Youth Unemployment, Trust and Youth Unemployment, Health and Youth Unemployment.*

JEL Classification: *J12, J21, R23*

BÖLGESEL GENÇ İŞSİZLİĞİNİ ETKİLEYEN FAKTÖRLER: BİREYLER ÜZERİNDE MİKRO KANITLAR

ÖZET

Bu çalışma, Türkiye'nin TRB1 Bölgesi'nde bölgesel genç işsizliğini etkileyen bireysel faktörleri mikro düzeyde incelemeyi amaçlamaktadır. Veri toplama yöntemi olarak yüz yüze anket tekniği kullanılmıştır. Genç işsizliğine yönelik hazırlanan anketler, TRB1 Bölgesi'nde 15-24 yaş grubundaki 400 genç bireye tesadüfi örnekleme yöntemiyle uygulanmıştır. Bu anketlerden elde edilen veriler lojistik regresyon yöntemiyle analiz edilmiştir. Bağımsız değişkenler, bağımsız değişken seçimi hipotezinin sonuçlarına göre seçilmiştir. Analiz sonucunda lise, üniversite ve yüksek lisans mezunu gençlerin işsiz kalma ihtimalinin ortaokul mezunu gençlere göre daha düşük olduğu ortaya çıkmıştır. Ayrıca babası ilkokul, ortaokul, lise ve üniversite mezunu

* This study is derived from the master's thesis titled "Socioeconomic and Demographic Factors Affecting Youth Unemployment: An Application in the TRB1 Region".

[1] Graduate Student, Bingöl University, FEAS, Bingöl, Türkiye, *uslugulsum1221@gmail.com*

[2] Assoc. Prof., Bingöl University, FEAS, Bingöl, Türkiye, *htatli@bingol.edu.tr*

ISSN:2147-9208 E-ISSN:2147-9194
http://dx.doi.org/10.17130/ijmeb.1374411
Received: 11.10.2023, Accepted: 26.02.2024
Ethics committee permission was obtained with the decision of Bingöl University Social and Human Sciences Scientific Research and Publication Ethics Board dated 17.12.2021 and numbered 41232.

olan gençlerin işsiz kalma olasılığı, babası okuma yazma bilmeyen gençlere göre daha düşüktür. Genel olarak insanlara güvenen gençlerin işsiz kalma olasılığı, insanlara güvenmeyen gençlere göre daha az olduğu saptanmıştır. Ayrıca gencin ailesinin kişi başına düşen gelirinin de gencin işsiz kalma olasılığını azaltmada olumlu etkisi olduğu tespit edilmiştir. Gençlerin cinsiyet ve sağlık durumu ile gençlerin işsiz olma olasılığı arasında anlamlı bir ilişki bulunmamıştır.

Anahtar Kelimeler: *Genç İşsizliği, Katılım ve Genç İşsizliği, Güven ve Genç İşsizliği, Sağlık ve Genç İşsizliği.*

JEL Sınıflandırması: *J12, J21, R23*

1. Introduction

From past to present, the increase of international companies in the world, specialization in the division of labor, and the change in economic policies and new developments have destabilized the success of growth in creating new employment areas. This situation has caused unemployment to become an economic, social, and political problem in countries that are developed or developing. Also, due to the increasing speed of globalization, technological innovations and socioeconomic structures in the world are in a constant state of change. The young population is more affected by this change. Indeed, in both industrialized and developing countries, the young population has more problems finding work in the labor market than the adult population. The risk of unemployment for young people is three times higher than for adults (World Bank, 2018: 5). The most important barriers to the access of the young population to the labor market are insufficient skills, small job capacity, lack of job search ability, lack of financial resources, and flexibility to be closer to where job opportunities are located (Mlatsheni, 2007: 8). Governments can help by removing these barriers and ensuring young people have the skills, resources, and opportunities they need to succeed in the labor market and contribute to the growth and development of the country. Accordingly, governments need to invest in education and training programs to improve the skills of young people. This will help solve the problem of inadequate skills and increase the work capacity of young people. Additionally, governments should provide financial support to young people seeking employment because this will help ease the financial burden of job hunting. Finally, governments should work to create more flexible local job opportunities that allow young people to work closer to where they live.

Unemployment is considered one of the main issues all around the globe, as in Turkey. It has increased more in recent years and has become difficult to prevent. Unemployment anxiety, which is one of the social problems, significantly affects the entrepreneurial tendency of the young population. This situation causes significant costs to the country both economically and socially. Labor is a strategic factor of production that helps other factors of production to develop associated with the function of a factor of production. If the labor factor is excluded from the production system, prosperity decreases (Bell & Blanchflower, 2011: 242). For this reason, it is of great importance to identify the factors that cause youth unemployment and to analyze them from an econometric point of view.

According to The International Labour Office (ILO), 14.9% of the total unemployed population in the world consists of young unemployed (ILO, 2022). In addition, youth un-

employment rates in the world in 2021, and 2022 were 15.6%, and 14.9%, respectively (ILO, 2022). Overall, the youth unemployment rate in many countries is about twice as high as the adult unemployment rate (Marelli & Vakulenko, 2016: 387; Putun et al., 2017: 77). While the youth unemployment rate in the world was 17.9% in 2021, this rate was 24.3% in Turkey (World Bank, 2022). In this context, the youth unemployment rate in Turkey in 2021 was 24.3%, which overshadowed the adult unemployment rate in the same year, a magnitude more than twice the 13.4%. The labor force participation rate among the young population between the ages of 15-24 was determined as 43% with a decrease of 0.2 points compared to 2020 (TurkStat, 2022a). According to TurkStat data, 13.7% of higher education graduates did not join the workforce for various reasons in 2021. Youth unemployment, which forms the basis of economic and political issues, remains up-to-date in terms of developing countries such as Turkey (Biçerli, 2011: 126). In Turkey, a notable disparity exists between the skills demanded by employers and those possessed by young individuals, resulting in the underutilization of the potential inherent in the youth. The reasons for the emergence of youth unemployment in Turkey are divided into macro and micro levels. Shrinking in demand, recession, the crisis in the economy, the high population of young people, the effect of demographic factors, shrinking in labor markets, and problems in the education system are shown as macro reasons. Micro-causes are expressed as the personal characteristics of young people, their working tendencies, the disadvantages of the geography they live in, and their physical-mental characteristics (Murat & Şahin, 2011: 30). Some reforms have been made in the context of harmonization with the EU acquis, especially with the EU candidacy status, and improving the labor market (Ay, 2012: 331). It is necessary to support qualified vocational education, workforce consultancy services, and entrepreneurship actions by considering workforce strategies in Turkey, which has a highly young population (Bayraktar & İncekara, 2013: 15; Mütevellioğlu & Aksoy, 2010: 19).

There are compelling reasons to investigate regional youth unemployment in Turkey, aiming to comprehend its nature, identify contributing factors, and propose viable solutions. TRB1 Region, one of the 26 sub-regions in Turkey, is a region where disadvantaged groups are concentrated. There are youth unemployment differences between regions in Turkey. The reasons for these differences can be expressed as regional work capacity differences, education, and socioeconomic differences. While the youth unemployment rate of the TRB1 Region, which represents the research population, was 18% in 2020, this rate increased by approximately 22% to 22% in 2021 (TurkStat, 2022b). The size of the youth unemployment rate in the TRB1 Region in 2021, is ranked 20th among the 26 sub-regions in Turkey and lags behind the youth unemployment rate in Turkey in the same year. In addition, as of 2021, the Istanbul sub-region with the highest youth unemployment rate among the 26 sub-regions. Several social, economic, demographic, and other factors need to be investigated in the TRB1 region to explain why the youth unemployment rates are so high.

Addressing youth unemployment necessitates robust empirical research to gain a deeper understanding of its nature and underlying causes. Such research facilitates the development of practical solutions to mitigate this pressing issue. The number of studies investigating the factors affecting youth unemployment at the micro level is insufficient. In some of the studies analyzing youth unemployment in Turkey, the relationship between different factors and youth unemployment has been discussed from a macro perspective. It has been analyzed how factors such as real income per capita, trade openness, inflation, foreign investments, producer

price index, and economic growth rate affect youth unemployment in these studies (Çondur & Bölükbaş, 2014: 77; Günaydın & Çetin, 2015:17). In some research from a micro perspective, socioeconomic variables such as gender, geographical location, education level, ability, marital status, and work experience were analyzed with multinominal and bilateral logistic regression models and youth unemployment has been examined (Dagume & Gyekye, 2016: 59; Msigwa & Kipesha, 2013: 67). Therefore, there is limited literature examining youth unemployment at the micro level in Turkey. This study aims to address this gap.

Contrary to other studies, this study analyzes youth unemployment at the micro level by using a multiple set of independent variables. In addition, in this study, the econometric model, which has been created by taking into account the factors that are considered to affect youth unemployment, has been analyzed with data at the regional level. The main objective of this study is to analyze the main factors affecting youth unemployment in the TRB1 Region by a microeconomic approach. Therefore, this study aimed to empirically analyze whether socioeconomic and socio-demographic factors of youth, the level of trust, their health status, and participation levels have an effect on youth unemployment in the TRB1 Region.

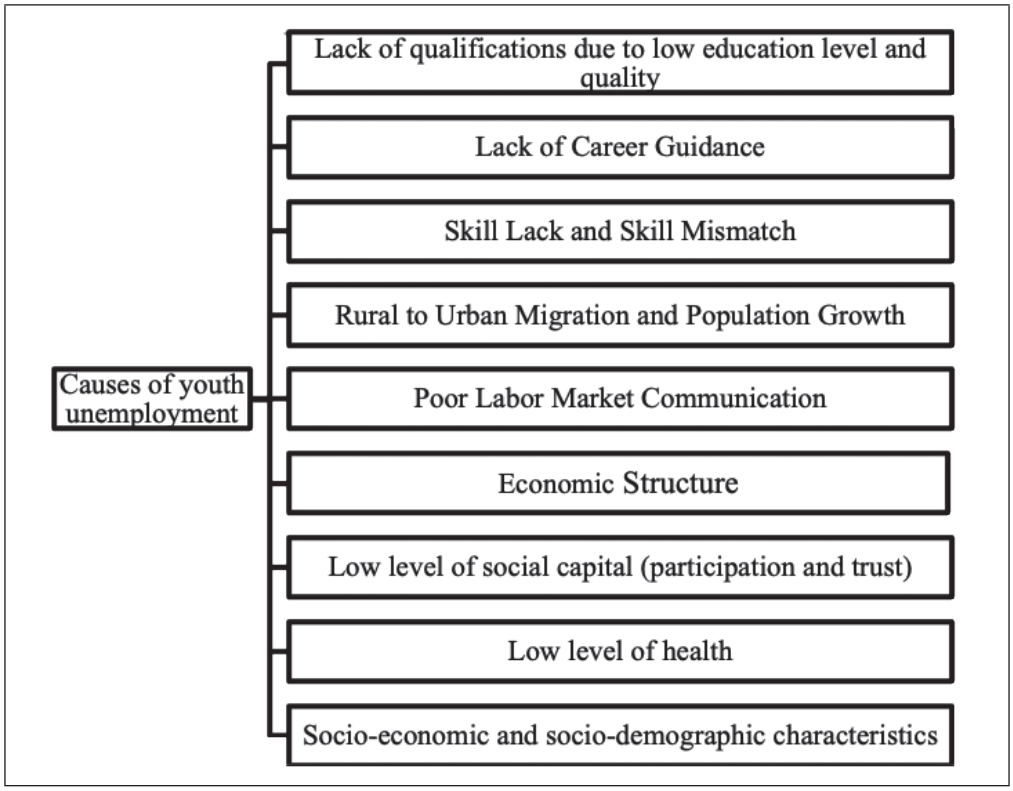
The rest of the study is as follows: in the next section, the concept of youth unemployment is explained. Section 3 reviews the literature and related studies. The econometric model and methods are in Section 4. Findings are given in Section 5. Section 6 concludes.

2. The Concept of Youth Unemployment

The technical definition of youth is made in terms of age range and varies from country to country (Bayrak & Tatlı, 2018: 231). The length of time unemployed young people are included in the labor force is uncertain and varies from country to country (Görlich et al., 2013: 2; Jimeno et al., 2002: 8). The definition of youth used for employment purposes is based on age. There is no universal and internationally accepted definition of youth. According to official statistics, while youth in the USA and England are classified as between 16-24 years old, in many countries, especially in European countries, the age range of youth is classified as between 15-24 years old. ILO and the Turkish Statistical Institute (TurkStat) define the young workforce as people between the ages of 15 and 24 (TurkStat, 2022a). The Organisation for Economic Co-operation and Development (OECD) (2022) youth unemployment is calculated as a percentage of the youth workforce and is defined as persons aged 15-24 who are not working but are eligible for employment and have been actively looking for work in the past four weeks.

Many micro and macro-level reasons lead to youth unemployment. Micro causes of youth unemployment, individual characteristics of youth, quality of education, unemployed who have graduated, and young people entering the labor market for the first time can be counted. The reasons at the macro level can be listed as the current economic structure, economic crises, and social and demographic factors (Murat & Şahin, 2011: 42). In the literature related to youth unemployment, many different factors that affect youth unemployment have been stated (Bal-Domańska, 2022: 1141; Bal-Domańska & Sobczak 2020: 23; Berlingieri et al. 2014: 23; Bruno et al., 2014: 121; Demidova & Signorelli, 2012: 191; Focacci, 2020: 373; Groh et al., 2016: 2; Kang, 2021: 109; Upward, 2002: 277; Parisi et al. 2018: 7; Ralph & Arora, 2023: 1338; Ylistö & Husu, 2021: 1). These factors can be classified in Fig. 1.

Figure 1: Factors Affecting Youth Unemployment



Source: Figure created by the author.

i) Lack of qualifications due to low level and quality of education: Education is one of the most important factors affecting youth unemployment. It can be stated that the most important benefits of education are to raise individuals suitable for the labor market by gaining knowledge and skills, to reduce the risk of being unemployed, to increase the duration of employment, and to shorten the time in job transitions. Employers who demand labor in the labor market generally prefer individuals with advanced knowledge and skills and well-educated in quality institutions. It is easier to employ individuals who have developed themselves in the labor market. While unemployment is felt more intensely among uneducated individuals, unemployment remains much lower among qualified individuals. Changes in technology exclude low-skilled workers and cause their numbers to increase. The emergence of new professions based on high knowledge and skills in our age increases the importance of education in raising a suitable workforce for these professions. The speed of adaptation to the rapid changes in the business world and the education of those who supply labor is another important factor in youth unemployment. The existence of an education that cannot adapt to the market demand results in unemployment among the youth. In developing countries such as Turkey, educated-uneducated young people who cannot adapt to the labor market have difficulty finding a job because of this incompatibility. In a study on the relationship between education and youth unemployment, it

has been found that the level of youth unemployment developed due to the difficult education system and problems in education, and increased despite the use of vocational practices and entrepreneurial actions (Coşan et al., 2017: 235). Youth unemployment and education are linked in both the long and short term, educational institutions and educational policies are important for solving unemployment (Abdioğlu & Albayrak, 2018: 18). The inadequacy of educational institutions in rural areas and the lack of an active education are among the reasons that increase youth unemployment. For this reason, direct investments in educational institutions both increase the quality of education and reduce rural-to-urban migration.

ii) Skill Deficiency and Skill Mismatch: Today's young people lack the skills and experience required for employment (Çetinkaya, 2008: 118). The level of unemployment in young individuals who have insufficient qualifications, experience, and employment contracts increases day by day (Arpaia & Curci, 2010: 2). The disagreement between the gains that people make through formal education and the gains that companies need is one of the biggest handicaps in front of creating employment. This situation shows the discrepancy between the acquisition gained in higher education and the gains needed in the labor market (Apaydın, 2018: 169). This mismatch may increase the level of youth unemployment and cause negative situations on production in the economy. The fact that young unemployed people do not have the experience and criteria that the employer is looking for causes the probability of being employed is getting smaller (Adıgüzel, 2021:105). In other words, it is extremely difficult for a young person between the ages of 15-24 to gain an experience that has been desired. The skill level of young people in business practices can be increased during the education period. In this sense, the dissemination of internships emerges as an important policy.

iii) Lack of Career Guidance: Individuals' unemployment anxiety plays a role as an intermediate factor among career goals (Akyüz & Durmuş, 2022: 24). For young people to integrate into the labor market, have an education related to the market they want to participate in, and receive career guidance and counseling in educational institutions such as universities and especially high schools can play an important role in reducing youth unemployment. As a result, it will be an inevitable end for young people who start to work without knowing the job they intend to work for, to be included in the category of unemployed. Young people who receive good career guidance and grow up in a field that suits their abilities become more willingly productive by recognizing their abilities in their jobs.

iv) Migration from Rural to Urban and Population Growth: When the population growth rate in a country is higher than the employment rate, unemployment in that country is inevitable. This process and the inability to create employment also have an increasing effect on youth unemployment. Such a situation can trigger migration in a country. Migration causes an increase in employment by lowering the wage levels of low-skilled workers (Camarota, 1997: 418). It causes not only male individuals but also other remaining members of the family to participate in employment in families who have migrated from rural to urban areas. Migration causes an increase in poverty (Öztürk & Altuntepe, 2008: 1592). People who come to cities due to migration are likely to be unemployed because of their low education levels and qualifications.

v) Weak Labor Market Communication: Even if the young unemployed have completed their education, they are disadvantageous to the practice skills of the adult workforce. Young

people who have graduated are more disadvantaged at the beginning when they transition to business life (Pastore & Giuliani, 2015: 4). In countries like Turkey, a large part of the workforce generally works in SMEs with low institutional potential and limited opportunities. Therefore, these companies do not feel the need to go to a certain amount of effort to train new employees (Murat & Şahin, 2011: 24). For this reason, one of the most basic ways to reduce youth unemployment is to provide young unemployed who have received a certain education and reached a certain level, by giving practical training as well as theoretical knowledge to participate in the workforce. Thus, ensuring that the labor market is more qualified and that newly graduated young people have a job.

vi) Economic Structure: The structure and functioning of markets in an economy are related to unemployment. For example, economic growth, which is planned to be forecast in an economic structure, may not affect unemployment at the desired level. Therefore, in cases where a country's unemployment rates are evaluated, the labor market of the country of interest, input-output amounts, sectoral distribution, and geographical-political characteristics of the region should be examined as a whole. Economic fluctuations and crises are important factors affecting unemployment (Güriş & Yaman, 2018: 137). While unemployment rates rise in times of economic recession, youth unemployment rates rise more. The reason for this is the high number of unemployed in the market and the employer's desire to employ more qualified employees. Thus, the young workforce, whose earnings and qualifications are generally lower, is more likely to be unemployed. Corruption in the economic structure can also increase youth unemployment. Corruption is expressed as the state of public employees using their position for their benefit due to their duties to the public (Martinez-Vazquez et al., 2006: 3). Bouzid (2016: 1) investigated the relationship between corruption and youth unemployment, he found that the corruption activities of public employees who have the power to hire increase the unemployment rate for educated employees and young individuals, and job seekers offer bribes to government employees in this period. Also according to Corrado & Rosetti (2018: 1136), in Italy, there is a positive relationship between youth unemployment and corruption.

vii) Participation Level of Youth: Participation, which is a component of social capital, can benefit individuals in finding new jobs. In this context, individuals can increase their gains from social networks through participation. This type of participation provides more information about new jobs (Granovetter, 1973). Although Highton & Wolfinger (2001) found that young people in the workforce have a higher propensity to vote. Giugni et al. (2022) found that young unemployed people generally have low political participation. A young person with a low level of participation is also likely to have lower knowledge of job channels. Similarly, studies by Paugam & Russell (2000) and Brand & Burgard (2008) suggest that the unemployed have lower levels of social engagement. Participating young individuals can integrate into the labor market faster. In this context, the level of participation of individual young people has been included in the study as an independent variable to analyze how their participation affects their likelihood of being unemployed. This variable has been measured by the participation of young people in the elections.

viii) Trust Level of the Youth: It is more difficult for a young person with a low level of trust to realize their self-confidence and realize their abilities. Keynes (1936) likened market psychology to "animal spirits" and stated that market psychology could independently

influence a large number of economic activities. Akerlof & Shiller (2010) explained Keynes' (1936) concept of animal spirits by linking it to the degree of trust in individuals' psychological states of mind. It has been evaluated that trust could affect youth unemployment based on this approach, and trust was included in the analysis as an independent variable. Studies on trust and unemployment in the literature are very restricted (Pan, 2018). In this context, Farmer (2013, 2015) empirically proved a strong link between employment and trust. Pan (2018) examined the relationship between unemployment and trust by using causality tests and a one-way causal relationship has been found from trust to unemployment, including total, male, female, long-term, and youth unemployment. Young people can reduce transaction costs in job search through their high level of trust. They can also find a job more quickly through connections based on trust.

ix) Health Status of the Youth: The relationship between the general health status of the individual and youth unemployment has been examined in the literature (Lakey et al., 2001). Mathers (1996), and Montgomery et al. (1996) found a link between the poor general health status of young people and unemployment. Young people who are not in good general health or who do not feel healthy are less likely to find a job. Because it encourages the desire to be healthy, to work, and to seek a job. In addition, among working youth, those unhealthy in general may have lower work efficiency and attendance. Taris (2002) found that the perceived characteristics of being unemployed affect mental health, and mental health affects the intention to seek a job and the amount and type of job-seeking behavior. According to Cullen et al. (1987), young unemployed men are weaker than employed men; also young unemployed women are significantly lower respiratory function than employed women. Based on these studies, the body mass index of young people has been used as a health indicator in the study, and the relationship between individual physical health and youth unemployment has been examined.

x) Socioeconomic and Demographic Factors: Youth unemployment is associated with familial characteristics (Viitanen, 1999; Pozzoli, 2009) as well as many other demographic factors (Msigwa & Kipesha, 2013: 67). The unemployment rate of female youth is higher than the unemployment rate of male youth (Ünlü & Yıldız, 2021). Ndagijimana (2018) & Alawad et al. (2020) found that youth employment is affected by gender, age, and education.

3. Literature Review

The number of studies examining the factors affecting youth unemployment at the macro level is increasing (Anyanwu, 2013; Bayrak & Tatlı, 2018; Berhe, 2021; Caporale & Gil-Alana, 2014; Dietrich & Möller, 2015; Inozemtsev, 2016; Sönmez & Özerkek, 2018; Tomic, 2018). These studies analyze the subject through macro-level variables. For example, the study of Uysal & Erdogan (2003) analyzed the relationship between rates of change in wages and unemployment. They concluded that there is a positive relationship between rates of change in wages and unemployment. In addition, they found a negative relationship between inflation and unemployment and reached a finding that supports the Phillips curve. Akhtar & Shannaz (2006) analyzed the causes of youth unemployment at the macro and micro levels for the period 1991-2004 in Pakistan. It is seen that economic development does not affect youth unemployment negatively and significantly. In addition, investments made in the public sector are much more prominent in the decline of youth unemployment compared to the private sector. Sayın

(2011) examined the relationship between youth unemployment and growth in Turkey between the years 1988-2010. As a result of the study, it was concluded that growth is the most significant variable in youth unemployment. Perugini & Signorelli (2010) investigated the factors affecting the youth labor market by using the dynamic spatial panel method by including 26 EU countries in the 1999-2006 period. As a result of the analysis, they found that unemployment is on the rise, especially among the youth, and that gender status and geographical region affect youth unemployment. Choudhry et al. (2012), stated that in high-income OECD countries labor market reforms have a reducing effect on youth unemployment when economic growth, inflation, real interest rate, education level, partial employment, share of young population in the total population defined as control variables. They concluded that while education, economic growth, economic freedoms, part-time employment, and active labor market policies reduce youth unemployment, the increase in the share of the young population in the total population and unemployment benefits increase the youth unemployment rate.

There are also studies investigating the impact of crises on youth unemployment (Bell &; O'Higgins, 2012; Blanchflower, 2011: 241; Verick, 2009). For example, Verick (2009) analyzed the impact of financial crises on youth unemployment. According to the findings, financial crises affect the young population negatively in the long run after the economic recovery. It is stated that the number of unemployed young men increases in the work conditions that are heavily affected by possible crisis conditions in the construction field. Bell & Blanchflower (2011: 241) investigated the effect of the economic crisis in the 2008-2009 period on the youth labor market in EU member countries. With the results obtained by using the probit model, they estimated that the costs of the youth to society will have an impact in the future.

Although there are a limited number of studies dealing with other countries (Demidova & Signorelli, 2012: 191; Okicic et al., 2020; Berhe, 2021) on the micro-level analysis of the factors affecting youth unemployment, studies dealing with Turkey are insufficient. Studies about Turkey mostly deal with the subject in a descriptive manner and at the provincial level (Islamoğlu, 2014; Çizel et al., 2011). Gülel & Tunca (2017) handled the issue at the regional level and through household labor force statistics in the spatial dimension.

De Lange et al. (2014) conducted a study on the youth labor market with European Social Survey data including 29 countries through the 1992-2008 period. The results of the Multinomial logit model specify that young individuals who receive vocational training can integrate into the labor market more easily. In some micro-level studies, it has been found that youth unemployment is highly correlated with gender, age, marital status, and education (Baussola & Mussida, 2017; Okicic et al. 2020; Berhe, 2021).

Pan (2018) examines the relationship between unemployment and trust in Canada using both panel data that take into account cross-sectional dependence and interregional heterogeneity, and time series causality tests. As a result of this research, he found a unidirectional causal relationship between trust to unemployment. This finding indicates that trust can estimate unemployment. He also stated that increasing trust would help to improve the unemployment problem in certain groups such as youth and women, and would reduce the duration of unemployment.

Lakey et al. (2001) found that young people with health problems were less successful in finding a job than their healthy peers, and were also more likely to lose or quit their jobs. At the end of the study, it was found that poor health is both a cause and a consequence of unemployment. Gordo (2006) investigated whether there is a relationship between poor health and unemployment duration, using time series analysis in the study he conducted in Germany. As a result, it has been determined that short-term unemployment has negative effects only on men, but not on women. Wright et al. (2021), stated that youth unemployment is associated with worse mental health in later life, and they used two new methods such as specification curve analysis and negative control outcome design (a type of placebo test). A statistically significant relationship was found between unemployment and general health status for British schoolchildren who entered the job market after the 2008-2009 global financial crisis.

Azzolini (2021) formulated competing hypotheses on the macro-micro interactions between unemployment rates and scarring in 26 countries. These hypotheses were tested based on data from the European Social Survey 2008-2016 for 26 countries. The results from the logistic regression indicate that citizens with long traces of unemployment are 9% less likely to vote than those without.

In general, it is seen that the relationship between the youth unemployment phenomenon and the variables at the macro level is intensely examined, whereas empirical studies at the micro level are limited. Empirical studies at the micro level and regional basis in Turkey are quite limited. The relationship of factors such as trust, participation, and health, especially on an individual basis, with youth unemployment has mostly not been discussed. This study has been evaluated as having the qualifications to fill these gaps.

4. Methodology

4.1. Population and Sample

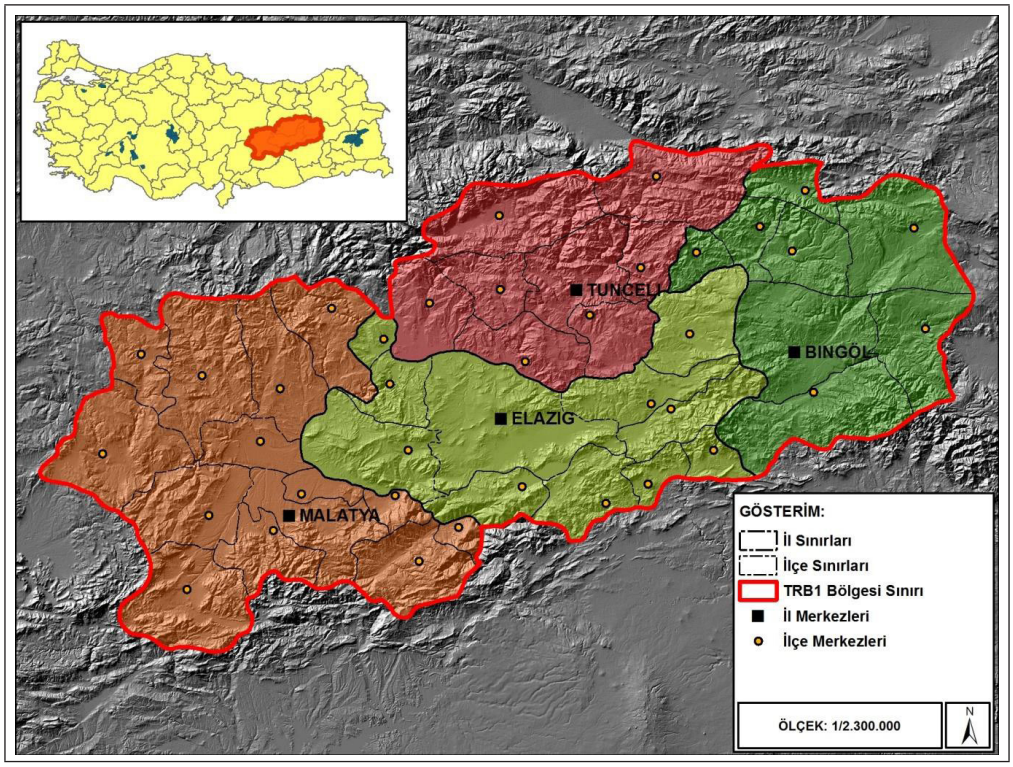
The population of the research consists of young individuals in TRB1 Region (Fig. 2). Therefore, the population of the study consists of 287,128 young individuals living in these provinces (TurkStat, 2021). The minimum sample in Equation 1 was used to determine the number of samples (Akbulut & Yıldız, 1999).

$$n = \frac{N \times P \times Q + Z^2}{\left[(N-1) \times d^2 + P \times Q + Z^2\right]} = \frac{287128.9629 \times 0.5 \times 0.5 \times 1.96^2}{\left[(287128-1) \times 0.05^2 + 0.5 \times 0.5 \times 1.96^2\right]} = 371.9037 \qquad (1)$$

where n represents sample size, P indicates the probability of X being unemployed the in the population (0.5), a is the probability of not being unemployed (0.5), d is effect size (0.05), Z is distribution value is (1.96), h significance level and N population size.

According to Equation 1, the sample size of the study was determined as approximately 372 (Krejcie & Morgan, 1970). However, in the study, the sample size was determined as 400, taking into account the sampling error, etc. Since the population of the study represents different provinces, samples were distributed to these provinces as a percentage and the sample sizes were determined according to the number of young population in each province (Table 1). The study questionnaire was applied in TRB1 Region between December 2021 and March 2022.

Figure 2: Map of TRB1 Region



Source: E. Muhsin Doğan ve Halim Tatlı, Yoksulluk ve Sosyal Sermaye, Nobel, Ankara, 2013, 86.

Table 1: Sample Sizes According to Province

	Youth Population	Total Population	Sample
Malatya	129.784	129784×(400/287128)	134
Elazığ	96.500	96500×(400/287128)	181
Bingöl	50.085	50085×(400/287128)	70
Tunceli	10.759	10759×(400/287128)	15
Total	287.128	287.128	400

4.2. Logit Model and Related Variables

The model of the study was analyzed by the logit regression method. In the logit regression method, the dependent variable takes binary values such as 0 and 1. Because of the limitations of the linear probability model, we choose the probit model as an alternative. (Gujarati & Porter, 2009). For this reason, the logit model is found to be more useful in practice and is used more frequently (Gujarati & Porter 2009). The non-linear logit model in terms of coefficients, which keeps the probability in the range of 0-1, is shown in the equation in (2) (Kennedy, 1988).

$$P_i = E(Y_i = 1 | X_i) = F(I_i) = F(\beta_0 + \beta_1 X_i) = \frac{1}{1+e^{-I_i}} = \frac{1}{1+e^{-(\beta_0+\beta_1 X_i)}} \quad (2)$$

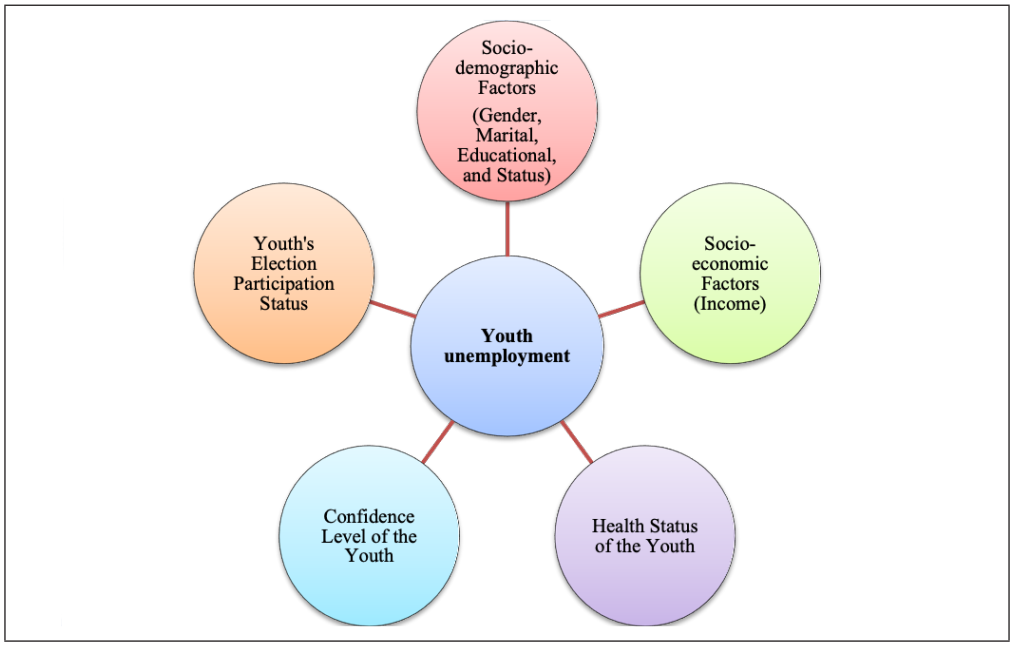
(3) can be obtained by transformations made in (2). Here, it is expressed as the P_i /1- P_i odds ratio (Özer, 2004).

$$L_I = Ln\left(\frac{P_i}{1-P_i}\right) = I_i = \beta_0 + \beta_1 \chi_i \quad (3)$$

L_i, the logarithm of the probability ratio, is now linear concerning both X_i and the population coefficients. Here it is called logit and is expressed as the logit model (Özer, 2004). The parameters of the logit regression model are estimated by the maximum likelihood method and, the coefficients in the model interpret according to the logit and odds ratios. After estimating the coefficients in the logistic regression analysis, whether the variables are significant or not is determined by the likelihood ratio (LR) test, Wald test, and score test. The goodness of fit of the model is determined by the Hosmer-Lemeshow test and classification table (Hosmer & Lemeshow, 1998).

In this study, we consider youths' gender, marital status, educational status, educational status of the father, income per capita according to the household, participation level, trust level, and health status may affect youth unemployment. The model of the study is illustrated in Fig. 3.

Figure 3. Model of the Study



Source: Figure created by the author.

Based on previous studies in the literature and the purpose of the study, the following hypotheses have been proposed:

• H_1: Socio-demographic factors are associated with the likelihood of youth being unemployed.

• H_2: Socio-economic factors negatively affect the probability of youth being unemployed.

• H_3: Youth health status is associated with the probability of youth being unemployed.

• H_4: The trust level of young people negatively affects the probability of youth being unemployed.

• H_5: The level of participation of young people negatively affects the probability of young people being unemployed.

Factors affecting youth unemployment can be extended, but in the light of the data obtained from the survey, the factors affecting youth unemployment, have been limited to the independent variables in Table 2.

Table 2. Definitions of the Variables

Description	Codes/values	Abbreviation
Dependent variable		
Employment Status of the Youth	1: Unemployed 0: Employed	*Unemployment*
Independent variables		
Gender	1:Male 0:Female	*Gender*
Marital Status	1:Married 0:Single/Widowed	*Marital*
The youth is a high school graduate.	1:High School 0: Otherwise Reference class: Secondary	*Hschool*
The youth is an undergraduate graduate.	1:Undergraduate 0: Otherwise Reference class: Secondary	*Ugraduate*
The youth is a postgraduate graduate.	1:Postgraduate School 0: Otherwise Reference class: Secondary	*Pgraduate*
The youth's father is a primary school graduate.	1:Primary School 0: Otherwise Reference class: Illiterate	*Fsecondary*
The youth's father is a secondary school graduate.	1:Secondary School 0: Otherwise Reference class: Illiterate	*Hschool*

Table 2 continue

The youth's father is a high school graduate.	1:High School 0: Otherwise Reference class: Illiterate	*Ugraduate*
The youth's father is an undergraduate school graduate.	1: Undergraduate 0: Otherwise Reference class: Illiterate	*Pgraduate*
Per Capita Income of Household	Average monthly income	*Income*
Voting status in the election	1:Voted 0:Didn't/cannot vote	*Participation*
Trust level of young	1:Yes, I trust most people 0:No, care must be taken	*Trust*
Health Status level of young (Calculated from the Participants' Body Mass Index*)	1:Healthy 0:Not healthy	*Health*

*Body Mass Index (BMI) was calculated by taking into account the height and weight of the youth (kg/m2 by dividing the body weight by the square of the height). The BMI formula of the Ministry of Health in the electronic environment was used (Ministry of Health, 2022). Those with a BMI between 0-18.4 were classified as underweight (not healthy), those between 18.5 and 24.9 were classified as normal (healthy), and those between 25-29.9 were classified as obese (not healthy).

5. Empirical Results

5.1. Descriptive Statistics

Table 3, shows the distribution of young people by socio-demographic factors. Accordingly, 44.5% of the participants are female and 55.5% are male. 86% of the participants are single/widowed and 14% are married. 44% of the participants received education at the higher education level and 31.0% received education at the secondary/primary education level. The rate of fathers who are secondary school graduates is 29.50% and the rate of fathers who are primary school graduates is 26.75%. The average age of the participants is 20.59±2.63 and the average monthly income of the family is approximately 5967.3± 5877.8.

60% of the youth are unemployed and 40% are working in a job. The rate of those with work experience is 50.7% and the rate of those without work experience is 49.3%. Generally, the rate of those who trust people is 31.5%, and the rate of those who do not trust people is 68.5%. These findings indicate that more than half of young people have a low level of trust. The rate of young people who voted in the last general election was 27.8%, and the rate of young people who did not vote was 72.3%. According to this result, the level of participation of young people is high. According to the health status found through BMI values, 23.3% of the participants are not healthy, and 76.8% are healthy.

Table 3. Socio-demographic Characteristics of the Youth

Socio-demographic characteristics		Frequency	Percentage(%)
Gender	Male	178	44.5
	Female	222	55.5
Marital status	Married	56	14.0
	Single/Widowed	344	86.0
Education status	Secondary school	126	31.0
	High school	59	15.0
	Undergraduate	176	44.0
	Graduate	39	10.0
Father's education status	Unschooled	32	8.00
	Primary school	107	26.75
	Secondary school	118	29.50
	High school	88	22.00
	Undergraduate	55	13.75

5.2. Model Findings

We will select our independent variables according to the independent variables selection hypothesis results. Variables with a probability value less than 0.25 obtained as a result of hypothesis tests were taken as candidate independent variables in the model of the study (Hosmer & Lemeshow, 1998). Qualitative independent variables were selected for the model according to the results of the Chi-square test of independence.

Shapiro–Wilk normality test was used to determine whether the quantitative variable per capita income exhibits a normal distribution, and the null hypothesis was rejected (z=11.965, Prob>z=0.000). For this reason, the Mann-Whitney U test was used to select a candidate variable for the model.

Candidate qualitative variables that can be included in the model are presented in Table 4. According to the chi-square independence tests for the qualitative variables, there is a significant relationship between the other variables, and the employment status, except for the Gender, Marital and Fgraduate variables (P<0.05). Except for the marital variable, the probability value of the other qualitative variables is less than 0.25, so it is accepted as a candidate to enter the model.

Table 4: Candidate Qualitative Variables of the Model

Variables		Employment Status				P[a]
		Employed		Unemployed		
		n	Percent	n	Percent	
Gender	Female	95	42.8	127	57.2	0.203
	Male	65	33.3	113	66.7	
	Total	160	40.0	240	60.0	
Marital	Married	26	46.4	30	53.6	0.290
	Single/Widowed	134	39.0	210	61.0	
	Total	160	40.0	240	60.0	
Hschool	Other	145	42.5	196	57.5	0.013**
	High School	15	25.4	44	74.6	
	Total	160	40.0	240	60.0	
Ugraduate	Other	57	25.4	167	74.6	0.000***
	Undergraduate	103	58.5	73	41.5	
	Total	160	40.0	240	60.0	
Pgraduate	Other	133	36.8	228	63.2	0.000***
	Postgraduate	27	69.2	12	30.8	
	Total	160	40.0	240	60.0	
Fprimary	Other	110	37.5	183	62.5	0.097*
	Primary School	50	46.7	57	53.3	
	Total	160	40.0	240	60.0	
Fsecondary	Other	124	44.0	158	56.0	0.012**
	Secondary School	36	30.5	82	69.5	
	Total	160	40.0	240	60.0	
Fhigh	Other	108	34.6	204	65.4	0.000***
	High School	52	59.1	36	40.9	
	Total	160	40.0	240	60.0	
Fgraduate	Other	141	40.9	204	59.1	0.230
	Undergraduate	19	34.5	36	65.5	
	Total	160	40.0	240	60.0	
Trust	Other	95	34.7	179	65.3	0.001***
	Yes	65	51.6	61	48.4	
	Total	160	40.0	240	60.0	
Participation	Other	86	29.8	203	70.2	0.000***
	Yes	74	66.7	37	33.3	
	Total	160	40.0	240	60.0	
Health	Other	46	49.5	47	50.5	0.033**
	Yes	114	37.1	193	62.9	
	Total	160	40.0	240	60.0	

[a] Pearson Chi-Square Test, *** %1, **%5, *%10 indicate levels of significance

The results for the quantitative variable, namely Income are presented in Table 5. Accordingly, the results are statistically significant. The working and non-working young people are compared, and there is a difference in the per capita income of their families. Due to the significant relationship, the Income variable was selected as an independent variable in the model.

Table 5: Candidate Quantitative Variables of the Model

	Unemployed	Employed	P*
Income	240 (42,648.5)	160 (37,515.5)	0.000

*Mann-Whitney U test Values are given as frequencies (rank-sum).

Table 6 indicates the coefficients of the model, the odds ratio, and the test results. Classification results for each group were found as 76.50%. In other words, the correct estimation success of the logit model is 76.50% (Table 6). The LR, which tests the significance of the model as a whole, specifies that the model is significant (χ^2=151.65, P=0.000). In the next step, the Hosmer-Lemeshow test was performed, which shows whether the model has the goodness of fit. Concerning the probability value of the test statistic, H_0 is not rejected at the 5% significance level. This result indicates that there is no identification error in the model. The Pseudo R^2 value of the model is approximately 0.28. All these results indicate that the model has a good fit. After that, other individual tests need to be done to determine the magnitude of the youth's probability of being unemployed.

Except for gender and health, all other variables are found statistically significant. High school, undergraduate, and postgraduate are less likely to be unemployed than secondary school graduates. Those whose fathers are primary school graduates, whose fathers are secondary school graduates, whose fathers are high school graduates, and whose fathers are university graduates are less likely to be unemployed than those whose fathers are illiterate.

In general, young people who trust people are less likely to be unemployed than young people who do not trust people. On the other hand, per capita income has a positive effect on reducing the probability of youth being unemployed (Table 6).

In the logit regression, the odds ratio and marginal effects should be calculated to make the coefficient interpretations of the model. Interpretations can be made according to both methods. In this study, both odds ratios and marginal effects were calculated and interpreted for the variables (See Table 6 and Table 7).

The odds ratio means that a teenager is 0.465 times less likely to be unemployed if they have graduated from high school. A teenager is 0.092 times less likely to be unemployed if they have a college degree. In other words, university graduates are less likely to be unemployed. With a graduate degree, a teenager is 0.123 times less likely to be unemployed. Considering the educational status of the fathers of the participating youth; if his father is a primary school graduate, the probability of being unemployed is 0.085 times less. If his father is a secondary school graduate, the odds ratio means the youth is 0.271 times less likely to be unemployed. If his father is a high school graduate, the probability of being unemployed is 0.152 times less, and if his father is a university graduate, the probability of being unemployed is 0.272 times less. On the other hand, per capita income appears to have a positive effect on reducing the

probability of youth being unemployed. In general, young people who trust people are 0.364 times less likely to be unemployed than those who do not trust people. Finally, the youth who participated in the last general election is 0.364 times less likely to be unemployed than those who did not participate in the election.

Table 6: Logit Regression Analysis Results

Dependent variable (Unemployment)	Coefficient	Odds ratio	Std. Err.
Gender	0.212	1.236	0.262
Hschool	-0.766*	0.465*	0.448
Ugraduate	-2.384***	0.092***	0.360
Pgraduate	-2.093***	0.123***	0.521
Fprimary	-2.461***	0.085***	0.697
Fsecondary	-1.305*	0.271*	0.690
Fhigh	-1.883***	0.152***	0.697
Fgraduate	-1.303*	0.272*	0.740
Income	-0.000***	1.000***	0.000
Trust	-0.493*	0.610*	0.280
Participation	-1.010***	0.364***	0.291
Health	0.201	1.223	0.309
Constant	4.227***	68.563***	0.794
Classification results	%76.50		
Loglikehood	-193.38097		
LR chi2 (12)	χ^2:151.65 Prob:0.000		
Pseudo R^2	0.2817		
Hosmer & Lemeshow test	χ^2=8.13 Prob:0.421		

Std. Err. indicate standard error, *** %1, **%5, *%10 indicate levels of significance.

The marginal effects calculated based on the model are presented in Table 7. When all else is kept constant, the probability of being unemployed for high school graduates is approximately 18.4% less than for secondary school graduates. When all else is kept constant, university graduates are approximately 51.3% less likely to be unemployed than secondary school graduates. The probability of being unemployed is 47.5% less among young people with a postgraduate education level than young people with a secondary education degree.

Considering the education levels of the fathers of the youth, when all else is kept constant, being unemployed those whose fathers are primary school graduates are 54.7% less likely. When the average income per capita increases by one unit, the probability of being unemployed decreases by about 0.01%. In general, young people who trust people are 11.4% less likely to be unemployed than those who do not trust people. On the other hand, the youth who voted in the last general election are 23.8% less likely to be unemployed than those who did not vote.

Table 7: Post-Logit Marginal Effects

Dependent variable (Unemployment)	dy/dx	Std. Err.
Gender	0.04810	0.059
Hschool	-0.18412*	0.109
Ugraduate	-0.51373***	0.062
Pgraduate	-0.47543***	0.092
Fprimary	-0.54770***	0.123
Fsecondary	-0.30697*	0.157
Fhigh	-0.43836***	0.143
Fgraduate	- 0.31344*	0.171
Income	-0.00007***	0.000
Trust	-0.11493*	0.066
Participation	-0.23897***	0.069
Health	0.04671	0.072
Lr Chi2 (11)	109.56	P=0.000
Pseudo R^2	0.2035	

Std. Err. indicate standard error, *** %1, **%5, *%1 indicate levels of significance.

Based on the empirical analysis, the following hypotheses were confirmed:

- H1: Socio-demographic factors are associated with the likelihood of youth being unemployed. Specifically, the first hypothesis was confirmed for the education variable, except for gender.
- H2: Socio-economic factors negatively affect the probability of youth being unemployed. The second hypothesis was confirmed.
- H3: Youth health status is associated with the probability of youth being unemployed. The third hypothesis was not confirmed.
- H4: The trust level of young people negatively affects the probability of youth being unemployed. The fourth hypothesis was confirmed.
- H5: The level of participation of young people negatively affects the probability of young people being unemployed. The fifth hypothesis was confirmed.

In conclusion, the study found that socio-demographic and socio-economic factors are significant determinants of youth unemployment. The trust level and level of participation of young people also play a role in the probability of youth being unemployed. However, the health status of youth was not found to be associated with the probability of youth being unemployed.

6. Discussion and Conclusion

Many micro and macro factors can lead to youth unemployment. These factors need to be addressed in a broad framework, taking into account the economic, social, and demographic effects. This study was carried out to analyze the variables that may affect youth unemployment at the micro level in a broad framework. Various factors affecting youth unemployment were analyzed using logistic regression analysis. The dependent variable was whether the young people were unemployed or not, and the independent variables were gender, marital status, education and father's education status, per capita income of the family, level of trust, participation, and health status.

Empirical analysis results reveal that young people with high school, university, and graduate degrees are less likely to be unemployed than those with secondary school graduates, which is the reference class. Similarly, the probability of being unemployed is less for young people whose fathers are primary, secondary, high school, and university graduates than for those whose fathers are illiterate. There is some evidence in the literature that education reduces unemployment (Gregg, 2001; Ingham 1989; Selim et al., 2014; Choudhry et al. 2012; Fakih et al. 2020; Farzanegan, 2021). In addition, Msigwa and Bwana (2013: 67) argue that education is a significant variable in determining youth unemployment. These findings are consistent with our empirical results. Based on these studies, education is an important factor in youth unemployment both at the individual and family levels.

In general, young people who trust people are less likely to be unemployed than young people who don't trust people. In other words, a high level of trust reduces the likelihood of youth being unemployed. These results are coherent with Pan (2018), Farmer (2013, 2015), and Tegegne (2019). Regarding Lindström's (2009) study, the duration of unemployment affects trust and is associated with working conditions, unemployment, and trust. Above mentioned studies show that trust is related to unemployment, similar to our results. On the other hand, the youth who voted in the last general election are less likely to be unemployed than those who did not vote. Similar to our results, Dieckhoff & Gash (2015) revealed that the unemployed have lower levels of social participation than the employed and that there is a larger social participation gap between the employed and the unemployed. Scott & Acock (1979) found that participants with lower socioeconomic status were less willing to vote. Individuals who vote become more participatory. Thus, young people can benefit more from their participation.

No significant relationship was found between the gender and health level of young people and the probability of youth being unemployed. However, Evans & Repper (2000) found that the health status of young people is related to unemployment. The number of studies stating that gender and individual health level affect unemployment is limited. Selim et al. (2014) stated that men are more unemployed than women. On the contrary, Berhe (2021), and Ünlü & Yıldız (2021) state that young women are more unemployed than young men.

Another important result of the study was that the high per capita income of the young person's family negatively affects the probability of being unemployed. According to the findings of Evans & Repper (2000), there are statistically significant and spatial relationships between per capita income and unemployment rates. It is easier for young people with a high family income to realize themselves and realize their abilities. This will make it easier for them

to find a job. For this reason, the implementation of strategies to increase the income level of individuals and decrease the unemployment rate in the TRB1 region emerges as an important policy.

The educational status of the individual and his/her father is one of the most important factors in reducing youth unemployment. Policymakers in Turkey and TRB1 region should include structural changes and practices that will increase the quality of education to reduce youth unemployment to the desired level and to ensure that young people take an active and continuous role in the labor market. On the other hand, it is necessary to allocate more appropriations for education expenditures and to be integrated according to today's conditions.

It is recommended to utilize an active form of Public Education Institutions to provide young people of education age with the skills and experience they need in business life. Youth unemployment can be reduced with public policies aimed at providing education, health, and livable and fair income distribution in the TRB1 Region. It is recommended that the central government and local representatives of the central government develop strategies to increase the trust and participation levels of the youth. Because young people with a high level of participation and trust are more likely to find a job. In this context, training can be given to improve the trust and participation levels of individuals.

Finally, the study suggests that there is a need to increase skills-based education for young people in the TRB1 region, raise trust levels, increase participation levels, and adopt policies to promote employment opportunities. The study also suggests encouraging young people to start new businesses by providing entrepreneurship education and providing start-up capital. The data used in this study are limited to the TRB1 Region and the period of December 2021 and March 2022. For this reason, the data set of the study can be expanded in terms of other sub-regions of Turkey.

Competing Interests

The authors declare no competing interests.

Author Contributions

HT and GU conceptualized the study. HT wrote the manuscript, conducted all analyses, created the figures and tables, and interpreted the data. Both authors have read and approved the final manuscript.

References

Abdioğlu, Z., & Albayrak, N. (2018). Youth unemployment, education, and economic growth: The case of Turkey. *Global Journal of Economics and Business Studies*, 7(13), 8-20.

Adıgüzel, M. (2021). The factors causing youth unemployment in Turkey. *Econharran*, 5(8), 100-129.

Akbulut, Ö., & Yıldız, N. (1999). İstatistik *analizlerde temel formüller ve tablolar*. Erzurum: Aktif Yayınevi

Akerlof, G., & Shiller, R. (2009). Animal spirits: How human psychology drives the economy and why it matters for global capitalism. USA: Princeton University Press.

Akhtar, S., & Shahnaz, L. (2006). Understanding the youth unemployment conundrum in Pakistan: Preliminary empirical macro-micro analysis. *The Indian Journal of Labour Economics,* 49(2), 233-248.

Akyüz, A. M., & Durmuş, İ. (2022). The role of unemployment anxiety, career goals and personal development variables in making sense of university student's lives. *Journal of Management and Economics Research*,20(2), 23-53. http://dx.doi.org/10.11611/yead.953466.

Alawad, A., Kreishan, F., & Selim, M. (2020). Determinants of youth unemployment: Evidence from Jordan. *International Journal of Economics and Business Administration*, 8(4), 152-165.

Anyanwu, J. C. (2013). Characteristics and macroeconomic determinants of youth employment in Africa. *African Development Review*, 25(2), 107-129.

Apaydın, F. (2018). A comparative analysis of the characteristics of unemployment in Turkey. *Journal of Süleyman Demirel University Institute of Social Sciences*, 30(1), 159-200.

Arpaia, A., & Curci, N. (2010). *EU labour market behaviour during the Great Recession*. Retrieved from https://ams-forschungsnetzwerk.at/downloadpub/ecp405_en.pdf. Accessed 07.12.2022

Ay, S. (2012). Reasons of unemployment in Turkey: An assessment on employment policies. *Journal of Management and Economics*, 19(2), 321-341.

Azzolini L. (2021). The Scar effects of unemployment on electoral participation: Withdrawal and mobilization across European societies. *European Sociological Review*, 37(6), 1007–1026.

Bal-Domańska, B. (2020). The situation of youth on the European labour markets—Econometric analyses, *Acta Unive rsitatis Lodziensis Folia Oeconomica*, 2(347), 23–37.

Bal-Domańska, B. (2022). The impact of macroeconomic and structural factors on the unemployment of young women and men. *Economic Change and Restructuring,* 55, 1141–1172. https://doi.org/10.1007/s10644-021-09341-9

Baussola, B., & Mussida, C. (2017). Regional and gender differentials in the persistence of unemployment in Europe. *International Review of Applied Economics*, 31(2), 173–190.

Bayrak, R., & Tatli, H. (2018). The determinants of youth unemployment: A panel data analysis of OECD countries. *The European Journal of Comparative Economics*, 15(2), 231-248.

Bayraktar, S., & İncekara, A. (2013). Profile of youth unemployment in Turkey. *Journal of Labour of Relations*, 4(1), 15-38.

Bell, D. N., & Blanchflower, D. G. (2011). Young people and the Great Recession. *Oxford Review Economic Policy*, 27(2), 241-267.

Berhe, M. W. (2021). Empirical analysis of urban youth unemployment in Ethiopia. *African Development Review*, 33(1), 104-116.

Berlingieri, F., Bonin H., & Sprietsma, M. (2014). Youth unemployment in Europe-Appraisal and policy options. Centre for European Economic Research Zentrum für Europäische Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW).

Biçerli, M. K. (2011). We have to re-structure our higher education system in parallel with the developments in the labor market. *Journal of Higher Education and Science*, 1(3), 122-127. https://10.5961/jhes.2011.018

Bouzid, B. N. (2016). Dynamic relationship between corruption and youth unemployment: Empirical evidences from a system GMM approach. (Policy Research Working Paper, World Bank Group. https://doi.org/10.1596/1813-9450-7842.

Brand, J. E., & Burgard, S. (2008). Job displacement and social participation over the lifecourse: Findings for a cohort of joiners. *Social Forces*. 87(1), 211-242.

Bruno, G. S. F., Choudhry, M. T., Marelli, E., & Signorelli, M. (2014). Youth unemployment: Key determinants and the impact of crises, In Disadvantaged Workers, *AIEL Series in Labour Economics*, 7, 121-148. https://doi.org/10.1007/978-3-319-04376-0_7.

Camarota, S. A., (1997). The effect of immigration on low-skilled native workers: Evidence from the June 1991 Current Population Survey. *Social Science Quarterly*, 78(2), 417 431.

Caporale, G. M., & Gil-Alana, L. (2014). Youth unemployment in Europe: Persistence and macroeconomic determinants. *Comparative Economic Studies*, 56(4), 581-591.

Çetinkaya, E. (2008). Türkiye'de gençlerin kayıt dışı istihdamdaki durumu. *Bilgi Sosyal Bilimler Dergisi*, 2, 115-125.

Choudhry, M. T., Marelli, E., & Signorelli, M. (2012). Youth unemployment rate and impact of financial crises. *International Journal of Manpower*, 33(1), 76-95.

Çizel, R. B., Güzeller, C. O., & Mütevellioğlu, N. (2011). The Psychological consequences of unemployment: The case of Antalya. *Journal of Labour of Relations*, 2(1), 26-41.

Çondur, F., & Bölükbaş, M. (2014). A study on labor market and the relationship between youth unemployment and economic growth in Turkey. *Amme İdaresi Dergisi*, 47(2), 77-93.

Corrado, G., & Rossetti, F. (2018). Public corruption: A study across regions in Italy. *Journal of Policy Modeling*, 40(6), 1126-1139.

Coşan, B., Şahin, Ş., & Yörübulut, M. Ç. (2017). Chronic problematic of global economy youth unemployment: Comparision of Turkey-Southern Europe (Spain, Italy, Portugal, Greece) countries. *Journal of Gazi University Faculty of Economics and Administrative Sciences*, 2017(2020), 200-238.

Cullen, J., Ryan, G. M., Cullen, K. M., Ronyane, T., & Wynne, R. F. (1987). Unemployed youth and health: Findings from the Pilot Phase of a Longitudinal Study. *Social Science and Medicine*, 25, 133-46.

Dagume, M. A., & Gyekye, A. (2016). Determinants of youth unemployment in South Africa: Evidence from the Vhembe district of Limpopo province. *Environmental Economics,* 7(4), 59-67.

De Lange, M., Gesthuizen, M., & Wolbers, M. H. (2014). Youth labour market integration across Europe: The impact of cyclical, structural, and institutional characteristics. *European Societies*, 16(2), 194-212. https://doi.org/10.1080/14616696.2013.821621.

Demidova, O., & Signorelli, M. (2012). Determinants of youth unemployment in Russian regions, *Post-Communist Economies*, 24(2), 191-217, https://doi.org/10.1080/14631377.2012.675155.

Dieckhoff, M., & Gash, V. (2015). Unemployed and alone? Unemployment and social participation in Europe. *International Journal of Sociology and Social Policy*, 35(1/2) 67-90.

Dietrich, H., & Möller, J. (2016). Youth unemployment in Europe–business cycle and institutional effects. *International Economics and Economic Policy*, 13(1), 5-25.

Doğan, E.M., & Tatlı, H. (2013). *Yoksulluk ve sosyal sermaye*. Ankara: Nobel.

Evans, J., & Repper, J. (2000). Employment, social inclusion and mental, health. *Journal of Psychiatric and Mental Health Nursing*, 7(1), 15-24.

Fakih, A., Haimoun, N., & Kassem, M. (2020). Youth unemployment, gender and institutions during transition: Evidence from the Arab Spring. *Social Indicators Research*, 150, 311–336. https://doi.org/10.1007/s11205-020-02300-3

Farmer, R. E. (2013). Animal spirits, financial crises and persistent unemployment. *The Economic Journal,* 123(568), 317-340.

Farmer, R. E. (2015). The stock market crash really did cause The Great Recession. *Oxford Bulletin of Economics and Statistics*, 77(5), 617-633.

Farzanegan, M. R., & Gholipour, H. F. (2021). Youth unemployment and quality of education in the MENA: An empirical investigation. In M. S. Ben Ali, (Ed.). *Economic development in the mena region. Perspectives on development in the Middle East and North Africa (MENA) region* (pp. 65–84). Cham: Springer.

Focacci, C. N. (2020). "You reap what you sow": Do active labour market policies always increase job security? Evidence from the youth guarantee, *European Journal of Law and Economics*, 49(3), 373-429, https://doi.org/10.1007/s10657-020-09654-6.

Giugni, M., Lorenzini, J., Cinalli, M., Lahusen, C., & Baglioni, S. (2022). *Young People and Long-Term Unemployment: Personal, Social, and Political Effects*. USA: Routledge.

Gordo, L. R. (2006). Effects of short- and long-term unemployment on health satisfaction: Evidence from German data. *Applied Economics*, 38(20), 2335-2350.

Görlich, D., Stepanok, I., & Al-Hussami, F. (2013). *Youth unemployment in Europe and The World: Causes, consequences and solutions*. Kiel: Kiel Policy Brief, Kiel Institute for the World Economy.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.

Gregg, P. (2001). The impact of youth unemployment on adult unemployment in the NCDS. *The Economic Journal*, 111, 626-653. https://doi.org/10.1111/1468-0297.00666

Groh, M., Krishnan, N., McKenzie, D., & Vishwanath, T. (2016). The impact of soft skills training on female youth employment: Evidence from a randomized experiment in Jordan, *IZA Journal of Labor and Development*, 5(1), 1-23. https://doi.org/10.1186/s40175-016-0055-9.

Gujarati, D. N., & Porter, D. C. (2009). *Temel ekonometri*, (Ü. Şenesen, & G. G. Şenesen, Çev.). İstanbul: Literatür Yayıncılık.

Gülel, F. E., & Tunca, H. (2017). Investigation of youth unemployment in Turkey with spatial interaction. Unregistered Employment. London, The United Kingdom: IJOPEC Publication.

Günaydın, D., & Çetin, M. (2015). The main macroeconomic determinants of youth unemployment: An empirical analysis. *Pamukkale University Journal of Social Sciences Institute*, 22, 17-34.

Güriş, S., & Yaman, B. (2018). Analysis with panel data models of factors affecting unemployment in OECD countries. *Social Sciences Research Journal*, 7(1), 136-146.

Highton, B., & Wolfinger, R. E. (2001). The first seven years of the political life cycle. *American Journal of Political Science*, 45(1), 202-209.

Hosmer, D. W., & Lemeshow, S. (1998). *Applied logistic regression*. USA: John Wiley & Sons.

ILO. (2022). *Global Employment Trends for Youth 2022*. Retrieved from https://www.ilo.org/global/publications/books/WCMS_853321/lang--en/index.htm Accessed 23.08.2022

Ingham, M. (1989). Education and youth unemployment: A reappraisal. *Journal of Economic Studies*, 16(3), 27-39. https://doi.org/10.1108/EUM0000000000131

Inozemtsev, E. (2016). The youth unemployment in Russia and Germany: A spatial panel data analysis. *Asian Journal of Science and Technology*, 7(11), 3700-3706.

Islamoğlu, E. (2014). An investigation on the reasons and consequences of unemployment in Sakarya. *Journal of Politics Economics and Management Studies*, 2(3), 123-137.

Jimeno, J. F., & Rodriguez-Palenzuela, D. (2002). Youth unemployment in the OECD: Demographic shifts, labour market institutions, and macroeconomic shock. *(Working Paper Series 155, European Central Bank)*. Retrieved from http://dx.doi.org/10.2139/ssrn.357960 Accessed 20.12.2022

Kang, Y. D. (2021). Determinants of youth unemployment: Empirical analysis of OECD and EU member countries in 2000-2017, *Journal of Economic Development*, 46(3), 109-131.

Kennedy, P. (2006). *Ekonometri k*ılavuzu. (M. Sarımeseli & Ş. Açıkgöz, Çev.). Ankara: Gazi Kitabevi.

Keynes, J. M. (1936). *The general theory of employment, interest and money*. London: Macmillan and Co., Ltd.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measuremen*t, 30(3), 607-610.

Lakey, J., Mukherjee, A., & White, M. (2001). *Youth unemployment, labour market programmes and health*. London: Policy Studies Institute.

Lindström, M. (2009). Psychosocial work conditions, unemployment, and generalized trust in other people: A population-based study of psychosocial health determinants. *The Social Science Journal*, 46(3), 584-593.

Marelli, E., & Vakulenko, E. (2016). Youth unemployment in Italy and Russia: Aggregate trends and the role of individual determinants. *The Economic and Labour Relations Review*, 27(3), 387-405. https://doi.org/10.1177/10353046166579.

Martinez-Vazquez, J., Arze, F., & Javierveboex, J. (2006). *Corruption, fiscal policy and fiscal management: Fiscal reform in support of trade liberalization*. USA: ID Press.

Mathers, C. D. (1996). Health Differentials among young Australian adults, health monitoring series No. 4, Canberra: Australian Institute of Health and Welfare.

Ministry of Health. (2022). Turkish Ministry of Health General Directorate of Public Health. Retrieved from https://hsgm.saglik.gov.tr/tr/beslenmehareket-hesaplamalar Accessed 01.09.2022,

Mlatsheni, C. (2007). A survey of youth labour market trends. Draft paper prepared for Human Sciences Research Council. Cape Town: Sage, 1-26.

Montgomery, S. M., Bartley, M. J., Cook, D. G., & Wadsworth, M. (1996). Health and social precursors of unemployment in young men in Great Britain. *Journal of Epidemiology and Community Health*, 50(4), 415-422. http://dx.doi.org/10.1136/jech.50.4.415.

Msigwa, R., & Kipesha, E. F. (2013). Determinants of youth unemployment in developing countries: Evidences from Tanzania. *Journal of Economics and Sustainable Development*, 4(14), 67-76.

Murat, S., & Şahin, L. (2011). Nedenleri ve sonuçları bakımından gençler arasında yaygınlaşan işsizlik. *Istanbul Journal of Sociological Studies*, 44, 1-48.

Mütevellioğlu, N., & Aksoy, B. (2010). Işsizlikle mücadelede il istihdam ve mesleki eğitim kurullarinin işlevi. Çalışma İlişkileri Dergisi, 1(1), 13-35.

Ndagijimana, J., Nzasingizimana, T., & Heshmati, A. (2018). An analysis of the determinants of youth employment in Rwanda. *UKH Journal of Social Sciences*, 2(2), 1-10.

OECD. (2022). *Data*. Retrieved from https://data.oecd.org/unemp/youth-unemployment-rate.htm Accessed 01.09.2022

O'Higgins, N. (2012). This time it's different? Youth labour markets during The Great Recession. *Comparative Economic Studies*, 54(2), 395-412.

Okicic, J., Kokorovic Jukan, M., Pilav-Velic, A., & Jahic, H. (2020). Impact of individual and household characteristics on the employment probability among youth from Bosnia and Herzegovina. *Economic Research-Ekonomska İstraživanja*, 33(1), 2620-2632.

Özer, H. (2004). *Nitel değişkenli ekonometrik modeller teori ve bir uygulama*. Ankara: Nobel Yayın ve Dağıtım.

Öztürk, M., & Altuntepe, N. (2008). Adaptation of the migrants to urban life and labour market in Turkey: A field study. *Journal of Yasar University*, 3(11), 1587-1625.

Pan, W. F. (2018). Unemployment and confidence in Canada: Evidence from national and regional level data. *Economics Bulletin*, 38(2), 1111-1123.

Parisi, M. L., Marell E., & Demidova, O. (2018). Youth unemployment, labour productivity and the evolution of the labour markets in Europe. In F. E, Caroleo, O., Demidova, E., M., & Marelli Signorelli, (Eds.). *Young people and the labour market: A Comparative perspective* (pp. 65-81). UK: Routledge, Abingdon, Oxon.

Pastore, F., & Giuliani, L. (2015). *The Determinants of youth unemployment. A Panel Data Analysis*. Discussion Papers 2_2015, CRISEI, Italy: University of Naples "Parthenope", Retrieved from http://www.ub.edu/aqr/arxiu/Paper_Pastore-Giuliani.pdf Accessed 07.12.2022.

Paugam, S., & Russell, H. (2000). The Effects of employment precarity and unemployment on social isolation. In D. Gallie, & S. Paugam, (Eds.). *Welfare regimes and the experience of unemployment in Europe* (p. 243-264). The United Kingdom: Oxford University Press.

Perugini, C., & Signorelli, M. (2010). Youth labour market performance in European Regions. *Economic Change and Restructuring*, 43(2), 151-185.

Pozzoli, D. (2009). The transition to work for Italian university graduates. *Labour*, 23(1), 131-169. https://doi.org/10.1111/j.1467-9914.2008.00442.x

Putun, M., Karatas, A. S., & Akyildiz, İ. E. (2017). The economic consequences of the youth unemployment case in EU countries: A critical analysis. *International Journal of Economics and Finance Studies*, 9(1), 77-99.

Ralph, A., & Arora, A. (2023). A bibliometric study of reference literature on youth unemployment, J*ournal of Enterprising Communities: People and Places in the Global Economy*, 17(6), 1338-1367. https://doi.org/10.1108/JEC-04-2022-0062

Sayın, F. (2011). Analysis of the impact of the education and the growth in Turkey from 1988 to 2010 on youth unemployment. *Dokuz Eylul University The Journal of Graduate School of Social Sciences*, 13(4), 33-53.

Scott, W. J., & Acock, A. C. (1979). Socioeconomic status, unemployment experience, and political participation: A disentangling of main and interaction effects. *Political Behavior*, 1(4), 361-381.

Selim, S., Kırgel, D., Çelik, O., & Yazıcıoğlu, H. (2014). The socio-economic determinants of the unemployment in Turkey: Panel data analysis. *International Journal of Management Economics and Business*, 10(22), 1-26. https://doi.org/10.11122/ijmeb.2013.9.19.459

Sönmez, F. D., & Özerkek, Y. (2018). Determinants of regional youth unemployment In Turkey. *Marmara University Journal of Economic and Administrative Sciences*, 40(2), 297-318. https://doi.org/10.14780/muiibd.511033

Taris, T. W. (2002). Unemployment and mental health: A longitudinal perspective. *International Journal of Stress Management*, 9(1), 43-57.

Tegegne, T. K. (2019). Socioeconomic determinants of youth unemployment in Ethiopia, the case of Wolaita Sodo Town Southern Ethiopia. *Journal of Economics and Sustainable*, 9(10), 38-45. https://doi.org/10.7176/JESD/10-23-05

Tomic, I. (2018). What Drives youth unemployment in Europe? Economic vs non-economic determinants. *International Labour Review*, 157(3), 379- 408. https://doi.org/10.1111/ilr.12113

TurkStat. (2021). Youth in Statistics. Retrieved from https://data.tuik.gov.tr/Bulten/Index?p=Youth-in-Statistics-2020-37242&dil=2 Accessed 07.09.2022.

TurkStat. (2022a). Labor Statistics (2014 and onwards). Retrieved from https://biruni.tuik.gov.tr/medas/?kn=72&locale=tr Accessed 25.09.2022

TurkStat. (2022b). Regional Statistics. Retrieved from https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do Accessed 07.09.2022.

Ünlü, A., & Yıldız, K. (2021). Türkiye'de genç işsizlik sorunu ve çözüm önerileri. İçinde G. Sumer (Ed.). *Iktisat alaninda seçilmiş konular*, (s.139-154). İstanbul: Efe Akademi.

Upward, R. (2002). Evaluating outcomes from the youth training scheme using matched firm-trainee data, *Oxford Bulletin of Economics and Statistics*, 64(3), 277-306, https://doi.org/10.1111/1468-0084.00022.

Uysal, D., & Erdoğan, S. (2003). The relationship between inflation and unemployment rate and the case of turkey (1980-2002). *The Journal of Social Economic Research*, 3(6), 35-47.

Verick, S. (2009). Who is hit hardest during a financial crisis? The vulnerability of young men and women to unemployment in an economic downturn. *IZA Discussion Paper*.

Viitanen, T. (1999). Estimating the probability of youth unemployment. *An Extended Essay for a BsocSC in Economics and Statistics*.

World Bank (2018). *Behavioral Solutions for Youth Unemployment: Behavioral solutions for youth unemployment*. Retrieved from, http://documents.worldbank.org/curated/en/265311532598490501/Behavioral-solutions-for-youth-unemployment Accessed 10.01.2024.

World Bank. (2022). Data. Retrieved from https://data.worldbank.org/indicator/SL.UEM.1524.ZS Accessed 01.09.2022

Wright, L., Head, J. A., & Jivraj, S. (2021). How robust is the association between youth unemployment and later mental health? An analysis of longitudinal data from English Schoolchildren. *Occupational and Environmental Medicine*, 78(8), 618-620.

Ylistö, S., & Husu, H. M. (2021). Negative emotional consequences of labour market activation policies for long-term unemployed young adults in Finland, *International Journal of Sociology and Social Policy*, 41(13/14), 1-15. https://doi.org/10.1108/IJSSP-02-2021-0039.