

ORIGINAL ARTICLE

The effect of parental job loss on youth transition to employment in Turkey

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Abstract

This article analyses the impact of household head's involuntary job loss on young person's (15–24 years old) likelihood to transition from non-employment to employment. We construct twelve two-year pseudo-panels based on previous year's labour market outcomes using Turkish Household Labor Force Surveys (THLFS) from 2005 to 2016 and then pool the twelve pseudo-panels for analysis. We examine youth's labour market responses according to education levels and gender. We show that a female with at least a high school degree is about 8.7 percentage points more likely to transition to from non-employment to employment in the group where the head experienced an unexpected job loss than a female in the group where the head remained employed. Furthermore, for females, the probability of transitioning to employment increases by education level. For males, although we find positive and statistically significant effect of head's job loss on the transition probability, we do not find any differences according to education level.

JEL CLASSIFICATION

J21; O15

1 | INTRODUCTION

Youth unemployment and inactivity have become important issues worldwide. Unemployment is generally higher among young people than prime age adults. Empirical evidence suggests that unemployment when young can have negative impact on adult outcomes including unemployment (Burgess et al. 2003; Gregg, 2001), wages (Gregg and Tominey 2005), and transition to employment in subsequent unemployment spells (Dorsett and Luchino, 2018). In addition to youth unemployment, inactive youth, often referred as Youth in Neither Employment nor Education, Training (NEET) has become a concern for many countries. Among Organisation for Economic Co-operation and Development (OECD) countries, average NEET rate for 18–24 age group is about 14 per cent (OECD, 2019).

Many factors contribute to high NEET and unemployment rates. NEET and unemployment rates are closely linked to economic performance and business cycle in a country. However, within a country, there are also large differences in youth NEET and unemployment rates between men and women possibly due to cultural and institutional factors. In almost all OECD countries, youth NEET rates are higher for women than for men for the 15–29-year-old group. In Turkey, female NEET rates are about 25 percentage points higher than male NEET rates (OECD, 2019). Furthermore, female unemployment rates are also statistically significantly higher than male unemployment rates with a 7-point difference in tertiary education graduates and 9-point difference in high school graduates among 22–27 years old (Okten and Akyol, 2018). There can be several reasons for gender gap in unemployment rates, such as low labour market attachment for females, labour market institutions' attitude towards females, and labour market discrimination against females (Azmat et al. 2006). In this article, we propose that for inactive or unemployed youth living with their parents, there might be important differences in parental expectations and income support for offspring according to gender.

For young unemployed or inactive people living with their parents, parental income is likely to be an important source for their non-labour income. According to standard theory of labour supply, reservation wage increases with non-labour income. Therefore, in societies where parental income support is more easily available for youth, perhaps due to social and cultural norms, youth might be in less of a hurry to find a job. However, it is hard to establish the causal effect of parental income support on youth's inactivity, because parental income transfers to youth and the youth's labour market outcomes are endogeneously determined. Hence, in this study, we consider that an involuntary job loss of household head can act as an exogenous income shock and affect probability of youth's transition from non-employment (unemployment or inactivity) to employment.

We hypothesize that reservation wage or job quality requirements of a young person may fall in response to an involuntary job loss of the household head. These constraints and their relaxation may vary between men and women resulting in heterogeneous labour market responses to head's job loss according to sex. In addition to varying responses between men and women, there can be also heterogeneous responses across education levels of the youth. Therefore, in this article, we examine heterogeneous labour market responses to head's job loss according to young person's gender and education levels.

What motivates our consideration is that the reservation wage and job quality requirements may indeed be a factor in youth unemployment or inactivity, is our observation that not only youth unemployment is high in the world but also it is high among youth who are highly educated. In US, college graduates in ages 22–27 years old, holding a bachelor's degree or higher, are more likely to be unemployed or underemployed compared with overall workers

(Kelly, 2019). In Turkey, unemployment rate of 22–27-year-old college graduates is about 9 percentage points above the unemployment rate of high school graduates in the same age group (Okten and Akyol, 2018). These high unemployment rates might be due to either lower market opportunities for educated youth or their own high wage and job quality expectations. Empirical studies of youth unemployment have found that having higher levels of education is associated with higher probability of transitioning both from school to employment and unemployment to employment (Kelly and McGuinness, 2016; Ryan, 2001). Hence, it is more plausible that education may increase labour market expectations rather than decrease job market opportunities.

In the past three decades, many countries put in place education reforms that increased higher education attainment rates (Bratti et al., 2008; Blanden and Machin (2004); Kyui (2016)). In Turkey, there have been two education reforms that increased both secondary and tertiary education levels, first that extended compulsory schooling from 5 to 8 years in 1997 (Akar et al. 2019; Aydemir and Kirdar, 2017; Kirdar et al. 2016) and second increased available slots in tertiary education by 60 per cent during 2006–2009 (Caner et al. 2019), thereby increasing youth education levels. Hence, higher labour market expectations due to increased human capital investments may have resulted in wage and job quality expectations that exceed current job offers.

A few studies examine labour supply decisions of household members as a result of household head's job loss. Skoufias and Parker (2006) find that job loss of the male household head increases labour force participation of the wife, however, it does not affect the labour force participation of either 12–19-year-old males or females. Fuchs and Weber (2013) show that, in Germany, when household head becomes unemployed, spouses and young individuals living in the household are more likely to participate in the labour force. Da Silva (2016) investigates the effect of household head's job loss on labour supply decision of wife, children, and young individuals in Brazil. His findings suggest that children and young adults join the labour force in response to head's job loss. Botrić and Tomić (2018) using data from seven European countries find that when both parents lose their job, young individual's labour force participation increases.

Our study is different from the aforementioned studies as our focus is on transition probability of young persons aged 15–24 from non-employment to employment differentiated according to education levels and gender. We develop a conceptual framework where we discuss the factors that might affect the transition probability from non-employment to employment according to educational levels and gender. We conduct our analysis using Turkish Household Labor Force Surveys (THLFS) data set for years between 2005 and 2016. From THLFS data set, we can observe the employment status of both the household head and the young individual both in the current year and the previous year, and this allows us to conduct a 2-year pseudo-panel analysis for 12 years. We establish our sample such that it consists of household heads who are in employment in the previous year and young individuals (15–24 years old) living in the same household who are not in employment in the previous year. The design of the sample allows us to investigate the change in the employment status of the young individual as a result of unexpected and involuntary unemployment of the household head. Hence, we are able to examine whether the income loss of the household head encourages the young individual to transition to employment from non-employment. In addition, first differencing allows us to control for individual fixed effects and address the problem of omitted variable bias due to unobserved ability and values that affect both head's and offspring's labour market outcomes only if the unobservables are time invariant. We include interaction terms of young person's education level with change in head's employment status and examine heterogeneous labour market responses according to education levels.

Our empirical results show that transition probabilities from non-employment to employment vary according to gender and education level of the youth. When we consider the effect of head's change in employment status from employment to unemployment on an average individual, we find a positive but statistically insignificant effect for females and positive and statistically significant effect for males, unlike Botrić and Tomić (2018). However, when we include interaction terms with education variables a more nuanced and interesting picture emerges. A female with at least a high school degree is about 8.7 percentage points more likely to be in employment in the treatment group where the head experienced an unexpected job loss than a similar female in the control group where the head remained employed. However, we do not find any differential effects according to education levels for males. One interpretation of our results is that education mitigates the role of social norms in low female employment rates as young women with higher levels of education are more likely to transition to employment in response the head's job loss and overcome social barriers to entry into the labour market.

We contribute to the literature in two ways: first, our article is the first study that investigates the effect of the involuntary job loss of the household head on young individual's probability to transition from non-employment to employment differentiated according to the youth's both education level and gender. Second, this issue is considered for the first time in Turkey, which has highest NEET rates among the OECD countries.

The rest of the article is organized as follows: Section 2 discusses the conceptual framework, Section 3 presents data, and Section 4 describes identification methodology. Section 5 provides both descriptive and empirical analysis results. Section 6 concludes.

2 | CONCEPTUAL FRAMEWORK

In standard job search models, unemployed workers receive job offers that they accept if the value of the offered job is higher than the value of unemployment (McCall, 1970). One hypothesis regarding such frictions is that reservation wages among the unemployed are high relative to offered wages, leading job searchers to reject job offers as unacceptable. According to theory of labour supply, reservation wage and job quality requirements increase with non-labour income and hence in countries where parental income support is more easily available for youth perhaps due to cultural values, and social norms, youth might be in less of a hurry, to find a job. An unexpected and involuntary job loss of the household head might lower reservation wages of the youth and increase their transition probability to employment.

Fallon (1983) argues that reservation wages and quality requirements are likely to be higher and hence more binding for more highly educated youth, causing them to refuse job opportunities more often. Hence, highly educated youth might have higher job quality and wage expectations and might be in unemployment or inactivity, despite their better job prospects compared with youth with less education. An involuntary job loss of the household head might therefore have a higher effect on the transition probability to employment of youth with higher levels of education.

In socially conservative countries like Turkey, parents can also have higher job quality requirements for their daughters (Caner et al. 2019). For example, women dominate the health and education sectors. In 2005, about 70 per cent of university graduates majoring in health field and 60 per cent of university graduates majoring in education field were women. In health and education sectors, government is the primary employer as there is public health care system and public education system in Turkey with limited private sector presence. Quality of jobs are

considered to be better in the government sector than private sector for many women as working hours and conditions in the public sector are better regulated. An involuntary job loss of the household head can lower these job quality requirements that might be more binding for women than men and increase their probability to transition to employment.

On the one hand, for inactive individuals in the household, unexpected unemployment of household head may force the individual to participate in labour force to also compensate for the income loss of the household. This is like *Added Worker Effect* (AWE), which was first proposed by Ashenfelter (1980) regarding the labour supply decisions of spouses. In a static model of household labour supply, an added worker effect arises in the following manner. A spell of unemployment experienced by the male head of household affects the labour supply of a non-participating wife in two ways: the transitory reduction in household income and the increase in husband's non-market time both tend to reduce the relative value of the wife's non-market time. Although the wife's labour force entry is only one of the several ways in which the household might adjust to the loss of income, the magnitude of the added worker effect should be related to the efficacy or costs of other methods, such as more intensive job search by the husband or borrowing. On the other hand, the individual may abstain from participating in the labour force as a result of unexpected unemployment of the household head due to the anticipation of costly job search, lower wages, or poor working conditions. This is alike to *Discouraged Worker Effect* (DWE), which was first suggested by Lundberg (1985) regarding the labour supply decisions of the spouses.¹ In this article, we examine the effect of involuntary job loss of the household head on non-employed young individual's probability of transitioning to employment.

3 | DATA

3.1 | Description of the data set and variables

Our data source is Turkish Household Labor Force Survey (THLFS) data for the 2005–2016 period prepared by Turkish Statistical Institute (TURKSTAT). THLFS is nationally representative, yearly cross-sectional data set which contains a rich set of information about the individual's labour market status as well as the socioeconomic and demographic characteristics. From THLFS data set, we can observe the individual's employment status in the previous year. In addition, we can also observe whether there has been a job loss from previous year to current year and the reason for the job loss. Several reasons for job loss are listed in THLFS data set. For instance, the individual may be fired/laid off or the individual may resign from the job to take care of the children or disabled individuals in the household. The person may leave the job for education or marriage purposes. The respondent may also leave the job although the job is seasonal/temporary and thus terminated. Finally, being not satisfied with the job, being retired, or going into the army are other possible reasons for leaving the job. Because we can observe the respondent's employment status in the previous year, THLFS allows us to conduct pseudo-panels and therefore establishes a good setting to observe the impact of unexpected unemployment of the household head on probability of young individual's transition to employment from unemployment or inactivity.

The empirical analysis is subject to some limitations mostly because of the design of the survey. For instance, we can only consider the households in which parents and children cohabit at both time $t-1$ and time t . This may lead to a selection bias in the analysis, especially after age 19, as some children may leave the household after they become employed. In fact, if the offspring

who leave the household in response to head's job loss are the ones who also find employment, then our estimates are actually a lower bound because we do not observe young people who find a job and at the same time leave the house in response to head's job loss.

Before starting the empirical analysis, the most challenging task is to determine the age interval that corresponds to youth. Both International Labor Organization (ILO) and TURKSTAT refer youth as all persons between 15 and 24 years old. However, the studies that examine the determinants of being NEET suggest different age categories for youth in the literature. For instance, NEET group is defined as young persons between 16 and 18 years old in the UK, whereas it is defined as young persons between 15 and 34 in Japan (Susanlı, 2016). OECD (2019) relaxes the ILO definition and refers youth as young individuals between 15 and 29 years old. We consider various age groups in this article, namely, 15–24, 15–19, and 20–24 age groups.

Before the extension of compulsory schooling law implemented in 1997, the education system consisted of 5 years of compulsory primary school, 3 years of middle school, 3 years of high school, and 2 years of higher vocational school or 4 years of university. The compulsory schooling law extended compulsory primary school from 5 to 8 years. In other words, the compulsory schooling law made what formerly was called middle school (8 years) mandatory for those born after 1986. In this article, we refer to the first 5 years of school as Primary school (which granted primary school degree prior to 1997) and the first 8 years of school as Middle school (which granted middle school degree prior to 1997 and granted primary/elementary school degree after 1997). Because the average school starting age is 6 in Turkey, an individual is typically 11 years old when he graduates from Primary School, 14 years old when he graduates from Middle School, and 17 years old when he graduates from High School according to our school definitions.

It is important to note that offspring who have different education levels are likely to have different ability levels. This may cause bias in our results. Therefore, we account for an individual fixed effect by using 2-year first differenced pseudo-panels to control for ability that affects being employed at a given point in time. However, ability and education may not only affect employment status at time t but also success of transition from inactivity to employment from time $t-1$ to t . In order to account for this, in the empirical analysis, we include education dummies in addition to their interaction with head's change in job status to control for both education level and ability that can affect success of transition from inactivity to employment.

In the study, the main variable of our interest is the involuntary job loss of the household head. We define household head in response to the answer of the question:

What is your relationship with the household head?

If the individual gives the answer *me* then he/she is regarded as household head.² In the empirical analysis, we refer the unexpected unemployment of the household head as job loss due to a layoff or a fire, instead of using an overall unemployment indicator for the household head. Using an overall unemployment indicator may result in biased coefficients because a voluntary job loss (such as resigning from the job) is likely to be endogenous to the labour force participation decision of the other individuals in the household. Therefore, using the involuntary job loss as the unemployment indicator may circumvent the endogeneity problem (Kohara (2010), Stephens (2002), Karaoglan and Okten (2015)). Therefore, we consider the household head as involuntarily unemployed if the household head reports that he/she is employed in the previous year, but currently he/she is unemployed, and he/she states that he/she is laid off or fired.³

Next, we refer the individuals living in the household as young person if he/she is between 15 and 24 years old, and reports that he (she) is the son (daughter) of the household head. We present results for all young individuals, as well as for those who are currently not enrolled in education separately.

3.2 | Descriptive statistics

Table 1a provides the descriptive statistics of young individual's transition to employment and other controls by gender for various age groups. The sample consists of young individuals who are not currently enrolled in education. For each group, the first column shows the descriptive statistics for treated group (household head is employed in the previous year, but becomes involuntarily unemployed in current year), whereas the second column shows the descriptive statistics for the untreated group (household head remains employed in current year). Table 1a shows that for the 15–24 years old, the percentage of young females that transition to employment is higher in treated sample than it is in the untreated sample though the difference is not statistically significant for an average female. However, when we consider females who have middle school or at least high school degree, we observe that females in the treated sample are more likely to transition to employment than females in the control sample and the difference is statistically significant at 3 per cent for middle school graduates and 1 per cent for high school or above graduates. We observe a similar pattern for males. The share of young males that transition to employment is higher in treatment group than in control group and the difference is statistically significant at 5 per cent for an average male. Males with at least high school degree who are in treatment group are more likely to transition to employment than their counterparts in the control group and the difference is statistically significant at 10 per cent.

Next, Table 1b presents the descriptive statistics for young individuals who may or may not be currently enrolled in education. There does not seem to be statistically significant differences in percentage of individuals whose transition to employment between treatment and control groups for this sample. The ones who are in education right now were likely to be in education in the year before. Hence, we would expect that a young person who is in education is less likely to transition to employment than a young person who is not enrolled in education.

4 | IDENTIFICATION

In the empirical analysis, we first construct 2-year pseudo-panels based on survey questions for the labour market outcomes of the previous year and the current year. Household head's involuntary transition from employment to unemployment in the current year is the treatment variable. The treatment group includes the households where household head is fired or laid off in current year, whereas the control group (untreated group) includes the households where household head remains employed in current year. Then, we pool the 12-year pseudo-panels to conduct the empirical analysis and control for the survey year fixed effects on young person's probability of transitioning to employment.

We then estimate the following pooled first difference linear probability model (LPM):

$$\Delta E_{ijt} = \beta_0 + \beta_1 \Delta HE_{it} + \beta_2 X_{ij} + \beta_3 (X_{ij} * \Delta HE_{it}) + \beta_4 FE_S + \varepsilon_{ijt} \quad (1)$$

TABLE 1 Descriptive statistics of 2005–2016 pooled data set

(a)	Females				Males			
	Treated group (T)	Untreated group (U)	Difference (U-T)	p-value	Treated group (T)	Untreated group (U)	Difference (U-T)	p-value
Age group:15–24								
Young person: transitioned to employment	0.17	0.15	-0.02	0.2111	0.45	0.41	-0.04	0.0266
Education level:								
Primary or less	0.26	0.28	0.02	0.2076	0.15	0.16	0.01	0.5720
Middle school	0.34	0.40	0.06	0.0378	0.44	0.48	0.04	0.2098
High school+	0.38	0.29	-0.09	0.0001	0.40	0.35	-0.05	0.0999
Number of observations	670	1732			722	1489		
Age group:15–19								
Young person: transitioned to employment	0.14	0.13	-0.01	0.4612	0.40	0.36	-0.04	0.0490
Education level:								
Primary or less	0.19	0.26	0.07	0.0078	0.10	0.13	0.03	0.1955
Middle school+	0.79	0.71	-0.08	0.0021	0.89	0.87	-0.02	0.2272
Number of observations	448	1779			414	820		
Age group:20–24								
Young person: transitioned to employment	0.23	0.19	-0.04	0.3119	0.51	0.46	-0.05	0.1793

TABLE 1 (Continued)

(a)		Males			
Females		Treated group (T)	Untreated group (U)	Difference (U-T)	p-value
Education level:					
Primary or less	0.39	0.33	0.33	-0.06	0.1716
Middle school	0.15	0.23	0.23	0.08	0.1087
High school+	0.44	0.39	0.39	-0.05	0.5965
Number of observations	222	553			669
(b)		Males			
Females		Treated group (T)	Untreated group (U)	Difference (U-T)	p-value
Age group:15-24					
Young person: transitioned to employment	0.10	0.10	0.10	0.00	0.6223
Education level:					
Primary or less	0.13	0.17	0.17	0.04	0.0007
Middle school	0.60	0.58	0.58	-0.02	0.0275
High school+	0.26	0.23	0.23	-0.03	0.3665
Number of observations	1654	3603			1757
					3436

(Continues)

TABLE 1 (Continued)

(b)	Females				Males			
	Treated group (T)	Untreated group (U)	Difference (U-T)	p-value	Treated group (T)	Untreated group (U)	Difference (U-T)	p-value
Age group:15–19								
Young person: transitioned to employment	0.08	0.08	0.00	0.4410	0.17	0.17	0.00	0.9654
Education level: Primary or less	0.09	0.15	0.06	0.0000	0.06	0.08	0.02	0.0377
Middle school+	0.90	0.84	-0.06	0.0000	0.93	0.91	-0.02	0.0436
Number of observations	1328	2837			1340	2548		
Age group:20–24								
Young person: transitioned to employment	0.19	0.18	-0.01	0.6040	0.42	0.40	-0.02	0.2049
Education level: Primary or less	0.29	0.24	-0.05	0.3283	0.17	0.15	-0.02	0.3460
Middle School	0.15	0.20	0.05	0.2515	0.24	0.35	0.11	0.0682
High school+	0.55	0.53	-0.02	0.6096	0.58	0.49	-0.09	0.2877
Number of observations	326	766			417	888		

Note: Means of variables for treated and untreated groups are presented.

Sample: young individuals who are not in employment in previous year and who may currently be enrolled in education or not.

Treated group: includes young individuals whose household head transitioned from employment to unemployment and untreated group: includes young individuals whose household head remained employed.

In equation (1), $\Delta E_{ijt}=1$ if the j^{th} young person of the i^{th} household transitions to employment in year t and $\Delta E_{ijt}=0$ if he/she remains unemployed or inactive. We refer ΔHE_{it} as the change in the household head's employment status. The variable equals to 1 if the household head is fired or laid off and it equals to 0 if the household head continues to be employed in year t .

Our pooled sample consists of two-year first differenced pseudo panels. Hence, in each two-year first differenced pseudo panel, time invariant characteristics such as age and education fall off the equation. Although change in age is equal to a constant for each individual, education can arguably vary across the two-year panel. However, we only observe education in the current year t . Hence, from our perspective education is a constant individual characteristic in the two-year pseudo panel. Thus, we include the interaction of education with change in household head's employment status. By doing so, we can examine how young individual's response to head's change in employment status varies according to educational attainment of the youth. However, we should note that educational attainment not only affects the level of employment but also the trend of employment (over ages) especially for youth. Therefore, one would expect the employment-age profile to be much steeper for more educated. In other words, the employment level equation has education levels as well as the interaction of education levels with age. Hence, when we take the difference, education levels (from the latter element) may persist. Thus, we also include education dummies in our specification.

Therefore, the vector X is a vector of dummy variables indicating the completed education level. Regarding education dummies, *Primary or Less* equals to 1 if the respondent reports that he/she is illiterate, literate but does not have degree or he/she has primary school degree. *Middle* equals to 1 if the respondent states that he/she has middle school degree (8 years), *High* equals to 1 if the respondent has high school degree and *University+* equals to 1 if the respondent has university or higher degree. For some age group subsamples, we define the highest education level as at least middle school which is equal to 1 if individual has middle school or above degree as his/her terminal degree (age 15–19) and at least high school which is equal to 1 if individual has high school or above degree as his terminal degree (age 15–24 or age 20–24). We present results for males and females separately as male and female employment patterns are very different in Turkey. Finally, the variable FE_S refers to survey year fixed effect. Standard errors are clustered at the region (NUTS-2 Level) by survey year.

5 | RESULTS⁴

5.1 | LPM regression results

In this section, we present results from estimating our linear probability model (LPM) as we described in equation 1. [Table 2a](#) presents the LPM results for females and [Table 2b](#) presents the results for males for 15–24-years old. In each table, we separately present results obtained from the sample that only include young individuals who are not currently enrolled in education (columns 1, 2, and 3 using sample 1), and the sample that consists of the young individuals who may or may not be currently enrolled in education (columns 4, 5, and 6 using sample 2). Our data set suggest that approximately 60 per cent of young individuals aged between 15 and 24 report that they are not looking for job because they are enrolled in education. Hence, dropping these individuals from the sample (sample 1) allows us to examine the immediate impact of household's involuntary job loss on young individual's probability of transitioning from non-employment to employment. In addition, we should note that sample 2 may include potentially endogenous

TABLE 2A LPM regression results for 15–24 years old (sample: females)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enroled in education			Young person may or may not currently enroled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ HE	0.0324 (0.0237)	−0.0680*** (0.0239)	−0.0106 (0.0245)	0.00150 (0.0128)	−0.0304 (0.0215)	−0.0103 (0.0233)
Middle school			0.0632*** (0.0225)			−0.00437 (0.0146)
Δ HE*middle school		0.0376 (0.0250)	−0.0249 (0.0336)		−0.0151 (0.0205)	−0.0113 (0.0242)
High school+			0.117*** (0.0245)			0.0947*** (0.0191)
Δ HE*high school+		0.229*** (0.0399)	0.112** (0.0464)		0.159*** (0.0310)	0.0640* (0.0369)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2402	2402	2402	5257	5257	5257
R-squared	0.015	0.042	0.052	0.006	0.029	0.040

variable because household head's job loss may affect the young individual's education enrolment as well.⁵ For instance, if the parent involuntarily loses his/her job, the child is more likely to repeat the grade (Stevens and Schaller, 2011) or the child's GPA statistically significantly decreases (Rege et al. 2011). Therefore, having poor school performance may lead the child to drop out from education.

We first consider results for females (Table 2a). The first column only includes change in head's employment status as an explanatory variable. We observe that the coefficient is positive though not statistically significant. Column 2 includes change in head's employment status and its interaction with middle school and high school or above dummy variables, and survey year fixed effects. In column 3, we include the individual's level of completed schooling (dummy variables). The results show that females with less than a middle school degree are 2.5 percentage points less likely to transition to employment in response to head's job loss as the coefficient on change in head's status variable indicates. Nevertheless, the effect is statistically insignificant. However, females who have at least high school degree are statistically significantly more likely to transition to employment as both the coefficients of related education dummy and the interaction variable indicate. For instance, female's probability of transitioning to employment increases by 11.2 percentage points if she has high school degree or above compared with a female with less than a middle school degree. Hence, a female with at least a high school degree who is in treatment group (head lost job) is 8.7 ($-2.5+11.2 = 8.7$) percentage points more likely to transition to employment than a similar female in the control group (head did not lose job). In other words, a female with at least high school degree is 8.7 percentage points more likely to transition to employment when head experiences job loss. Wald test of composite linear hypothesis results suggest that the two specified pairwise sum of coefficients is different from zero (p -value = 0). Therefore, a young female with at least high school degree is statistically significantly more likely to transition to employment from unemployment or inactivity as a result of head's job loss.

TABLE 2B LPM regression results for 15–24 years old (sample: males)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enroled in education			Young person may or may not currently enroled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ HE	0.0453*	0.0571	0.0549	0.00239	0.113**	0.0311
	(0.0258)	(0.0692)	(0.0693)	(0.0139)	(0.0558)	(0.0567)
Middle school			0.0287			−0.120***
			(0.0486)			(0.0358)
Δ HE*middle school		0.0102	−0.0173		−0.159**	−0.0417
		(0.0704)	(0.0750)		(0.0624)	(0.0616)
High school+			−0.0430			−0.0270
			(0.0487)			(0.0362)
Δ HE*high school+		−0.0407	0.00272		−0.0355	−0.0103
		(0.0725)	(0.0768)		(0.0535)	(0.0604)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2211	2211	2211	5193	5193	5193
R-squared	0.012	0.013	0.016	0.008	0.017	0.025

Notes: The pooled sample includes young individuals (aged between 15 and 24) who are not in employment in the previous year. *Transitioned to Employment* is equal to one if the young individual is currently employed and equal to zero if not. In column 2, we include the interaction of household's head transition to unemployment young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

Hence, we can say that, for females, higher levels of education lead to higher probability of being employed in Turkey in response to the household head's unemployment shock. In our sample, the highest employment rates belong to young individuals who have university or higher degree (59.11%). This is most probably because employers prefer higher educated individuals when they hire worker (Wolbers, 2000). Therefore, we may conclude females with higher levels of education can find job easier than their less-educated contemporaries. Another possibility is that more educated women are more sensitive to household head's unexpected job loss in terms of reservation wage. In other words, in response to the job loss of the parent, educated young female experiences higher drop in her reservation wage compared with her less-educated contemporaries.⁶

The results obtained from sample 2 are similar with slightly lower coefficients. Because this sample also includes young females who are in education, it is expected that employment response of these individuals will be lower in response to head's job loss, as these individuals are already in education and opportunity cost of working will be higher for them. Hence, LPM regression results show that females who have already completed their education are more likely to transition to employment due to unexpected job loss of the household head.

We next consider the results for males (Table 2b). Once again columns 1, 2, and 3 use sample 1 (those who are currently not enroled in education), and columns 4, 5, and 6 use sample 2 (includes all young males). Column 1 only includes head's change in employment status as an explanatory variable. We observe that the coefficient on this variable is positive and statistically significant at 10 per cent. Hence, an average male aged 15–24 years old is more likely to transition

to employment when head's employment status changes from employment to unemployment. In column 2, we include change in head's status and its interaction with education variables, and in column 3, we also include education dummies by themselves. We do not find that having higher levels of education has any effect on young male's transition to employment. This result is in sharp contrast to our results for females. We get similar results for males when we use sample 2. However, in this sample, when we only include change in head's status as an explanatory variable, the coefficient on this variable though positive is no longer statistically significant. Once again, this is expected, sample 2 includes those who are enrolled in education as well as those who are not and hence those who are in education are expected to have lower rates of transitioning to employment in response to head's job loss as their opportunity cost of work is higher.

Next, [Tables 3a and 3b](#) present the coefficients obtained from LPM results for 15–19-year-old females and males, respectively. In these tables, we only include middle school or above as the education dummy variable to be interacted with head's change in employment status together with middle school or above education dummy, the age group includes those who are too young to graduate from high school. [Table 3a](#) indicates that females who have at least middle school degree are more likely to transition to employment as a result of head's involuntary unemployment compared with someone with less than middle school degree; however, the coefficient is statistically insignificant. Nevertheless, we find that having at least middle school degree increases the young female's probability of transitioning to employment, independent of the household head's job loss ([Table 3a](#), column 3). More specifically, a female aged 15–19, with at least a middle school degree is 4.8 percentage points more likely to transition to employment than a female with less than middle school degree (column 3). When we use sample 2 that includes females who are enrolled in education, we no longer get statistically significant results.

In [Table 3b](#), we consider results for 15–19-year-old males. In column 1, we observe that an average male is more likely to transition to employment in response to head's job loss though this effect is not statistically significant. Once again, we do not observe any differential results according to different levels of education for males.

[Tables 4a and 4b](#) present results for 20–24-year-old females and males, respectively. Similar to the findings provided in [Table 2a](#), we observe that females with less than middle school degree are 5.72 percentage points less likely to transition to employment in response to head job loss,

TABLE 3A LPM regression results for 15–19 years old (sample: females)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enrolled in education			Young person may or may not currently enrolled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ HE	0.0187 (0.0247)	−0.0532 (0.0495)	−0.0187 (0.0477)	0.000961 (0.0110)	−0.0241 (0.0403)	−0.0248 (0.0407)
Middle school+			0.0488** (0.0219)			−0.000920 (0.0165)
Δ HE*middle school+		0.0903** (0.0441)	0.0416 (0.0449)		0.0277 (0.0388)	0.0286 (0.0398)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1627	1627	1627	4165	4165	4165
R-squared	0.016	0.020	0.023	0.005	0.005	0.005

TABLE 3B LPM regression results for 15–19 years old (sample: males)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enroled in education			Young person may or may not currently enroled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ HE	0.0433 (0.0391)	0.0352 (0.102)	0.110 (0.110)	0.00613 (0.0175)	0.0703 (0.0539)	0.0583 (0.0648)
Middle school+			0.0868 (0.0531)			-0.0132 (0.0300)
Δ HE*middle school+		0.00904 (0.0939)	-0.0772 (0.110)		-0.0687 (0.0507)	-0.0555 (0.0641)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1234	1234	1234	3888	3888	3888
R-squared	0.011	0.011	0.013	0.008	0.008	0.008

Notes: The pooled sample includes young individuals (aged between 15 and 19) who are not in employment in the previous year. *Transitioned to Employment* is equal to one if the young individual is currently employed and equal to zero if not. In column 2, we include the interaction of household's head transition to unemployment young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

TABLE 4A LPM regression results for 20–24 years old (sample: females)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enroled in education			Young person may or may not currently enroled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ HE	0.0488 (0.0395)	-0.110*** (0.0262)	-0.00595 (0.0262)	0.00797 (0.0309)	-0.0937*** (0.0267)	-0.00407 (0.0286)
Middle school			0.150*** (0.0497)			0.124*** (0.0475)
Δ HE*middle school		0.0829 (0.0718)	-0.0572 (0.0821)		0.0485 (0.0620)	-0.0690 (0.0711)
High school+			0.202*** (0.0398)			0.137*** (0.0325)
Δ HE*high school+		0.331*** (0.0662)	0.139* (0.0768)		0.171*** (0.0595)	0.0388 (0.0659)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	775	775	775	1092	1092	1092
R-squared	0.028	0.079	0.108	0.019	0.033	0.047

whereas females with at least high school degree are 13.9 percentage points more likely to transition to employment in response to head's job loss compared with those with less than middle school degree (column 3). Hence, females with at least high school degree are 8.18 (13.9–5.72

TABLE 4B LPM regression results for 20–24 years old (sample: males)

Dependent variable: transitioned to employment						
Variables	Young person is not currently enroled in education			Young person may or may not currently enroled in education		
	(1)	(2)	(3)	(4)	(5)	(6)
ΔHE	0.0529 (0.0361)	0.0615 (0.0717)	0.00874 (0.0823)	0.0240 (0.0334)	0.0839 (0.0722)	-0.0203 (0.0847)
Middle school			-0.0725 (0.0759)			-0.0677 (0.0684)
ΔHE *middle school		-0.0422 (0.104)	0.0242 (0.122)		-0.0313 (0.102)	0.0298 (0.120)
High school+			-0.0729 (0.0708)			-0.177*** (0.0649)
ΔHE *high school+		0.00659 (0.0844)	0.0736 (0.105)		-0.0906 (0.0742)	0.0799 (0.0968)
Survey year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	977	977	977	1305	1305	1305
R-squared	0.032	0.033	0.035	0.021	0.023	0.035

Notes: The pooled sample includes young individuals (aged between 20 and 24) who are not in employment in the previous year. *Transitioned to Employment* is equal to one if the young individual is currently employed and equal to zero if not. In column 2, we include the interaction of household's head transition to unemployment young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

= 8.18) percentage points more likely to transition to employment when head's status changes from employment to involuntary unemployment. Once again, we get similar results when we use sample 2, in terms of signs and significance of regression coefficients.

When we consider results for 20–24-year-old males, we get a positive but statistically insignificant coefficient on head's change in employment status (column 1) and statistically insignificant coefficients on its interaction with education variables (column 3).

5.2 | Alternative specifications

In this section, we extend the aforementioned results by defining new transition variables and replicate the estimation of equation (1) for individuals between 15 and 24 years old. In the first extension, we define $\Delta E_{ijt} = -1$ for young individual employed in the previous period and he/she is fired or laid off in this period and $\Delta E_{ijt} = 0$ for those who keep their jobs. In this specification, our objective is to see whether the child keeps his/her job as a result of the household head's unexpected job loss. Ordinary Least Squares (OLS) estimation results are presented in Tables 5a and 5b. For both genders, we observe that the young individual is also more likely to lose his/her job when the household head experiences an unexpected job loss. Therefore, we cannot state that the young individual is more likely to keep his/her job when the household head loses his/her job. However, when we include interaction terms with education variables into the model, we find that females whose household head is fired or laid off are 15.7 per cent more likely to keep

TABLE 5A OLS Regression results for 15–24 years old (sample: females)

Variables	Dependent variable: transitioning from employment					
	(1)	(2)	(3)	(4)	(5)	(6)
	Young person is not currently enrolled in education			Young person may continue education or not		
Δ HE	-0.069*** (0.0252)	-0.159*** (0.0582)	-0.168*** (0.0574)	-0.062*** (0.002)	-0.158*** (0.0601)	-0.169*** (0.0581)
Middle school			-0.00727 (0.0263)			-0.0151 (0.0249)
Δ HE*middle school		0.113 (0.0865)	0.121 (0.0869)		0.0782 (0.0848)	0.0931 (0.0801)
High school+			-0.0172 (0.0253)			-0.0156 (0.0243)
Δ HE*high school+		0.140 (0.0850)	0.157* (0.0833)		0.162** (0.0716)	0.178** (0.0713)
Survey year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	624	624	624	806	806	806
R-squared	0.042	0.064	0.064	0.049	0.076	0.076

TABLE 5B OLS regression results for 15–24 years old (sample: males)

Dependent variable: transitioning from employment						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Young Person is not currently enrolled in education		Young Person may continue education or not			
Δ HHE	-0.057*** (0.02)	-0.082** (0.083)	-0.0711* (0.0404)	-0.056*** (0.02)	-0.0758* (0.0402)	-0.0699* (0.0413)
Middle School			0.00474 (0.0195)			-0.000547 (0.0195)
Δ HHE*middle school		0.0363 (0.039)	0.0313 (0.0426)		0.0151 (0.0395)	0.0153 (0.0436)
High school+			0.0436** (0.0217)			0.0271 (0.0207)
Δ HHE*high school+		0.0235 (0.0578)	-0.0205 (0.0605)		0.0498 (0.0471)	0.0224 (0.0507)
Survey year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1436	1436	1436	1756	1756	1756
R-squared	0.027	0.028	0.030	0.036	0.037	0.039

Notes: The pooled sample includes young individuals (aged between 15 and 24) who are in employment in the previous year. *Transitioned from Employment* is equal to -1 if the young individual lost his/her job in current period and equal to 0 if he/she keeps his/her job. In column 2, we include interaction of household's head transition to unemployment and young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

their jobs if they have higher levels of education. For males whose household head loses his/her job, having higher levels of education does not statistically significantly affect the probability of keeping the existing job. Thus, the findings of both the original and the extended version of the model show that education level is important determinant of young female's employment status in response to the job loss of the household head.

In the second extension, we replicate the estimation of by considering all the parents and define the key variable of interest (ΔHU_{it}) as 0 if the parent is not employed in both periods, and -1 if the parent finds a job in the second period. In other words, the variable ΔHU_{it} shows household head's transition to employment from non-employment. In this specification, our objective is to examine the behaviour of the young person whose parent is non-employed in the previous period and finds a job in current period. By doing so, we aim to generalize our previous findings to the full sample. Estimated coefficients from LPM are presented in [Tables 6a and 6b](#). The results are in line with our previous findings, as, for females who are non-employed in the previous period, are approximately 6 per cent less likely to transition to employment in current period. However, females who have at least high school degree are 2 per cent more likely to transition to employment even though their parents find job. Likewise, males who are non-employed in the previous period are 10 percentage points less likely to transition to employment in current period and his education level does not statistically significantly affect his probability of transitioning to employment.

In the third extension, we estimate additional linear probability models where the dependent variable shows the job quality. Here, our objective is to see whether the results we obtain is driven by high expectations (or reservation wages) or it is an added worker effect (the individual whose household head experiences a job loss transitions to low quality job). We determine the job quality by using the following algorithm: First, we determine whether the individual earns high or low wage if he/she transitions to employment in the current period. We assume that the individual earns high wage if his/her wage is above the minimum wage stated by law. Likewise, we assume that the individual earns low wage if the wage equals to or is less than the minimum wage. Second, we determine whether the individual is underemployed or not. If the individual states that he/she wants to work for more hours if he/she has chance, then he/she is referred as underemployed. Finally, we conclude that if the individual earns low wage, or if he/she is underemployed, then we define his/her job as *low-quality job*. Similarly, if the individual earns high wage or he/she is satisfied with the job hours, then we define the job as *high-quality job*. Then, we estimate two LPM models. In the first model, the dependent variable equals to 1 if the individual transitions to low-quality job and 0 if he/she transitions to high-quality job or remains non-employed, whereas in the second model the dependent variable equals to 1 if the individual transitions to high-quality job, and 0 if he/she transitions to low-quality job or remains non-employed.

[Table 7](#) shows that higher levels of education increase the females' probability of transitioning from non-employment to low quality employment as a result of household head's job loss compared with the probability of remaining non-employed or transitioning to high quality employment. In contrast, we observe that higher levels of education do not increase the female's probability of transitioning to high quality employment in response to household head's job loss compared with staying non-employed or transitioning to low quality employment. Therefore, for females, we conclude that education facilitates transition to low quality employment in response to head's job loss rather than high quality employment. This evidence suggests that females with high levels of education drop their job quality expectations and transition to low quality employment in response to head's job loss. In other words, if the household head has unexpected job loss, females with higher levels of education are more

TABLE 6 A LPM regression results for 15–24 years old (sample: females)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Young person is not currently enrolled in education			Young person may continue education or not		
ΔHU	-0.071*** (0.006)	-0.0119 (0.0122)	-0.0660*** (0.0115)	-0.035*** (0.004)	-0.0289*** (0.0102)	-0.0592*** (0.0101)
Middle school			0.0337*** (0.00506)			-0.00396 (0.00427)
ΔHU *middle school		-0.0707*** (0.0152)	-0.0377** (0.0163)		0.0237** (0.0111)	0.0202* (0.0113)
High school+			0.123*** (0.00672)			0.0898*** (0.00493)
ΔHU *high school+		-0.0986*** (0.0153)	0.0235 (0.0158)		-0.0678*** (0.0124)	0.0223* (0.0131)
Survey year fixed effects			Yes			Yes
Observations	53,844	53,844	53,844	98,802	98,802	98,802
R-squared	0.009	0.012	0.034	0.003	0.007	0.026

TABLE 6 B LPM regression results for 15–24 years old (sample: males)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Young person is not currently enrolled in education			Young person may continue education or not		
ΔHU	-0.103*** (0.0104)	-0.0705*** (0.0180)	-0.100*** (0.0191)	-0.04*** (0.006)	-0.101*** (0.0145)	-0.0628*** (0.0161)
Middle school			0.0857*** (0.00896)			-0.0643*** (0.00914)
ΔHU *middle school		-0.103*** (0.0201)	-0.0205 (0.0223)		0.0943*** (0.0156)	0.0316** (0.0159)
High school+			0.00280 (0.0105)			-0.0214** (0.0102)
ΔHU *high school+		0.0230 (0.0211)	0.0241 (0.0225)		0.0230 (0.0211)	-0.00108 (0.0200)
Survey year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,551	48,551	48,551	96,441	96,441	96,441
R-squared	0.013	0.016	0.021	0.003	0.005	0.009

Notes: The pooled sample includes young individuals (aged between 15 and 24) who are not in employment in the previous year. *Transitioned to Employment* is equal to one if the young individual is currently employed and equal to zero if not. The key variable of interest ΔHU_{it} shows household head's transition to employment from non-employment. In column 2, we include interaction of household's head transition to employment and young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

TABLE 7 LPM regression results for 15–24 years old (sample: females who are not currently enrolled in education)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable equals to 1 if the young female transitions to low quality job, 0 if young female remains non-employed or transitions to high quality job			Dependent variable equals to 1 if the young female transitions to high quality job, 0 if young female remains non-employed or transitions to low quality job		
Δ HE	0.0200 (0.0157)	−0.0105 (0.0162)	−0.00354 (0.0221)	0.00952 (0.0141)	0.00296 (0.0159)	0.00774 (0.0172)
Middle school			0.000384 (0.0132)			−0.0217** (0.0104)
Δ HE*middle school		0.0449** (0.0193)	0.0444* (0.0232)		−0.0119 (0.0139)	0.00932 (0.0171)
High school+			0.0234** (0.0113)			0.0438** (0.0177)
Δ HE*high school+		0.0402** (0.0196)	0.0167 (0.0240)		0.0272 (0.0253)	−0.0169 (0.0328)
Survey year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3250	3250	3250	3250	3250	3250
R-squared	0.150	0.153	0.154	0.008	0.010	0.021

Note: The pooled sample includes young females (aged between 15 and 24) who are not in employment in the previous year and who are not currently enrolled in education. In column 2, we include the interaction of household's head transition to unemployment young individual's completed education level. In column 3, we also include education dummies. All regressions include a constant term and survey year fixed effects. Standard errors are clustered at the region (NUTS-2 level) by survey year. ***1%, **5%, and *10% level of significance.

likely to accept low quality jobs, with respect to the alternative of being in high quality job or remaining to be non-employed. This finding also points out the dominance of added worker effect among females with higher levels of education. Similar to our previous findings, education level does not statistically significantly affect the probability of transitioning to low- or high-quality job for males. We present the regression results for females only. The results for males are available upon request.

6 | CONCLUSION

This article analyses the effect of household head's involuntary job loss on the probability of transitioning from non-employment to employment for young individuals aged 15–24 according to gender and education levels of the youth. We construct 12-year pseudo-panels based on current and retrospective questions from the 2005–2016 Turkish Household Labor Force Surveys regarding the employment status of household head and young persons in the household. We estimate a linear probability model where we regress the change in youth's non-employment status (from non-employment to employment) on change in head's employment

status and interaction of the change in head's employment status with youth's education level. The first differencing in our model controls for individual fixed effects and thereby removes the effect of unobserved individual characteristics such as ability and values that might affect transition probabilities.

Our results show that responses to involuntary job loss of the household head vary by both gender and education levels of the youth as we hypothesize. When we consider the effect of head's change in employment status from employment to unemployment on an average individual, we find a positive but statistically insignificant effect for females and positive and statistically significant effect for males. When we include interaction terms with education variables a more nuanced and interesting picture emerges. A female with at least a high school degree is about 8.7 percentage points more likely to be in employment in the treatment group where the head experienced an unexpected job loss than a similar female in the control group where the head remained employed and transition probabilities of females increase with education levels. However, we do not find any differential effects according to education levels for men. Extended versions of the original model also point out the fact that females with higher education levels are more likely to keep their jobs in response to involuntary job loss of the household head. Similarly, more educated females are more likely to transition to employment even if the non-employed household head finds a job. Therefore, education level plays an important role for young female's employment status. However, extended versions of the model also show that for females, education facilitates transition to low quality employment in response to head's job loss rather than high quality employment. Hence, we conclude that females with high levels of education give up their job superiority expectations and transition from non-employment to low quality employment as a result of involuntary job loss of the household head.

In almost all OECD countries neither in employment, education, nor training (NEET) rates are higher for young women than for young men. In Turkey, NEET rates are about 25 percentage points higher for females than for males. (OECD, 2019). Our results point out that high wage and job quality expectations might be an important factor in high inactivity rates of educated young women. These expectations might be particularly binding in socially conservative societies and form a barrier to entry into the labour market. In Turkey, a socially conservative country, it is not a coincidence that women dominate health and education fields at the tertiary level government is the primary employer in these fields and public sector jobs are considered to be higher quality in terms of working hour and conditions (Caner et al. 2019).

It is important to note that our analyses are conducted for the short-term, as it only reflects the impact of unexpected unemployment of the household head on young individual's probability of transition to employment. It is still an open question whether the young individual will remain as employed in the long run.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

ETHICAL APPROVAL

For the empirical analysis, the authors used 2005–2016 rounds of Turkish Household Labor Force Survey Data set prepared by Turkish Statistical Institute (TURKSTAT). The data set was requested from TURKSTAT and the institute allowed the authors to use the data set to conduct this research.

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ENDNOTES

- ¹ In this article, we also check whether AWE or DWE dominate the transition to employment decision of young individuals in Turkey by examining the crisis year, 2009. The finding is discussed in footnote 7.
- ² In the pooled THLFS data set, 12.02 per cent of women and 87.98 per cent of men refer themselves as household head.
- ³ However, we should note that using involuntary job loss of the household head may not circumvent the endogeneity problem because household head's effort level and attitude in workplace may cause him/her to be fired or laid off (Karaoğlan and Okten, 2015). In addition, being fired may not be exogenous with respect to children's employability if it comes from unobservables that are shared at the household level, such as innate inheritable ability and work ethic taught by parents.
- ⁴ For all the tables in this section, Source: Authors' calculations based on data from 2005 to 2016 pooled Turkish Household Labor Force Surveys.
- ⁵ We should note that currently being in education is not an exclusive status, i.e., some of these individuals might be working while studying. Nevertheless, in our sample, 83.62 per cent of young individuals who are currently enrolled in education are not employed. Because the majority of the sample includes individuals who are enrolled in education, but not employed, we can say that the results obtained from sample 2 are robust.
- ⁶ Our results essentially remain the same when we restrict our analysis of crisis year 2009 and we do not find any evidence for discouraged worker effect. In addition, our results indicate that AWE is dominant for females with higher levels of education in recession because they can find job easier than their illiterate or primary school graduate peers. The results are available upon request.

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