China's Youth in NEET (Not in Education, Employment, or Training): Evidence from a National Survey

By
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This study aims to understand the prevalence and characteristics of individuals aged 16 to 35 who are not in education, employment, or training (NEET) and the risk factors associated with being in NEET in China. The analysis uses the 2012 China Labor-Force Dynamics Survey to show that the NEET rate was 8 percent during the study period. Multilevel logistic regression indicates that women were more likely to be in NEET. Married women and female migrants had significantly higher risks of being in NEET, with migration having opposite effects for men and women. Education had protective effects against being in NEET, especially for women. Age had a nonlinear effect, with individuals aged 22 to 25 at the highest risk of being in NEET. I discuss implications for public policy and directions for future studies on NEET in China.

Keywords: youth; young adults; NEET; migration; marriage; gender; China

Since the early 1990s, there has been a dramatic decline in labor market participation, reflected by a decrease in the number of those who are either employed or unemployed but actively searching for jobs, among young people around the world. The participation rate has dropped from 59 percent in 1991 to 47 percent in 2014 (International Labour Organization 2015). During the same period, this decline in youth employment has been severe in East Asia, where the proportion of youth who are employed dropped from 76 percent to 55 percent. The labor market transition in China has contributed substantially to this regional change due to its large young population. On one hand, educational attainment among Chinese youth has increased dramatically in the past two decades, which

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DOI: 10.1177/0002716220909807

contributed to the decline of labor market participation of the young population. On the other hand, since 2012, China has lost its demographic dividend due to rapidly declining fertility since the 1970s.

Most studies on youth and labor focus on youth aged 15 to 24 (International Labour Organization 2016b), but there may now be a need to increase the upper age, such as to 29, due to the increase in years of education (International Labour Organization 2015). This implies that the transition to adulthood has been prolonged as well, and these changes apply to the youth and young population in China, too. Thus, a longer age span of 16 to 35 should be considered when studying the transition to adulthood because 16 is the legal age for working in China, and the majority of Chinese complete their transition to adulthood by age 35—that is, they finish education, join the labor market, get married, and have children.

Little is known about the youth population's employment status after they finish education in China. Current literature on youth and labor mainly focuses on issues of unemployment (Bai 2006; Schucher 2014). Based on the Minicensus-2005, Schucher (2014) estimated that the youth (16 to 24 years old) unemployment rate was about 9.48 percent in the urban areas in China. He further estimated, based on the 2010 Chinese Census data, that youth unemployment constituted one-third of total unemployment. However, this approach may underestimate the challenges that young people experience in the labor market. The conventional definition of the youth unemployment rate is the proportion of youth aged 15 to 24 who are unemployed, including those who are actively looking for jobs but have not secured a position. This definition does not differentiate between people who are active in the labor market but temporarily unemployed and those who withdraw themselves from the labor market and thus are not working for potentially longer periods of time. It also fails to take into account the growing proportion of people in this age group who are still enrolled in education programs (International Labour Organization 2015).

The group of young people who are not in education, employment, or training (NEET) deserves attention, as the NEET status exemplifies the vulnerability and challenges that this group face, such as "unemployment, early school leaving, and labor market discouragement" (International Labour Organization 2016b). Due to lack of data, the global NEET trend is unclear, but there are large regional differences (International Labour Organization 2006, 2012). The global NEET rate is estimated to be about 21.8 percent among young people with a much higher rate for females (34.4 percent) than males (9.8 percent; International Labour Organization 2017).

Understanding the challenges of the NEET group is important because at the individual level the NEET experience has a significant negative impact on one's transition to adulthood, in terms of joining the labor market, getting married, and having children; and on one's overall well-being (Henderson, Hawke, and Chaim 2017; Kosugi 2005). The high share of young people in NEET may have a negative influence on maintaining a sustainable and inclusive economy (International Labour Organization 2017). Although NEET is an important phenomenon in many transitioning societies, we know little about it. It is a neglected topic in China, largely due to data limitations.

The China Labor-Force Dynamics Survey (CLDS) is the first nationally representative panel study aimed at understanding the rapidly changing labor force in contemporary China (J. Wang, Zhou, and Liu 2017). Only the 2012 wave in the dataset was available at the time that this study was conducted. The 2012 wave included a sufficient number of respondents at young ages and had information that this study could use to examine their NEET status. Both factors were rarely available in other datasets. Using the 2012 CLDS, this study focuses on gaining an understanding of the social and demographic characteristics associated with being in NEET for individuals aged 16 to 35 in China from January 2011 to July/August 2012. The NEET group includes unemployed nonstudents who are considered economically active, that is, those actively looking for a job but cannot find one; and the discouraged jobless and economically inactive people, that is, nonstudents who have stopped looking for jobs (Elder 2015).

Understanding the Importance of NEET in China

The term *NEET* was first introduced by the UK government as part of its social exclusion framework to create awareness of marginalized social groups (Bynner and Parsons 2002; Social Exclusion Unit 1999; Thompson 2011). Although a relatively new concept, it has gained significant popularity in this age of rapid labor market transition, as it adequately depicts the increasing number of economically inactive young people globally who are not participating in the labor market.

In East Asia, most of the studies on NEET youth and young adults focus on Japan. They are "jobless single people" aged 15 to 34 who are "nonseekers" or "discouraged" from seeking jobs (Genda 2005). The main reasons for the increasing number of young adults in NEET in Japan are social rather than individual. The NEET issue is salient in Japan partially because of the shrinking job market there since the 1990s when the Japanese bubble economy collapsed. Around the same time a large number of young adults (children of the Baby Boomer generation) reached the age at which they could enter the labor force (Kosugi 2005, 2006). Moreover, low education levels, such as having completed only junior high school and high school, are found to be associated with being in NEET for Japanese young adults (Genda 2005). This is due to the mismatch between education and labor needs. Further, an increasing proportion of NEET young adults come from disadvantaged groups, such as low-income families or less-developed regions of the country (Genda 2005). Since Japanese companies have traditionally provided tenured jobs, they still often prefer recent graduates or well-trained employees who have full-time job experience. However, the current socioeconomic and education structures in Japan do not provide enough support for young people with low levels of education and from less privileged families to find a job, which perpetuates the NEET issue in Japan.

The dramatic decline of youth labor force participation in East Asia is not merely due to the worsening economic situation in Japan. China, a country with a large youth population, may have had some role to play, but little is known about the changing predicaments of the youth population in China. Past studies on the labor market in relation to youth and young adults in China have mainly focused on urban unemployment (Knight and Xue 2006; Schucher 2017).

China started its college expansion in 1998 with a soaring number of graduates completing tertiary education. However, job supply consistently lagged behind this rapid expansion of higher education, which made it hard for college graduates to find jobs matching their skills and career expectations (Bai 2006; Li, Whalley, and Xing 2014). L. Wang (2013) found that the youth unemployment rate was the highest for the age group 20 to 24. Adults with diploma degrees had the highest unemployment rate at 5.7 percent, followed by high school (5.68 percent) and tertiary degree (4 percent). Studies based on the 2000 Chinese Census show different findings. Zhan (2004) found that the highest unemployment rate occurred for women with high school and technical secondary/polytechnic education. While young people faced a higher risk of being unemployed compared to adults, higher educational levels, especially having tertiary education, have prevented unemployment for urbanites (Zhang 2004).

Hypotheses

The statistics above do not accurately depict inactive young people. The 2010 Census data indicate that the share of economically inactive adults aged 16 to 34 (including those in school) was 26.89 percent (Population Census Office 2011). The first hypothesis of this study, therefore, deals with the entire youth population and derives from human capital theory, which suggests that high educational attainment could empower individuals to secure a better job in the market (Becker 2009):

H1: Individuals with better educational attainment have lower risks of being in NEET.

Next, I turn my attention to gender disparities in labor market participation and unemployment. China shows a reversed pattern in terms of female labor force participation, compared to the global and East Asian trends. In East Asia, there has been a significant increase in the share of waged female employment from 26.3 percent in 1995 to 55.3 in 2015, and a reduction in unpaid family work, with percent share decreasing from 53.4 to 11.6 percent in the same period (International Labour Organization 2016a). However, in China, gender inequality in the labor market has risen, partially due to the fact that female labor force participation has dropped from 73.5 percent in 1990 to 63.7 percent in 2014 (World Bank 2015). However, to date, few empirical studies have shed light on this phenomenon. Moreover, the existing literature shows inconsistent findings on the reasons for the decline in female labor force participation. While some studies have reported that gender discrimination existed in various forms in the labor market during the economic reform era that started in 1979 (Dasgupta, Matsumoto, and Xia 2015; C. Wang and Yu 2013), others have rejected this claim (Zhang 2004).

This increasing gender inequality in the labor market may also imply that the traditional notions of gendered labor still play a critical role in determining the

low labor force participation for young women, specifically the expectation that women should continue to perform domestic duties. According to the 2000 Chinese Census, the unemployment rate was high among single women aged 24 to 30 (Zhan 2004). In cities, women aged 25 to 34 had substantially higher unemployment rates than men in the same age groups, and 73 percent of the women aged 30 to 34 reported that the main reason they were not in the labor market was to take care of the home (Zhan 2004). The 2010 census showed that the gender gap in labor force participation among youth aged 16 to 24 was much lower than that for adults. Specifically, labor force participation was 59.6 percent for male youth and 55.1 percent for female youth versus 93.7 percent for male adults and 77.2 percent for female adults (Schucher 2014).

The second and third hypotheses of this study are:

H2: Women are more likely to be in NEET compared to their male counterparts.
H3: Married women have the highest risk of being in NEET.

Another body of literature has focused on migration and employment. The household registration system (*hukou*) in China is strongly associated with education and job resources between the rural and urban residents, which has triggered large internal migration. Young people migrate to cities to work for better-paid jobs. However, it is possible that they will not find a suitable job in the cities. Based on the 2010 census, the labor force participation rate was higher in rural areas than in the cities for youth. For people aged 16 to 19, the rural labor force participation rate was 18.4 percent higher than their urban counterparts, and it was 18 percent higher for the age group of 20 to 24 (L. Wang 2013). Studies also found gender differences for migrants and their work status (Niu 2013; Zheng 2013). Zheng (2013) found that until the early 2000s, migrants were highly concentrated among the 20 to 24 age group for both genders, although more men than women were migrant workers. The 2010 census showed a more balanced gender structure among young migrants aged 15 to 24 in terms of migrant age and patterns compared to the 2000 and 2005 censuses. Married women and women with lower education tended to migrate to destinations that were farther from their hometown perhaps due to competition for jobs and domestic duties at home (Niu 2013).

The fourth and fifth hypotheses are:

H4: Migrant women are at the highest risk of being in NEET compared to other groups.
H5: Education plays a more significant role in reducing NEET risks for women than for men.

Data and Methods

This study uses data from the 2012 CLDS, which covers twenty-nine provinces in China. Using probability-proportional-to-size sampling, it is a nationally

representative dataset (J. Wang, Zhou, and Liu 2017) focusing on the labor force participation of those aged 15 and above, with a sample size of 16,252, among which 4,978 individuals are aged 16 to 35. The CLDS comprises an individual dataset and a family dataset. I extract the variable of marital status from the family dataset and merge it with the individual dataset based on individual ID. The unit of analysis is the individual youth and young adult.

It is challenging to measure NEET because it refers to a stage rather than an event. Therefore, the measurement of NEET should cover a certain time period. However, there is no clear reference in the literature to help operationalize how long an individual must remain in NEET to be classified as being in NEET. In this study, NEET is operationalized using the strategy described below.

Since the data do not provide information on the starting and ending point of NEET, the time span for the variables related to NEET status in this study is January 2011 to July/August 2012 (the month that the survey was conducted). NEET is measured based on whether a person has (1) never worked, (2) left school (the nine-year compulsory education, high school/education polytechnic school, or tertiary education), and (3) never received skill training longer than five days "in the past two years." The NEET status is recorded as a dichotomous variable with "ever in education, work, or training during the period studied" (referred to as "not in NEET") as the reference group and "always in NEET during the period studied" (referred to as "always in NEET").

The questionnaire asks respondents the reason for leaving their previous job. For those who were always in NEET during the period of study, 77.2 percent left the previous job due to family and 22.8 percent did so due to other reasons. The data also show a strong gender difference, with 82.61 percent of the females in NEET having left their previous job due to family, while for males in NEET, it was 68.29 percent. It would be good if this study could further differentiate people who are in NEET due to family-related reasons, because women are much more likely to leave a paid job and become a homemaker. This group should not necessarily be considered in NEET, although they fall into the definition of NEET per the literature. However, in this dataset, only eighty-eight cases were always in NEET if I consider "left the previous job due to non-family-related reasons" as non-NEET. It is too small to categorize it as part of the NEET group. Therefore, this study does not further differentiate this specific group in the analysis.

The independent variables in the model include demographic characteristics such as age, gender, ethnicity (Han versus non-Han), hukou at birth (rural versus urban), education level (illiterate and primary = 0; junior middle school = 1; senior middle school, vocational school, polytechnic = 2; tertiary education = 3), and marital status. To examine the potentially nonlinear age effect, I recode the sample into four age groups: 16 to 21 as the reference group, together with age groups 22 to 25, 26 to 29, and 30 to 35. These age groups represent different phases of the respondents' life: 16 to 21 receiving education, 22 to 25 finishing education and entering the labor market, 26 to 29 establishing a family, and 30 to 35 completing the transition to adulthood.

This study also includes socioeconomic status and other personal characteristics as controls, such as region of birth (east as the reference group, versus

northeast, central, and west China), father's education level, respondent's Party membership, and family income. As the literature reviewed above shows, migration seems to be an important factor for labor market participation, especially for rural youth. This study includes migration status in the analyses. A dummy variable was constructed based on whether the respondent left hukou origin for more than half a year (considered as migrants). This study applies a logistic regression model for the first stage of the analysis.

Moreover, since NEET status may also be affected by higher-level structural variables, such as the level of socioeconomic development, in addition to individual and family characteristics, this study includes average family income and average education level at the municipal level as higher-level controls in the multilevel regressions. It assumes that the cities with better economic development (higher family income as a proxy) would provide more job opportunities, while cities with more educational resources would have greater competition among job applicants.

This study also includes in its analysis the interactions of gender with marital status and gender with migration status to better understand whether migration and marriage are associated with being in NEET for men and women differently. Sampling weights for poststratification provided by the dataset are used in the analyses, but the weights at the city level are not available; so the multilevel analyses do not apply sampling weights, and the results only apply to the analytical sample but not to the population. Most of the variables in this study have missing rates of less than 1 percent.[1] After listwise deletion, the analytical sample is 4,166.

Results

Results are presented in two steps: first, with the weighted descriptive analysis of the analytical sample, followed by results from the multivariate analyses. I highlight the significant factors that are associated with NEET for young Chinese, especially the effect of marriage and migration on women. I also examine the magnitude of the effect by calculating the predicted margins for the effect of education on migration and marital status by gender and present the comparisons across groups.

Table 1 demonstrates the weighted descriptive analyses of the analytical sample. The average age of the analytical sample is 25. Of the 4,166 observations, 8 percent had been in NEET during the study period. The majority of the respondents are Han (88 percent), with agricultural hukou at birth (83 percent). Twenty-one percent of the respondents have low education or are illiterate, 45 percent have junior middle education, and 28 percent have senior middle education. About 6 percent have tertiary education. Fifty-four percent are married, and 12 percent are internal migrants. Women reported a much higher NEET rate than men, with 14 percent of females in NEET compared to 2 percent of males. Women also reported a higher marriage rate (60 percent) than men (48 percent) and had a lower income (46,500 yuan [CNY]) than men (50,200 CNY). The distribution of the rest of the variables is quite similar between genders.

To examine the differences in NEET between men and women by marital and migrations status, Table 2 further illustrates the distribution of NEET among the

TABLE 1
Weighted Descriptive Analysis of the Analytical Sample

	Proportion/ Mean Total Unweighted, N = 4,166	Proportion/ Mean Male Unweighted, N = 1,988	Proportion/ Mean Female Unweighted, N = 2,178
NEET status			
Non-NEET since Jan 2011 to July/Aug. 2012 (ref.)	.92	.98	.86
Always NEET	.08	.02	.14
Age (mean)	24.91	24.91	24.92
Age group			
16–21 (ref.)	.32	.33	.32
22–25	.23	.22	.23
26–29	.19	.19	.19
30–35	.26	.26	.26
Gender			
Male (ref.)	.51	—	—
Female	.49	—	—
Han ethnicity	.88	.88	.89
Hukou at birth			
Nonagricultural (ref.)	.17	.18	.16
Agricultural	.83	.82	.84
Educational level			
Illiterate/primary (ref.)	.21	.21	.20
Junior middle	.45	.45	.46
Senior middle, vocational school	.28	.28	.28
College, university and above	.06	.06	.06
Marital status			
Not married (ref.)	.46	.52	.40
Married	.54	.48	.60
Party membership			
Yes (ref.)	.06	.05	.06
No	.94	.95	.94
Region of birth			
East (ref.)	.35	.36	.34
Northeast	.09	.08	.09
Central	.28	.27	.28
West	.28	.29	.28
Father's educational level			
Illiterate/primary (ref.)	.40	.40	.41
Middle school and above	.60	.60	.59
Migration			
Stay in hukou origin/left hukou origin less than 0.5 year (ref.)	.87	.88	.87
Left hukou origin for more than 0.5 year	.12	.12	.13
Individual total income (mean, 10,000 CNY)	4.84	5.02	4.65

TABLE 2
Weighted Descriptive Analysis (Proportion/Mean) of the Dependent Variable by Hukou, Educational Status, Marital Status, Migration Status, and Gender, $N = 4,166$

	Hukou at Birth		Educational Level				Marital Status by Gender				Migration Status by Gender			
	Nonagricultural	Agricultural	Illiterate/ Primary	Junior Middle	Senior Middle Vocational School	College and Above	Not Married Male	Not married Female	Married Male	Married Female	Male Nonmigrant	Female Nonmigrant	Male Migrant	Female Migrant
Unweighted *N*	750	3,416	816	1,621	1,341	388	1,007	764	981	1,414	1,645	1,838	343	340
NEET status														
Non-NEET, Jan 2011 to July/Aug. 2012 (ref.)	.97	.91	.89	.91	.95	.99	.99	.98	.97	.78	.98	.86	1	.81
Always NEET	.03	.09	.11	.09	.05	.01	.01	.02	.03	.22	.02	.14	.00	.19

subpopulation, by hukou status at birth, education level, marital status by gender, and migration status by gender. It shows that NEET is more prevalent among people with rural hukou, with 9 percent of them having reported being in NEET compared to 3 percent of people with urban hukou at birth. The prevalence of NEET decreases when people's education level increases, which is reflected by a substantial difference between the lowest education group at 11 percent NEET and the highest education group at only 1 percent NEET.

Moreover, significant gender disparities exist. While the gender difference between unmarried men and women is not substantial (1 percent of men in NEET versus 2 percent of women), a striking 22 percent of married women reported having experienced NEET compared to 3 percent of married men. There also exists an alarming gender difference for both migrants and nonmigrants. Two percent of nonmigrant men are in NEET compared to 14 percent of women. Almost no migrant men were in NEET during the study period, and 19 percent of migrant women reported being in NEET.

Table 3 shows results from the logistic regression model that examines the factors that are associated with being in NEET during the period of study. Age has a nonlinear association with being in NEET. Compared to people aged 16 to 19, the odds of being in NEET for people aged 22 to 25 are 41.67 times higher after controlling for all covariates. However, as age increased, the odds of being in NEET decreased, as the risks of being in NEET are 27.76 times and 25.99 times higher for people aged 26 to 29 and 30 to 35, respectively. Being female, having Han ethnicity, and being born in central China increase the risks of being in NEET compared to men, minorities, and those who were born in the east. Having a higher education and being a migrant reduce the risks of being in NEET. Education has a significant linear effect: as the education level increased, the odds of being in NEET decreased significantly; but the association is insignificant for junior middle school. Having a senior middle school education is significantly associated with decreased odds (odds ratio [OR] = 0.56) of being in NEET. The ORs for people with tertiary education further lowers to 0.14. Moreover, married women have higher odds (2.77 times) of being in NEET compared to unmarried men after controlling for all covariates at a marginally significant level. The same association is found for migrant women compared to nonmigrant men (OR = 39.64). Agricultural hukou at birth, father's education level, Party membership, and individual income are not associated with being in NEET.

The multilevel models indicate that 10 percent of the variance in NEET status is accounted for by the average family income and average education level at the municipal level (see model 1 in Table 4). Age significantly increases the odds of being in NEET. Those 22 to 25 have the highest risk of being in NEET (OR = 20.53, after controlling for all covariates). The risks are reduced for the older age groups. Compared to the reference group, the odds of being in NEET for people aged 26 to 29 and 30 to 35 are 14.67 and 12.41 times higher, respectively, than people aged 16 to 21 after controlling for all covariates. Similar to the results in Table 3, Han ethnicity, being born in central China, being a married woman, and being a migrant woman are the risk factors associated with being in NEET. Tertiary education significantly reduces the risks of NEET by 16 percent

TABLE 3
Odds Ratios from Logit Regression of NEET and Associated Factors, Weighted

	(1)	(2)	(3)	(4)	(5)
Age group (ref. 16–21)					
22–25	80.07****	42.27****	40.44****	43.00****	41.67****
	(48.54)	(27.18)	(25.96)	(27.68)	(26.75)
26–29	67.55****	28.10****	26.68****	28.98****	27.76****
	(40.99)	(18.63)	(17.57)	(19.21)	(18.27)
30–35	67.14****	26.27****	25.05****	26.95****	25.99****
	(40.33)	(17.42)	(16.52)	(17.88)	(17.14)
Female	9.42****	8.35****	3.50**	6.81****	2.83*
	(2.13)	(1.90)	(1.91)	(1.58)	(1.55)
Han ethnicity	2.33***	2.34***	2.35***	2.37***	2.38***
	(0.73)	(0.73)	(0.73)	(0.73)	(0.73)
Agricultural Hukou	1.40	1.22	1.23	1.21	1.22
	(0.40)	(0.35)	(0.35)	(0.34)	(0.35)
Education: (ref. illiterate/primary)					
Junior middle	0.82	0.86	0.87	0.85	0.86
	(0.15)	(0.16)	(0.16)	(0.16)	(0.16)
Senior middle, vocational school	0.41****	0.56**	0.57**	0.56**	0.56**
	(0.09)	(0.13)	(0.13)	(0.13)	(0.13)
College, university and above	0.08****	0.14***	0.14***	0.14***	0.14***
	(0.05)	(0.09)	(0.09)	(0.09)	(0.09)
Region of birth (ref. east)					
Northeast	0.83	0.81	0.81	0.80	0.80
	(0.25)	(0.25)	(0.25)	(0.24)	(0.24)
Central	1.71***	1.61***	1.62***	1.65***	1.66***
	(0.31)	(0.30)	(0.30)	(0.30)	(0.31)
West	1.35	1.22	1.22	1.24	1.24
	(0.28)	(0.26)	(0.26)	(0.26)	(0.26)
Married		3.65****	1.74	3.59****	1.70
		(1.18)	(0.88)	(1.16)	(0.87)
Migrant		0.99	0.98	0.03****	0.03****
		(0.19)	(0.19)	(0.03)	(0.03)
Father's education: Middle school and above (ref. illiterate/primary)		0.87	0.87	0.87	0.87
		(0.14)	(0.14)	(0.14)	(0.14)
No Party membership		1.31	1.30	1.31	1.30
		(0.77)	(0.77)	(0.76)	(0.76)
Individual total income (last year)		0.97	0.97	0.97	0.97
		(0.02)	(0.02)	(0.02)	(0.02)
Married female			2.75*		2.77*
			(1.67)		(1.69)
Female migrant				39.55****	39.64****
				(41.49)	(41.58)
Constant	–1.98****	–2.32****	–1.81****	–2.24****	–1.71****
	(0.30)	(0.46)	(0.47)	(0.46)	(0.47)
R-squared					
N	4,166	4,166	4,166	4,166	4,166

*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

TABLE 4
Odds Ratios from Multilevel Logit Regression of NEET and Associated Factors, Unweighted

	(1)	(2)	(3)	(4)
Individual-level variables				
Age group (ref. 16–21)				
22–25		40.64****	21.25****	20.53****
		(21.04)	(11.35)	(10.93)
26–29		36.97****	15.26****	14.67****
		(19.19)	(8.33)	(7.97)
30–35		33.12****	12.87****	12.41****
		(17.03)	(6.99)	(6.71)
Female		8.57****	7.47****	2.07
		(1.62)	(1.43)	(0.93)
Han ethnicity		1.83**	1.94**	1.96**
		(0.49)	(0.53)	(0.54)
Agricultural Hukou at birth		1.49	1.30	1.32
		(0.39)	(0.35)	(0.36)
Education: (ref.: Illiterate/primary)				
Junior middle		0.87	0.93	0.94
		(0.14)	(0.15)	(0.15)
Senior middle, vocational school		0.54***	0.78	0.79
		(0.10)	(0.16)	(0.17)
College, university and above		0.08****	0.16***	0.16***
		(0.04)	(0.09)	(0.09)
Region of birth (ref. east)				
Northeast		0.81	0.74	0.74
		(0.26)	(0.24)	(0.24)
Central		1.61**	1.52**	1.57**
		(0.30)	(0.29)	(0.30)
West		1.23	1.21	1.23
		(0.25)	(0.25)	(0.26)
Married			3.63****	1.50
			(0.94)	(0.61)
Migrant			0.84	0.09**
			(0.16)	(0.09)
Father's education: Middle school and above (ref. illiterate/primary)			0.93	0.92
			(0.13)	(0.13)
No Party membership			1.88	1.86
			(0.84)	(0.84)
Individual total income, last year			1.03	1.02
			(0.04)	(0.04)
Married female				3.44**
				(1.71)
Migrant female				11.02**
				(11.41)
City-level variables				
Average individual income, last year			1.03	1.02
			(0.04)	(0.04)
Average educational level			0.80*	0.80*
			(0.09)	(0.10)
Intraclass correlation coefficient (ICC)	0.10	0.06	0.06	0.06
N	3,952	3,952	3,952	3,952

*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

compared to people who are illiterate or have only primary education, but other education levels do not have a significant association with NEET. A higher average education level at the city level is a protective factor against being in NEET.

The above results support *H1. H2* is supported by the logistic regression model, but the gender effect is insignificant in the multilevel analysis. Moreover, significant associations among NEET, migration status, and marital status by gender are found. To quantify the differences, the predicted margins of the four groups based on multilevel models are shown.

Figure 1 shows that there is no significant difference in the risks of being in NEET between unmarried and married people. The predicted margins of being in NEET for unmarried women is slightly higher (0.02 points) than unmarried men (0.01 points). However, the gender difference becomes significantly larger after marriage, with 0.03 points for men and 0.22 points for women. Thus, *H3* is supported.

Figure 2 shows the gender difference by migration status. There is almost no risk of being in NEET for migrant men (0.003 points). Nonmigrant men have a low risk of being in NEET (0.02 points) as well. Migration is a protective factor for men against being in NEET. However, for women, migration has a reverse effect. Migrant women have a higher risk of being in NEET (0.17 points) compared to nonmigrant women (0.13 points). The gender difference is statistically significant. Hence, *H4* is supported.

Based on the literature and the regression analyses, education has a significant protective effect. Thus, this study further examines if receiving more education helps men and women in the same way. Figure 3 shows that education reduces the risk of being in NEET for both genders, but the magnitude is much larger for women. Women with limited education have the highest risk of being in NEET (0.20 points), while men with the same education have a risk of 0.03 points. Tertiary education reduces the risks to 0.003 points for men and 0.02 points for women.

In Figures 4 and 5, I further examine the extent to which education could protect migrant women and married women against being in NEET. Similar patterns can be seen in both figures. In Figure 4, education has a much larger effect for women than men regardless of their migration status. In Figure 5, the effect of education is only salient for married women and not for the other three groups. Thus, *H5* is supported.

Discussion

This is among the first studies on NEET youth and young adults in contemporary China. It contributes to the NEET literature by providing representative findings from China that were largely missing in the literature. The study examines the risk factors that are associated with being in NEET among Chinese youth and young adults aged 16 to 35. The findings show that about 8 percent of the current youth population in China experienced NEET during the study period—about a

FIGURE 1
Predicted Margins of Gender Interactions with Marriage Status in the Logit Regression Model

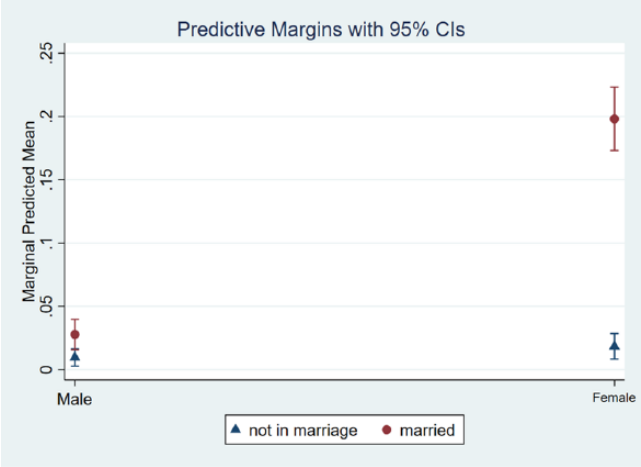
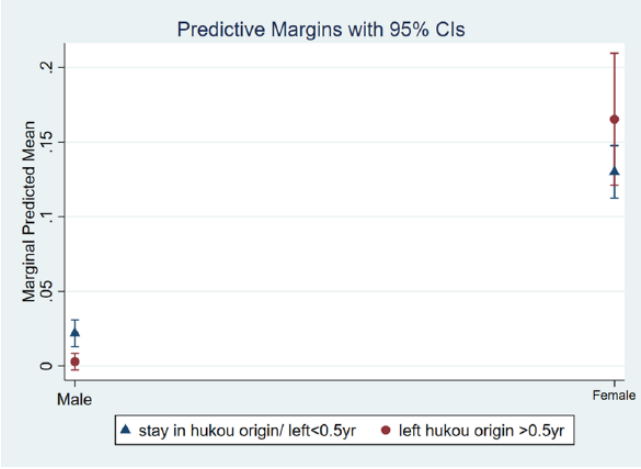


FIGURE 2
Predicted Margins of Gender Interactions with Migration Status in the Logit Regression Model



year and a half between January 2011 and July/August 2012. NEET is more prevalent among women (14 percent) and the rural population (9 percent). Having higher education, being a migrant, and living in a city where people have higher average education levels are protective factors against being in NEET. Interestingly, the study finds that ascribed status, such as hukou status at birth or

FIGURE 3
Predicted Margins of Gender Interactions with Education Status in the Logit Model

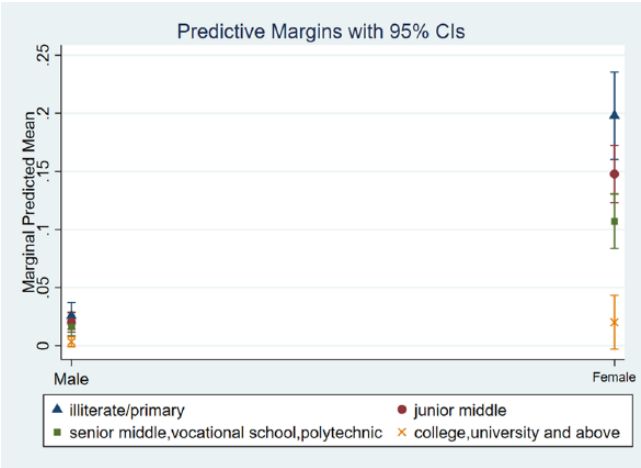
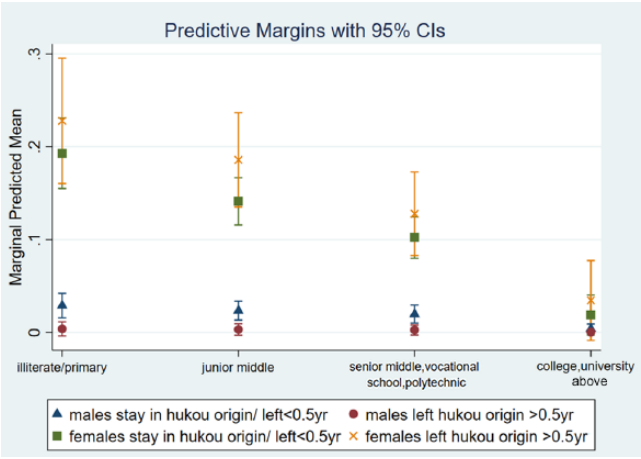


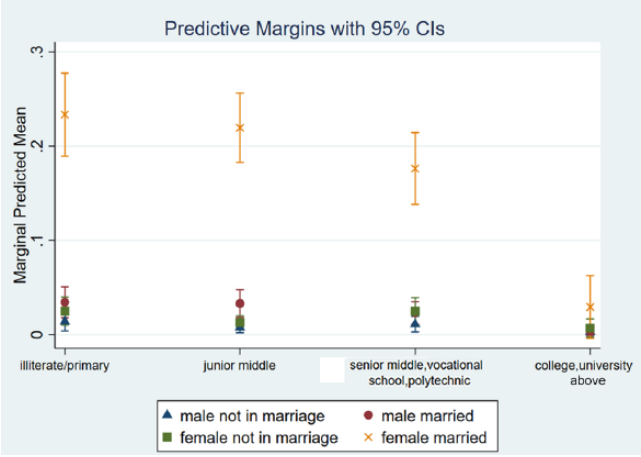
FIGURE 4
Predicted Margins of Gender Interactions with Migration Status and Education in the Multilevel Logit Model



father's education level, are not associated with being in NEET. Party membership of the respondents does not have a significant effect on NEET status either.

There are some particularly alarming findings from this study, which may have strong policy implications. The analyses show that age has a nonlinear association with NEET status. Individuals aged 22 to 25 have a higher likelihood of being in NEET. This result is consistent across models but differs from OECD countries,

FIGURE 5
Predicted Margins of Gender Interactions with Marital Status and Education in the Multilevel Logit Model



in which NEET rates have a linear age effect: OECD youth aged 15 to 19 have the lowest NEET rates, followed by people 20 to 24 years old; people aged 25 to 29 have the highest NEET rates (International Labour Organization 2016b). This finding is different from Schucher's study (2014) on youth unemployment in China, which found that, according to the 2010 census data, people aged 16 to 19 experienced a higher unemployment rate compared to those aged 20 to 24. Although this difference may be attributed to the different economies and labor market situations of the two time periods, the finding from my study implies some important changes in the contemporary Chinese context due to rapid social and demographic transitions. Compared to other age groups, 22 to 25 is an important period for transitioning to adulthood for the Chinese because this is the time when young people complete formal education, start their career, and get married. Although the education enrollment rate for tertiary education has been increasing in recent decades (Ministry of Education of the People's Republic of China 2015), the high risk of being in NEET for people age 22 to 25 emphasizes the challenges of entering the labor market after finishing education. Although earlier studies have found that the massification of tertiary education causes an increase in unemployment rates for graduates in China and other East Asian countries (Li, Whalley, and Xing 2014; Mok and Jiang 2018), the findings from my study raise questions about whether the high risk of being NEET is due to the massification of tertiary education. It is clear that being in NEET for more than a year from ages 22 to 25 has significant effects on all the life course events mentioned in this study and, thus, may delay marriage and childbearing as well as any further career development.

Consistent with previous literature, this study finds that migration status plays an important role in NEET. Compared to nonmigrants, migration is a protective factor against being in NEET, though this applies to men but not to women. Migration has a reverse effect on being in NEET for men and women. Migrant women have a higher risk of being in NEET, while the risk of being in NEET for migrant men is almost zero. The higher risk of being in NEET for nonmigrant men than migrant men may imply that the former group no longer participates in farming, unlike their parents, because they do not have the skills for farming or do not wish to be farmers. Thus, migration gives men an option to explore other occupational opportunities in urban areas.

Gender is still a significant and very important factor that is associated with being in NEET. Married women and migrant women have significantly higher risks of being in NEET compared to their male counterparts. Migration is a protective factor only for men and not for women. Moreover, only married people show substantial gender differences in being in NEET. The difference is trivial among those unmarried, with risks of NEET being 0.008 points higher for unmarried women than men. By contrast, it is 0.17 points higher for married women compared to married men. The data do not allow further analysis to uncover the reasons for this gender difference in migration and marriage. Migrant women and married women may be more likely to stay at home and be homemakers. The data also do not allow me to examine whether the female respondents choose to be in NEET. Aside from individual choices, I argue that there are institutional constraints in China that restrict young women from participating in the paid labor market, and the Chinese government and society need to work on these structural constraints. Married women are often bound to housework and caregiving. For migrant women, discrimination against women inherent in the labor market as well as the traditional gendered labor could both play a role in their vulnerability for being in NEET.

Although my findings reflect the persistent strong influence of gendered division of labor among the youth population, this study also finds that education can empower women by reducing the risk of being in NEET, more so than their male counterparts. Tertiary education significantly reduces the risk of being in NEET for women. In general, education reduces the risks of NEET for women, but the magnitude is larger for the more vulnerable groups: migrant women and married women, especially those with tertiary education.

These findings emphasize the importance of education, especially higher education, in empowering young women in China. As China has lost its demographic dividend since 2012, young women need to join the labor market to build a sustainable economy for the long term. The government should encourage and help young women get an education to obtain this economic sustainability. Further results (not presented here) show that low education is a significant factor that restricts women's migration and makes them fall into NEET status—rural women with higher education have a higher proportion of moving to cities and not falling into NEET.

Meanwhile, ascribed status such as hukou and father's education level are not significant factors for being in NEET. In contrast, achieved status, such as own

education level, is significantly important for not encountering NEET. This implies that for the young generation's employment, conventional structural factors might be losing importance against individual-level characteristics. This finding reflects the significant effect of economic reform in China on the job market for young people: human capital plays an important role in finding a job. Overall, the findings of this study call for greater and immediate attention to the employment hurdles that people 22 to 25, married women, and female migrants encounter.

This study is not without its limitations. Because of data constraints, childbearing status is not available for analysis, which made it difficult to hypothesize anything about this important life event for women. This is particularly important since past literature shows that childbearing is one of the most critical reasons for women to withdraw from the labor market. Moreover, the measure of staying in NEET is not very accurate since the dataset does not include the exact start and end time of the NEET status (the data are both left and right censored). With the availability of more data in the future, researchers would be able to better assess the censoring problem and devise suitable strategies to cope with it. Finally, this study could not fully explain the reason for the vulnerability of migrant women. Future studies should investigate this phenomenon further.

Note

1. Among the variables, the variables with missing rate higher than 1 percent are the variable of respondent's total income last year (8.8 percent), highest educational level (6.2 percent), and father's educational level (2.21 percent).

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