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Research Article

A potential new pattern of pathway to adulthood is emerging in China

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A potential new pattern of pathway to adulthood is emerging in China

Dianxi Wang¹

Yufeng Zhao²

Abstract

BACKGROUND

Existing literature has found that the ways in which people transition to adulthood has changed substantially in most Western countries since the late 1960s, but few studies have investigated such changes in the Chinese context.

OBJECTIVE

This study examines a new pattern in family and work-related roles during the transition to adulthood among Chinese youth born between 1930 and 1979.

METHODS

The China Health and Retirement Longitudinal Study conducted in 2014 provides life history data for consecutive years. Multichannel sequence analysis is applied to 19,002 respondents to identify the clusters of trajectories to adulthood. Multinomial logistic regression is used to estimate the likelihood of belonging to each of the clusters of pathways to adulthood.

RESULTS

We identify a new pattern, characterized by growing diversity and delay, in the transition to adulthood, which was mainly reflected in the long studies and stable employment cluster in the domain of employment and the staying single longer cluster in the field of family life course. Males and urban residents were more likely to fall into the patterns characterized by high education, stable work, and late transition. Female and rural residents tended to fall into the categories characterized by low education, agricultural work, and early transition.

CONCLUSIONS

The trajectories to adulthood exhibited by Chinese youth are policy-driven and nonautonomous and have been affected by government policies.

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CONTRIBUTION

We provide a comprehensive picture of the transition to adulthood of young adults in China and highlight the impact of state policies on their trajectories to adulthood.

1. Introduction

Since the late 1960s, scholars have believed that the transition from adolescence to adulthood in contemporary societies can be conceptualized as a life process marked by a series of life events and the continuous transformation of life states or roles (Modell, Furstenberg, and Hershberg 1976; Elder and Shanahan 2007), such as leaving the parental home, graduating from school, entering the labor market, getting married, and becoming parents. These key events represent the transition from the typical role of youth to that of adulthood and are generally considered to be signs of adulthood.

Several empirical studies indicate that in Western countries, the shift from adolescence to adulthood has changed dramatically since the late 1960s (Shanahan 2000; Salmela-Aro et al. 2011). The pattern of the transition to adulthood among younger cohorts has become more complicated than that of older cohorts (Sironi and Furstenberg 2012) and generally presents more discrete and diversified characteristics (Widmer and Ritschard 2009). Specifically, life events and their distribution throughout the transition to adulthood are delayed and discrete, so the key events in young people's lives are less synchronized and in a less standard order (Robette 2010).

In China, demographic changes during adulthood have become more profound in recent decades. In particular, since its reform and opening up, significant changes can be observed in the major domains of adult transformation, such as marriage, fertility, education, and employment. For example, the average age at both first marriage and childbearing continue to be delayed, years of schooling are generally extended, young people leave their original families later, the occupational distribution of young people has changed significantly, and the rate of female participation in the labor force has increased dramatically. These sociodemographic changes appear to indicate that the transition of the young Chinese population to adulthood may be similar to that in Western countries. However, existing studies on the transition of young Chinese to adulthood often focus on single events, such as first marriage (Wang and Yang 1996; Jin, Li, and Feldman 2005) and first birth (Zheng 2000; Hong 2006). These studies describe the changes in life events in different domains of the transition to adulthood, without examining them as a multidimensional, holistic, and long-term sequence in the overall transition to adulthood.

In this study, we aim to provide a comprehensive picture of the transition from adolescence to adulthood in China by answering the following questions: What are the various patterns of the pathways to adulthood among Chinese youth? Do these patterns differ between male and female as well as between urban and rural dwellers? Based on life history data collected from the China Health and Retirement Longitudinal Study, we employ multichannel sequence analysis methods to explore the different trajectories to adulthood of Chinese youth born from 1930 to 1979 and identify a new pattern characterized by growing diversity and delay.

2. Theoretical background

2.1 Transition to adulthood in Western countries

Since the late 1960s, various studies have reported that early life trajectories have become more complex, lengthy, and differentiated by individual characteristics in most Western countries (Aassve et al. 2002; Rindfuss et al. 2010). Specifically, key life events in young people's lives have become less synchronized and occur in a less normative order during this period of transition (Furstenberg 2010). In addition, young people have begun using various living arrangements to extend this transition period, such as living at home longer with their original families and cohabiting (Lesthaeghe 1995; Shanahan 2000). For example, Billari and Liefbroer (2010) analyze young people's transition to adulthood in Europe and find that a new trend, characterized by delay and complexity, is emerging. Robette's (2010) research on French adolescents' trajectories to adulthood yield eight patterns: "spouses with one child," "spouses with multiple children," "cohabiting parents," "late cohabiters," "late nest-leavers," "single parents," "inactive parents," and "parents leaving their full-time job." This again demonstrated the diverse patterns of the transition to adulthood.

Some studies have conducted cross-national analyses of the transition to adulthood. Schwanitz (2017) compares this transition in eight European countries and reports that young adults' life course trajectories differ by education, country, and gender, but the educational gradient is highly country specific. Fussell, Gauthier, and Evans (2007) further find that young people in the United States experience a more uniform and shorter transition to adulthood than their peers in Australia and Canada, even though this transition is lengthening in all three countries. In addition, subgroup differences have also been explored. For example, Lesnard et al. (2016) confirm the convergence between male and female patterns in the passage to adulthood in Northern and Western Europe. Winkler-Dworak and Toulemon (2007) also determine a convergence in the effects of educational attainment and working status between young men and women in the

transition to adulthood in France. In the latter half of the 20th century, young people in the United States, irrespective of their gender, ethnicity, and origin, began to transition to adulthood in similar ways (Fussell and Furstenberg 2005). However, Sirniö, Kauppinen, and Martikainen (2017) find significant gender differences in the subtrajectories characterized by minimal education: the pathways to adulthood of women with limited education comprised early partnership and motherhood, while those of male with limited education were predominately without a partner or children.

Changes in the pathway to adulthood are related to the so-called second demographic transition (Lesthaeghe 1995). As demographic phenomena, such as cohabitation, divorce, celibacy, and late marriage, have become more prevalent, the distribution of life events in adulthood has started to occur out of order, becoming more complex and diverse. These changes in the pathway to adulthood are often explained using the individualization theory. Since the mid-20th century, the transformation of society, relaxation of social norms, increase in individuals' autonomy, changes in the household's division of labor, and secularization have led to an increase in individuals' independence (Beck 1992; Beck and Beck-Gernsheim 2002; Billari and Liefbroer 2010) as well as to delays in the timing of life events, such as marriage and childbearing. In addition, the reform of welfare systems, expansion of education systems, and changes in the labor market, such as increased employment instability (Billari 2004), have caused individuals to delay leaving their parental home. In other words, the uncertainty, ambiguity, and complexity of modern society have caused the fragmentation of daily life structures and trajectories to adulthood to diverge. Therefore, considering the noticeable changes in trajectories to adulthood in Western countries, this study explores whether the transition to adulthood of the young Chinese population has undergone similar changes.

2.2 Holistic perspective

Over the past decade, more studies have applied a more holistic approach to the transition to adulthood (Aassve, Billari, and Piccaretta 2007; Elzinga and Liefbroer 2007; Oris and Ritschard 2014). For example, Sironi, Barban, and Impicciatore (2015) examine the impact of parental social class on patterns in the transition to adulthood from a holistic perspective, which considers the overall development of the trajectories of employment and family formation. Additionally, from a holistic perspective, Salmela-Aro et al. (2011) analyze the sequences, patterns, and variations in the transition to adulthood among Finnish university students, which combined family and work-related roles into multidimensional life sequences from 1991 to 2008.

The holistic perspective considers the life course as a single meaningful conceptual unit rather than as separate atomistic pieces (Billari 2001), which aggregates the roles or

states in different life domains into entire life course trajectories. Such a perspective extends beyond the limitations of focusing on single events, which makes it difficult to understand the interrelationships among the different domains in the life course. Each life course trajectory is represented by a string of characters, which resembles the character used to code DNA molecules in biological sciences (Billari 2001). This approach implies that attention should be focused not only on the timing of events but also on the order in which they occur, the duration that elapses between them, and the potential recurrent nature of many demographic events (Liefbroer and Toulemon 2010). In other words, the holistic perspective allows us to study the multidimensional domains of the life course while simultaneously considering the timing, duration, and order of life events. Further, it enables us to analyze the internal structure of the life course by constructing its entire trajectory over an extended period.

Sequence analysis enables us to compare the sequences of individual life course states using a holistic perspective and combine the most similar life course trajectories in clusters using hierarchical cluster analysis (Abbott 1995; Aisenbrey and Fasang 2010). Therefore, adopting a holistic perspective, this study forms the entire trajectories of education, employment, and family history to examine the variations and patterns in adolescents' transition to adulthood.

2.3 Transition to adulthood in the context of China

With the changes in society and the economy, the transition to adulthood in China has also undergone profound changes, mainly in the timing and order of life events. For example, Yeung and Hu (2013) find that Chinese people born in the 1980s are exploring new pathways to adulthood, including cohabitation and premarital sex. Changes also took place in the 1990s. Young people delayed their transition into adulthood across the major domains of their life course, such as education, work, marriage, and childbearing (Hannum and Liu 2005). Young Chinese people have more personal freedom than ever, which gives them greater autonomy in their choice of pathways to adulthood (Strickland 2012), especially in urban areas. However, Tian (2016) observes that in rural areas, while there are now notable delays in school completion and entry into the labor force, only minor delays occur in marriage and parenthood. Hence, the pathway to adulthood in rural areas is still relatively structured and follows an orderly sequence.

From a cross-country perspective, Fulda, Nauck, and Ren (2019) observe a delay in the timing of first marriages in China, Germany, and the United States for those born in 1933–1988 and that the delay was greater in the United States than in Germany and China. Further, the age at first childbirth is increasing in all three countries. Most individuals in China have married their first partner and become parents by age 30,

whereas in the United States and Germany, fewer than half of the population has experienced one of these events by the same age. A larger proportion of higher-educated people get married by the age of 30 in the United States, while the less educated are more likely to get married in China. This may be related to the cultural differences between collectivistic, patrilineal societies and individualistic, bilineal societies (Nauck, Groepler, and Yi 2017; Nauck and Ren 2018).

In China, state policies have played a profound role in the pathway to adulthood among the young population. In particular, since the establishment of the People's Republic of China, multiple dynamic changes in state policies have caused different cohorts to experience turbulent historical events and policies, such as fertility policies, the *hukou* (household registration) system, the *danwei* (work unit) system, and education policies. These phenomena may have shaped the transition to adulthood of young Chinese individuals (Hannum and Liu 2005). Regarding education policy, the popularization of primary education in the 1950s, nine-year compulsory education system in the 1980s, and subsequent policy of higher education expansion have increased the opportunities for people to enjoy the benefits of higher education (Wang 2012), thereby extending the period of education of younger cohorts. For example, the college enrollment rate increased from 1 million in 1998 to 630 million in 2009 (Yeung 2013), and the average years of schooling increased from 2.92 in 1964 to 8.02 years in 2005 (Huang 2011).

As for the family life course, the mean ages at first marriage and first birth have changed markedly. That is, early marriage and early childbirth before the founding of the People's Republic of China has transitioned to late marriage and late childbearing since the 1990s. For example, the mean age at first marriage increased from 19.6 in 1960 to 26.3 in 2016, and the mean age at first birth increased from 22.2 in 1960 to 26.9 in 2016 (Chen 1991; Zhuang and Zhang 2003; He et al. 2019). The one-child policy required eligible families to have only one child, which not only significantly changed the fertility pattern of Chinese women in different cohorts but also raised the number of nuclear families (Hesketh, Lu, and Xing 2005). In other words, the one-child policy changed the distribution of people's childbearing events and family structure while also significantly altering the life course of different cohorts. In addition, over the past 10 years, cohabitation, celibacy, late marriage, and divorce are becoming more common and more socially acceptable. For example, the divorce rate has risen to 32% as of 2018 from 6.6% in 1979 (Ministry of Civil Affairs of China 2019), and cohabitation is also on the rise (Yu and Xie 2015).

In the domain of employment, China's urbanization has changed the distribution of urban and rural areas, with the urban population rising from 20% in 1970 to more than 50% in 2015 (Wang et al. 2018). A sizable number of young rural workers have moved to urban areas (Duan et al. 2008), thereby transforming their life course trajectory. In recent decades, other changes in the labor market have also significantly affected the

characteristics of the labor force; the female labor force participation rate has increased sharply, and the mobility of young workers is becoming increasingly common. Thus, state policies have influenced the transition to adulthood among the young Chinese population, shaping their pathways by altering the timing of life events and duration of life stages.

In the current study, we examine adolescents' transition to adulthood in China across five cohorts born between 1930 and 1979, each representing a group that grew up in different policy contexts that may have shaped their lives. These cohorts have all undergone tremendous social changes since the first half of the 20th century, and the historical changes during this period may have shaped their life courses in varying ways. Table 1 describes these cohorts and the historical contexts in which they grew up.

Table 1: Definition of cohorts and their historical contexts

Cohorts	Birth year	Year age 16	Year aged 30	State policies during transitioning years
Cohort 1	1930–1939 (aged 75–84 at interview)	1946–1955	1960–1969	the Second World War 1949 People's Republic of China founded 1950 marriage law (male: 20; female: 18) 1951 job assignment system for college graduates 1952 first anti-illiteracy movement
Cohort 2	1940–1949 (aged 65–74 at interview)	1956–1965	1970–1979	1956 second anti-illiteracy movement 1958 third anti-illiteracy movement 1958 household registration system 1958–1962 Great Leap Forward and Great Famine 1950s establishment of the danwei system 1950s popularization of primary education Succession replacement system (parents retire and children take their place)
Cohort 3	1950–1959 (aged 55–64 at interview)	1966–1975	1980–1989	1966–1976 Cultural Revolution 1968 'down to the countryside' movement Interruption of basic education expanded Higher education institutions closed
Cohort 4	1960–1969 (aged 45–54 at interview)	1976–1985	1990–1999	1978 college entrance exam resumed Early period of economic reform 1980s household responsibility system 1979 one-child policy 1980 new marriage law (male: 22; female 20)
Cohort 5	1970–1979 (aged 35–44 at interview)	1986–1995	2000–2009	1986 nine-year compulsory education law Reform of state-owned enterprises and laid-off workers Reform of the danwei system Large-scale and deepened economic reform Higher education expansion Rising housing prices 2001 WTO member and globalization Rapid urbanization and population migration Implementation of quality-oriented education

3. Methods

3.1 Data

The data used in this research are derived from the third wave of the China Health and Retirement Longitudinal Study³ conducted by the National School of Development at Peking University in 2014. This survey used a multistage probability proportionate to size sampling method to select the samples and was conducted in 150 counties and 450 communities (villages) in 28 provinces, autonomous regions, and municipalities. Ethical approval for this study was granted by the Institutional Review Board of Peking University, and written informed consent was obtained from respondents. This survey collected data on the main elements of an individual's life course, such as education, marriage, childbearing, and work history; 20,654 people were interviewed. Hence, this comprehensive retrospective survey provides reliable data to study the transition to adulthood of different Chinese cohorts.

Since the youngest group in the sample was born in the late 1970s and few respondents were born before 1930, we divide respondents into five groups, as shown in Table 1. Regarding the treatment of missing data, we delete 1,652 observations with information errors or nonresponses in the survey, retaining and analyzing only complete cases. The final sample size is 19,002.

3.2 Analytical strategy

The method used in this research is multichannel sequence analysis. Sequence analysis is widely regarded as a useful tool for life course research (Abbott 1995). Multichannel sequence analysis can describe the overall changes in life course trajectories, measure the dissimilarity of life course trajectories among individuals, and explore their structures and patterns. The analytical strategy of this study is as follows.

First, this study operationalizes the transition to adulthood of individuals aged 16 to 30 in a multidimensional sequence based on the life events and roles in the four domains of education, marriage, childbearing, and employment. Scholars provide different definitions of the age range encompassed by the transition to adulthood. For example, Robette (2010) defines the age range as 18 to 35 years, while Ferrari and Pailhé (2017) define it as 18 to 30 years. In China, the traditional cultural concept of "a man should be independent at the age of 30" persists, and young people are expected to get married early

³ More detail of CHARLS (2014) data can be found at <http://charls.pku.edu.cn/zh-CN>.

(Chen and Li 2020). Thus, this study defines the transition to adulthood as the age range of 16 to 30 years.

Second, we construct a sequence of states during the transition to adulthood based on the age at which an individual has experienced events or roles that mark entry into adult life, with one observation represented for each year of age. The life course states of the transition to adulthood are identified as the common domains of education, marriage, childbearing, and employment. The marriage field contains four possible states: unmarried (S), partnered (P), married (M), and divorced or widowed (D). The childbearing field also contains four states: no children (NC), one child (1C), two children (2C), and three or more children (3C+). We combine the states of marriage and childbearing (four marriage states \times four childbearing states) to form a family life course trajectory. We also combine education and employment into one field with six states, namely, education (ED), agricultural employment (AG), nonagricultural employment (NA), no paid work (NP), military service (MS), and not employed (NU), to form a trajectory for education and employment (Table 2). Furthermore, according to the life course states defined above and respondents' education, employment, marriage, and childbearing information, respondents' life course sequences during their transition to adulthood are formed. These sequences comprise the multidimensional states of individuals at different ages during their transition to adulthood. Thus, this study uses years as the unit of time to construct the trajectories of Chinese people aged 16 to 30 years born between 1930 and 1979.

Table 2: Life course states and corresponding alphabet

Life domains	Life course states			
Education and employment	(1) education (ED)	(2) agricultural employment (AG)	(3) nonagricultural employment (NA)	(4) no paid work(NP)
	(5) military service (MS)	(6) not employed (NU)		
Family life course	(1) single with no children (SNC)	(2) single with one child (S1C)	(3) single with two children (S2C)	(4) single with three+ children (S3C)
	(5) partner with no children (PNC)	(6) partner with one child (P1C)	(7) partner with two children (P2C)	(8) partner with three+ children (P3C)
	(9) married with no children (MNC)	(10) married with one child (M1C)	(11) married with two children (M2C)	(12) married with three+ children (M3C)
	(13) divorced/widow with no children (DNC)	(14) divorced/widow with one child (D1C)	(15) divorced/widow with two children (D2C)	(16) divorced/widow with three+ children (D3C)

Third, we use the optimal matching method to calculate the distance between the paired sequences and then perform cluster analysis based on the distance matrix to form the type of life course state. Specifically, we perform a sequence analysis by applying optimal matching, which calculates the matrix of the dissimilarities between pairs of individual trajectories, setting one-unit insertion and deletion costs and defining the

transition rate between states as the substitution cost to match the different multidimensional sequences. Then, this study uses the Ward algorithm method to perform hierarchical clustering analysis to reduce the dimensionality of the data and thus organize the sequence of life course trajectories into groups. The validity of clustering is tested through a series of indicators, and the optimal number of clusters is found according to the relevant test indicator standards.

Finally, we use the clusters of trajectories to adulthood as the dependent variable and estimate the likelihood of belonging to the selected clusters using multinomial logistic regression. The data are processed in R software (package TraMineR and WeightedCluster) and STATA 14.0.

3.3 Variables

As noted above, the dependent variable is the clusters of trajectories formed by the cluster analysis. The variables of gender, urban/rural, cohort, ethnicity, and political status are also included in the models. Gender is a dummy variable with male as the reference category. Urban/rural is also a dummy variable, where 0 is rural and 1 is urban.⁴ Ethnicity includes two categories with minorities as the reference category. Political status includes nonparty and party membership. Table 3 shows the descriptive statistics of the variables.

Table 3: Descriptive statistic of the sample (N = 19,002)

Variables	Frequency	Percent (%)	Variables	Frequency	Percent (%)
<i>Gender</i>			<i>Politics status</i>		
Male (=0)	9,084	47.81	Nonparty member (=0)	17,045	89.70
Female (=1)	9,918	52.19	Party member (=1)	1,957	10.30
<i>Urban/rural</i>			<i>Birth Cohorts</i>		
Rural (=0)	14,627	76.98	1930–1939 (=1)	1,508	7.94
Urban (=1)	4,375	23.02	1940–1949 (=2)	3,866	20.35
<i>Race</i>			1950–1959 (=3)	6,229	32.78
Minorities (=0)	1,524	8.02	1960–1969 (=4)	6,162	32.43
Han (=1)	17,478	91.98	1970–1979 (=5)	1,237	6.51

⁴ We divide urban and rural areas based on respondents' residence at the time of the survey. Therefore, those who migrated from rural to urban areas were classified as urban residents.

4. Results

4.1 Distribution of life course states by cohort

This study describes the distribution of the above-identified life course states among individuals in the transition to adulthood to observe patterns that change with age. Figure 1 illustrates the age distribution of the education and employment states in different cohorts. From earlier to more recent cohorts, the proportion of nonagricultural work is gradually increasing, while the large proportion of agricultural work is gradually decreasing. In addition, the proportion of education is slightly increasing.

Figure 1: Age distribution of life course states in education–employment trajectories

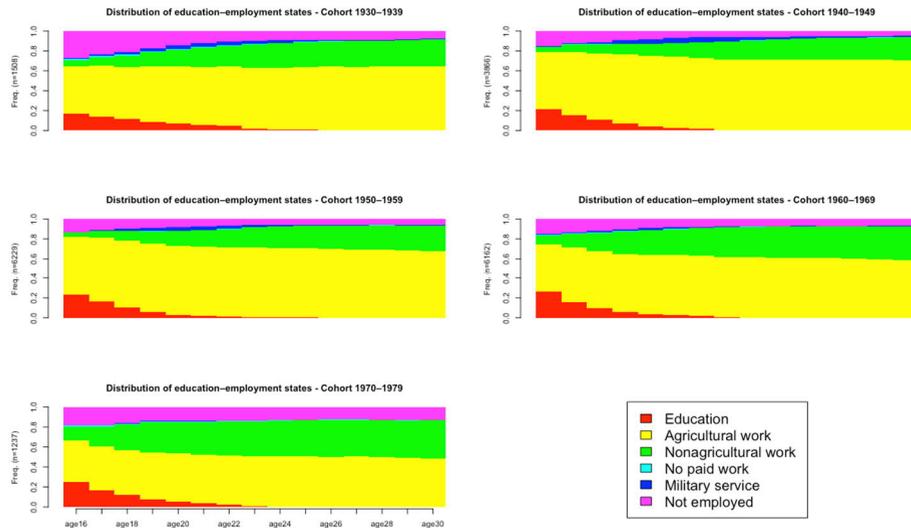
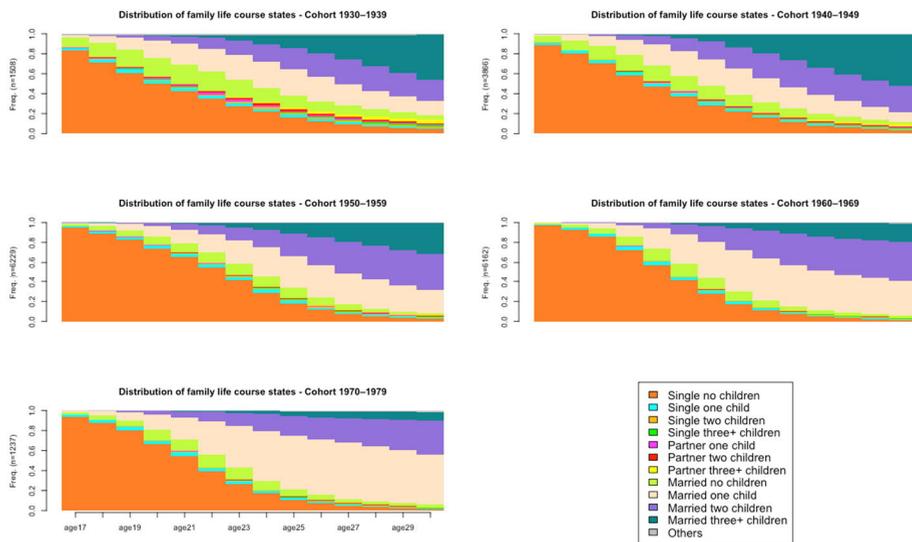


Figure 2 illustrates the age distribution of the cohorts for the marriage and childbearing states. From earlier to more recent cohorts, the proportions of people who are single with no children and married with two children is increasing, while the proportion of married with three-plus children is remarkably decreasing. In addition, the timing of marriage in older cohorts is somewhat earlier than that in more recent cohorts. However, the number of births in more recent cohorts is lower than that of earlier cohorts,

indicating that this event has become more delayed and that there have been fewer births in recent cohorts. However, overall, marriage (compared with singledom) and fertility within marriage still dominate in modern China.

Figure 2: Age distribution of life course states in family life course trajectories



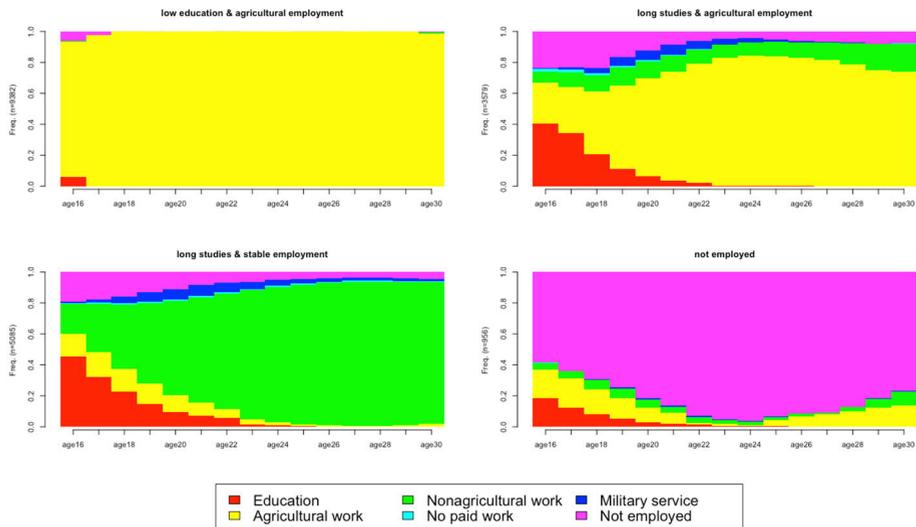
4.2 Four trajectories in the transition to adulthood

Multichannel sequence analysis identifies four patterns of trajectories to adulthood in the fields of education, employment, and family life course (Figures 3 and 4).⁵ We name these different clusters based on the average duration and distribution of the states. The four clusters of the education and employment trajectories include the following: (1) low education and agricultural employment characterized by the relatively low level of education of members and early entry into agricultural work (mainly at the age of 16); (2) long studies and agricultural employment characterized by the fact that at different

⁵ The validity of the cluster analysis results of the education and employment trajectories: HG (Hubert's Gamma) = 0.89, PBC (Point Biserial Correlation) = 0.73, and R2 = 0.81 compared with HG = 0.62, PBC = 0.67, and R2 = 0.69 for the family life course trajectories. In addition, we combine states with a small proportion (i.e., partner with no children, divorced/widow with no children, divorced/widow with one child, divorced/widow with two children, divorced/widow with three-plus children) into "others" in Figure 4.

ages, agricultural employment occupies a dominant proportion of the sample, and group members reside in rural areas and work in agriculture but have better access to education; (3) long studies and stable employment characterized by the relatively high level of education of members and late entry into the labor market with most members engaged in stable nonagricultural employment in cities with a higher education; and (4) not employed, wherein, at different ages, the proportion of not employed people is relatively high and many members do not work.

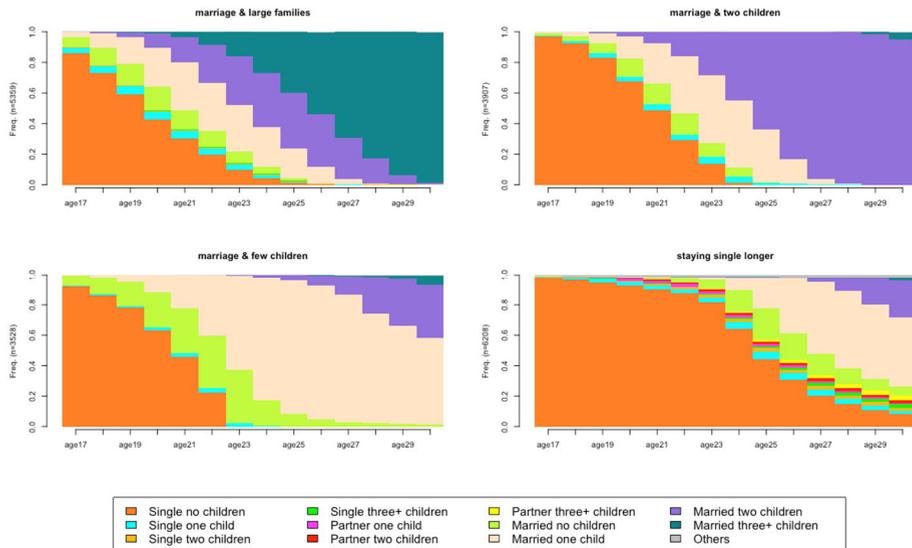
Figure 3: Distribution of states in each cluster of education–employment trajectories



Specifically, the low education and agricultural employment cluster, which is the traditional pattern, accounts for the largest proportion of our sample (49.37%); nearly half of the individuals in the sample are primarily engaged in agricultural work during their transition to adulthood. Long studies and agricultural employment accounts for 18.83% of the sample. Most individuals in this cluster continue in free-form agricultural work after a period of education. Long studies and stable employment accounts for 26.76% of the sample. After a period of education, members begin to invest in the labor market and engage in more stable nonagricultural work. The long studies and stable employment cluster represents a delay of life events in the transition to adulthood, manifested by a longer time spent in school, a delay in leaving the parental family, and

the transition from agricultural to nonagricultural work as the dominant form of employment. This cluster is considered to be the dominant pattern among younger cohorts in modern China. The not employed cluster accounts for 5.03% of the sample. This cluster is dominated by the state of being unemployed and most members in this cluster may not be engaged in the labor market during their transition to adulthood.

Figure 4: Distribution of states in each cluster of family life course trajectories



Four clusters of family life course trajectories are also identified: (1) marriage and large families has the largest proportion of married individuals with three or more children and is characterized by early marriage, early childbirth, many births, large family sizes, and early timing of the transition to adulthood; (2) marriage and two children is characterized by early marriage and early childbirth, but family size is starting to decrease; (3) marriage and few children, where the family structure is dominated by nuclear families; and (4) staying single longer dominated by singles who have no children at the age of 30, a group characterized by late marriage and childbirth and a delay of the transition to adulthood.

Marriage and large families is the most traditional, orderly, and standard cluster, accounting for 28.20% of the sample, while the cluster of marriage and two children accounts for 20.56%. Marriage and few children accounts for 18.57% of the sample. Compared with the traditional cluster, people in this cluster remain single longer. At the

age of 30, 57.26% of people in this cluster are married with only one child as a consequence of the one-child policy implemented in China in the 1980s. Staying single longer accounts for 32.67% of the sample. Members in this cluster stay single longer, and cohabitation and unmarried births begin to occur, representing a decrease in the normative order of the life events of adulthood. At the age of 18, 98.74% of people in this cluster were single; at the age of 30, single people still accounted for 35.11% and married and childless people for 6.09%. Characterized by the delay of life events in adulthood, this cluster represents a less traditional and nonstandard sequence of events. In sum, the first three trajectories end in marriage with children; all involve early marriage and differ only in the number of children. However, the fourth has diverse distributions at age 30, which is a new transition to adulthood pattern marked by a delay in the timing of life events.

4.3 Cohort distribution of the transition to adulthood trajectories

Table 4 shows the distribution of cohorts for the different types of trajectories. In the education and employment trajectories, the cohorts of 1930–1939, 1940–1949, 1950–1959, 1960–1969, and 1970–1979 are all primarily classified into the low education and agricultural employment cluster, indicating that the employment trajectories of the different cohorts tend to be consistent. Nearly half of the young people in the different cohorts have low educational attainment and engage in agricultural work during adulthood. In addition, fewer than one-third follow the pattern of long studies and stable employment, indicating that a considerable proportion of the members in the five cohorts experience high education and nonagricultural employment during their transition to adulthood.

With regard to the family life course, the trajectories of the different cohorts differ. The cohorts of 1930–1939 and 1940–1949 are mainly classified into the marriage and large families cluster, and the 1960–1969 and 1970–1979 cohorts are mainly classified into the marriage and few children and staying single longer clusters. In other words, the earlier cohorts mainly fall into the traditional trajectory of marriage and large families, while the more recent cohorts are classified into the modern pattern of staying single longer.

Table 4: Cohort distribution in clusters of trajectories to adulthood (%)

Clusters	Education–employment trajectories					Clusters	Family life course trajectories				
	1930–1939	1940–1949	1950–1959	1960–1969	1970–1979		1930–1939	1940–1949	1950–1959	1960–1969	1970–1979
Low education & agricultural employment	667 (44.23)	2,203 (56.98)	3,289 (52.80)	2,787 (45.23)	436 (35.25)	Marriage & large family	583 (38.66)	1,822 (47.13)	1,755 (28.17)	1,097 (17.80)	102 (8.25)
Long studies & agricultural employment	322 (21.35)	621 (16.06)	1,295 (20.79)	1,130 (18.34)	211 (17.06)	Marriage & two children	101 (6.70)	425 (10.99)	1,356 (21.77)	1,770 (28.72)	255 (20.61)
Long studies & stable employment	400 (26.53)	863 (22.32)	1,401 (22.49)	1,939 (31.47)	482 (38.97)	Marriage & few children	300 (19.89)	441 (11.41)	731 (11.74)	1,554 (25.22)	502 (40.58)
Not employed	119 (7.89)	179 (4.63)	244 (3.92)	306 (4.97)	108 (8.73)	Staying single longer	524 (34.75)	1,178 (30.47)	2,387 (38.32)	1,741 (28.25)	378 (30.56)
Total	1,508 (100)	3,866 (100)	6,229 (100)	6,162 (100)	1,237 (100)	Total	1,508 (100)	3,866 (100)	6,229 (100)	6,162 (100)	1,237 (100)

Pearson $\chi^2(12) = 441.65$; $p < 0.001$

Pearson $\chi^2(12) = 2,300$; $p < 0.001$

4.4 Results of the multinomial logistic regression

We use the clusters of the education and employment and family life trajectories as the dependent variables and build multinomial logistic regression models to analyze the group differences in trajectories to adulthood in depth. Table 5 shows the average probability of belonging to each cluster in the education and employment trajectories. Females are more likely to fall into the low education and agricultural employment and not employed clusters and less likely to fall into the long studies and stable work cluster than males, indicating that males have a higher likelihood of long-term education, which in turn can delay their transition to adulthood. Living in urban areas increases the probability of belonging to the long studies and stable work cluster, and living in rural areas increases the probability of belonging to the low education and agricultural employment and long studies and agricultural employment clusters, indicating that living in urban areas can increase the likelihood of engaging in nonagricultural work and the tendency to seek stable full-time employment. The 1940–1949 and 1950–1959 cohorts are more likely to belong to the low education and agricultural employment cluster than the 1930–1939 cohort, and the 1960–1969 and 1970–1979 cohorts are more likely to belong to the long studies and stable employment cluster than the 1930–1939 cohort. The young Han population in China is more likely to be classified into the long studies and stable employment cluster, while minorities are more likely to be classified into the low education and agricultural employment cluster. Party members are more likely to be included in the long studies and stable employment cluster, while nonparty members have a high probability of belonging to the low education and agricultural employment cluster.

Regarding the interaction terms (M2, M4, M6, and M8 in Table 5), while females are more likely to be classified into the low education and agricultural employment and not employed clusters, males are more likely to be classified into the long studies and agricultural employment and long studies and stable employment clusters (Appendix Figure A-1). While urban dwellers are more likely to be classified into the long studies and stable work and not employed clusters, rural residents are more likely to be classified into the low education and agricultural employment and long studies and agricultural employment clusters (Appendix Figure A-2).

Table 5: Multinomial logistic regressions on the probability of belonging to each cluster of education–employment trajectories (average marginal effects)

	Low education & agricultural employment		Long studies & agricultural employment		Long studies & stable employment		Not employed	
	M1	M2	M3	M4	M5	M6	M7	M8
Gender:								
Male	0.395 [0.39, 0.40]	0.397 [0.39, 0.41]	0.223 [0.21, 0.23]	0.223 [0.21, 0.23]	0.356 [0.35, 0.36]	0.356 [0.35, 0.36]	0.025 [0.02, 0.03]	0.025 [0.02, 0.03]
Female	0.582 [0.57, 0.59]	0.583 [0.57, 0.59]	0.156 [0.15, 0.16]	0.156 [0.15, 0.16]	0.187 [0.18, 0.19]	0.187 [0.18, 0.19]	0.075 [0.07, 0.08]	0.075 [0.07, 0.08]
Urban/rural:								
Rural	0.599 [0.59, 0.61]	0.599 [0.59, 0.61]	0.215 [0.21, 0.22]	0.215 [0.21, 0.22]	0.140 [0.13, 0.15]	0.140 [0.13, 0.15]	0.047 [0.04, 0.05]	0.047 [0.04, 0.05]
Urban	0.141 [0.13, 0.15]	0.143 [0.13, 0.15]	0.107 [0.09, 0.12]	0.108 [0.09, 0.12]	0.687 [0.67, 0.69]	0.684 [0.67, 0.70]	0.065 [0.06, 0.07]	0.065 [0.06, 0.07]
Cohorts:								
1930–1939	0.473 [0.45, 0.50]	0.474 [0.45, 0.50]	0.217 [0.20, 0.24]	0.219 [0.20, 0.24]	0.228 [0.21, 0.24]	0.224 [0.21, 0.24]	0.083 [0.07, 0.10]	0.083 [0.07, 0.10]
1940–1949	0.584 [0.57, 0.60]	0.584 [0.57, 0.60]	0.159 [0.15, 0.17]	0.159 [0.15, 0.17]	0.209 [0.20, 0.22]	0.208 [0.20, 0.22]	0.049 [0.04, 0.05]	0.049 [0.04, 0.06]
1950–1959	0.527 [0.52, 0.54]	0.527 [0.52, 0.54]	0.207 [0.20, 0.22]	0.206 [0.20, 0.22]	0.228 [0.22, 0.24]	0.228 [0.22, 0.24]	0.039 [0.03, 0.04]	0.039 [0.03, 0.04]
1960–1969	0.442 [0.43, 0.45]	0.443 [0.43, 0.45]	0.182 [0.17, 0.19]	0.182 [0.17, 0.19]	0.328 [0.32, 0.34]	0.327 [0.32, 0.34]	0.049 [0.04, 0.05]	0.049 [0.04, 0.05]
1970–1979	0.328 [0.30, 0.35]	0.337 [0.31, 0.36]	0.175 [0.15, 0.20]	0.168 [0.15, 0.19]	0.421 [0.40, 0.45]	0.421 [0.40, 0.45]	0.075 [0.06, 0.09]	0.074 [0.06, 0.09]
Race:								
Minorities	0.521 [0.50, 0.54]	0.520 [0.50, 0.54]	0.194 [0.17, 0.21]	0.194 [0.17, 0.21]	0.242 [0.22, 0.26]	0.242 [0.22, 0.26]	0.044 [0.03, 0.05]	0.044 [0.03, 0.05]
Han	0.491 [0.48, 0.50]	0.491 [0.48, 0.50]	0.188 [0.18, 0.19]	0.188 [0.18, 0.19]	0.270 [0.26, 0.28]	0.270 [0.26, 0.28]	0.051 [0.05, 0.06]	0.051 [0.05, 0.06]
Politics status:								
Party member	0.437 [0.42, 0.46]	0.434 [0.41, 0.46]	0.185 [0.17, 0.20]	0.187 [0.17, 0.21]	0.338 [0.32, 0.36]	0.339 [0.32, 0.36]	0.039 [0.03, 0.05]	0.039 [0.03, 0.05]
Nonparty member	0.499 [0.49, 0.51]	0.450 [0.49, 0.51]	0.189 [0.18, 0.19]	0.188 [0.18, 0.19]	0.259 [0.25, 0.27]	0.260 [0.25, 0.26]	0.052 [0.05, 0.06]	0.052 [0.05, 0.06]
Interaction terms between gender and cohort:								
Male × 1930–1939		0.382 [0.35, 0.41]		0.259 [0.23, 0.29]		0.324 [0.30, 0.35]		0.034 [0.02, 0.05]
Male × 1940–1949		0.490 [0.47, 0.51]		0.199 [0.18, 0.22]		0.284 [0.27, 0.30]		0.026 [0.02, 0.03]
Male × 1950–1959		0.412 [0.40, 0.43]		0.269 [0.25, 0.29]		0.297 [0.28, 0.31]		0.021 [0.02, 0.03]
Male × 1960–1969		0.350 [0.33, 0.37]		0.194 [0.18, 0.21]		0.431 [0.41, 0.45]		0.025 [0.02, 0.03]
Male × 1970–1979		0.279 [0.24, 0.32]		0.155 [0.12, 0.19]		0.535 [0.49, 0.58]		0.030 [0.01, 0.05]

Table 5: (Continued)

	Low education & agricultural employment		Long studies & agricultural employment		Long studies & stable employment		Not employed	
	M1	M2	M3	M4	M5	M6	M7	M8
Female x		0.557		0.182		0.130		0.132
1930–1939		[0.52, 0.59]		[0.15, 0.21]		[0.11, 0.15]		[0.11, 0.16]
Female x		0.699		0.124		0.136		0.071
1940–1949		[0.65, 0.69]		[0.11, 0.14]		[0.12, 0.15]		[0.06, 0.08]
Female x		0.630		0.149		0.164		0.057
1950–1959		[0.61, 0.64]		[0.14, 0.16]		[0.15, 0.17]		[0.05, 0.07]
Female x		0.525		0.170		0.233		0.072
1960–1969		[0.51, 0.54]		[0.16, 0.18]		[0.22, 0.25]		[0.06, 0.08]
Female x		0.389		0.179		0.316		0.116
1970–1979		[0.36, 0.42]		[0.15, 0.20]		[0.29, 0.35]		[0.09, 0.14]
Interaction terms between urban/rural and cohort:								
Rural x		0.580		0.253		0.094		0.073
1930–1939		[0.55, 0.61]		[0.23, 0.28]		[0.08, 0.11]		[0.06, 0.09]
Rural x		0.703		0.177		0.077		0.043
1940–1949		[0.69, 0.72]		[0.16, 0.19]		[0.07, 0.09]		[0.04, 0.05]
Rural x		0.640		0.231		0.093		0.036
1950–1959		[0.63, 0.65]		[0.22, 0.24]		[0.08, 0.10]		[0.03, 0.04]
Rural x		0.535		0.210		0.208		0.047
1960–1969		[0.52, 0.55]		[0.20, 0.22]		[0.19, 0.22]		[0.04, 0.05]
Rural x		0.409		0.199		0.320		0.072
1970–1979		[0.38, 0.44]		[0.17, 0.23]		[0.29, 0.35]		[0.06, 0.09]
Urban x		0.118		0.114		0.642		0.126
1930–1939		[0.08, 0.15]		[0.08, 0.15]		[0.60, 0.69]		[0.09, 0.16]
Urban x		0.191		0.105		0.632		0.072
1940–1949		[0.16, 0.22]		[0.09, 0.13]		[0.60, 0.66]		[0.05, 0.09]
Urban x		0.146		0.132		0.669		0.053
1950–1959		[0.13, 0.16]		[0.11, 0.15]		[0.65, 0.69]		[0.04, 0.06]
Urban x		0.129		0.092		0.722		0.056
1960–1969		[0.11, 0.15]		[0.08, 0.11]		[0.69, 0.75]		[0.04, 0.07]
Urban x		0.093		0.064		0.759		0.084
1970–1979		[0.06, 0.13]		[0.04, 0.09]		[0.71, 0.80]		[0.06, 0.11]
Observations	19,002	19,002	19,002	19,002	19,002	19,002	19,002	19,002

Note: 95% confidence intervals in the bracket [lower bound, upper bound].

Table 6 presents the average probability of belonging to each cluster for the family life course trajectories. Females are more likely to fall into the marriage and large families cluster and less likely to fall into the staying single longer cluster, indicating that females tend to transition to social roles in adulthood more readily. Living in urban areas increases the likelihood of being classified into the staying single longer cluster, and living in rural areas increases the likelihood of being classified into the marriage and large families and marriage and two children clusters, suggesting that living in urban areas delays the transition to adulthood. On average, urban and rural residents are equally likely to follow the trajectory of marriage and few children. The 1940–1949 cohort is more likely to belong to the marriage and large families and marriage and two children clusters, the 1950–1959 cohort is more likely to fall into the marriage and two children and staying single longer clusters, the 1960–1969 cohort is more likely to be classified into the marriage and two children and marriage and few children clusters, and the 1970–1979 cohort is more likely to be included to the marriage and few children cluster. Han Chinese are more likely to be categorized into the marriage and two children cluster, and

minorities are more likely to fall into the marriage and large families cluster. Party members are less likely to be classified into the marriage and large families cluster than nonparty members.

Table 6: Multinomial logistic regressions on the probability of belonging to each cluster of family life course trajectories (Average marginal effects)

	Marriage & large family		Marriage & two children		Marriage & few children		Staying single longer	
	M1	M2	M3	M4	M5	M6	M7	M8
Gender:								
Male	0.227 [0.22, 0.24]	0.227 [0.22, 0.24]	0.183 [0.18, 0.19]	0.183 [0.17, 0.19]	0.159 [0.15, 0.17]	0.159 [0.15, 0.17]	0.431 [0.42, 0.44]	0.431 [0.42, 0.44]
Female	0.336 [0.33, 0.34]	0.337 [0.33, 0.35]	0.225 [0.22, 0.23]	0.225 [0.22, 0.23]	0.209 [0.20, 0.22]	0.209 [0.20, 0.22]	0.231 [0.22, 0.24]	0.229 [0.22, 0.24]
Urban/rural:								
Rural	0.313 [0.31, 0.32]	0.312 [0.31, 0.32]	0.219 [0.21, 0.23]	0.219 [0.21, 0.23]	0.185 [0.18, 0.19]	0.186 [0.18, 0.19]	0.282 [0.27, 0.29]	0.283 [0.28, 0.29]
Urban	0.179 [0.17, 0.19]	0.177 [0.17, 0.19]	0.159 [0.15, 0.17]	0.157 [0.15, 0.17]	0.188 [0.18, 0.20]	0.189 [0.18, 0.20]	0.474 [0.46, 0.49]	0.477 [0.46, 0.49]
Cohorts:								
1930–1939	0.404 [0.38, 0.43]	0.396 [0.37, 0.42]	0.067 [0.05, 0.08]	0.067 [0.05, 0.08]	0.199 [0.18, 0.22]	0.202 [0.18, 0.22]	0.328 [0.31, 0.35]	0.335 [0.31, 0.36]
1940–1949	0.481 [0.47, 0.50]	0.483 [0.47, 0.50]	0.110 [0.10, 0.12]	0.109 [0.10, 0.12]	0.114 [0.10, 0.12]	0.114 [0.10, 0.12]	0.294 [0.28, 0.31]	0.294 [0.28, 0.31]
1950–1959	0.282 [0.27, 0.29]	0.281 [0.27, 0.29]	0.22 [0.21, 0.23]	0.218 [0.21, 0.23]	0.118 [0.11, 0.13]	0.118 [0.11, 0.13]	0.383 [0.37, 0.39]	0.383 [0.37, 0.39]
1960–1969	0.175 [0.17, 0.18]	0.175 [0.17, 0.18]	0.286 [0.27, 0.30]	0.285 [0.27, 0.30]	0.252 [0.24, 0.26]	0.252 [0.24, 0.26]	0.287 [0.28, 0.30]	0.288 [0.28, 0.30]
1970–1979	0.078 [0.06, 0.09]	0.077 [0.06, 0.09]	0.201 [0.18, 0.22]	0.198 [0.18, 0.22]	0.390 [0.36, 0.42]	0.395 [0.37, 0.42]	0.331 [0.31, 0.36]	0.330 [0.30, 0.36]
Race:								
Minorities	0.302 [0.28, 0.32]	0.301 [0.28, 0.32]	0.176 [0.16, 0.19]	0.177 [0.16, 0.20]	0.162 [0.14, 0.18]	0.162 [0.14, 0.18]	0.359 [0.34, 0.38]	0.360 [0.34, 0.38]
Han	0.280 [0.27, 0.29]	0.280 [0.27, 0.29]	0.208 [0.20, 0.21]	0.208 [0.20, 0.21]	0.188 [0.18, 0.19]	0.188 [0.18, 0.19]	0.324 [0.32, 0.33]	0.324 [0.32, 0.33]
Politics status:								
Party member	0.258 [0.24, 0.28]	0.254 [0.24, 0.27]	0.220 [0.20, 0.24]	0.220 [0.20, 0.24]	0.196 [0.18, 0.21]	0.196 [0.18, 0.21]	0.326 [0.30, 0.35]	0.330 [0.31, 0.35]
Nonparty member	0.285 [0.28, 0.29]	0.285 [0.28, 0.29]	0.204 [0.20, 0.21]	0.204 [0.20, 0.21]	0.184 [0.18, 0.19]	0.184 [0.18, 0.19]	0.327 [0.32, 0.33]	0.326 [0.32, 0.33]
Interaction terms between gender and cohort:								
Male x 1930–1939		0.298 [0.27, 0.33]		0.060 [0.04, 0.08]		0.180 [0.15, 0.21]		0.461 [0.43, 0.50]
Male x 1940–1949		0.372 [0.35, 0.39]		0.110 [0.10, 0.12]		0.105 [0.09, 0.12]		0.413 [0.39, 0.43]
Male x 1950–1959		0.228 [0.21, 0.24]		0.188 [0.17, 0.20]		0.092 [0.09, 0.10]		0.492 [0.47, 0.51]
Male x 1960–1969		0.149 [0.14, 0.16]		0.256 [0.24, 0.27]		0.219 [0.20, 0.23]		0.376 [0.36, 0.39]
Male x 1970–1979		0.059 [0.04, 0.08]		0.161 [0.13, 0.20]		0.351 [0.31, 0.40]		0.428 [0.38, 0.47]
Female x 1930–1939		0.487 [0.45, 0.52]		0.073 [0.05, 0.09]		0.221 [0.19, 0.25]		0.219 [0.19, 0.25]
Female x 1940–1949		0.584 [0.56, 0.61]		0.108 [0.09, 0.12]		0.123 [0.11, 0.14]		0.185 [0.17, 0.20]
Female x 1950–1959		0.331 [0.31, 0.35]		0.245 [0.23, 0.26]		0.141 [0.13, 0.15]		0.283 [0.27, 0.30]
Female x 1960–1969		0.199 [0.19, 0.21]		0.312 [0.30, 0.33]		0.284 [0.27, 0.30]		0.206 [0.19, 0.22]
Female x 1970–1979		0.094 [0.07, 0.11]		0.231 [0.20, 0.26]		0.436 [0.40, 0.47]		0.239 [0.21, 0.27]

Table 6: (Continued)

	Marriage & large family		Marriage & two children		Marriage & few children		Staying single longer	
	M1	M2	M3	M4	M5	M6	M7	M8
Interaction terms between urban/rural and cohort:								
Rural × 1930–1939		0.390 [0.36, 0.42]		0.390 [0.36, 0.42]		0.215 [0.19, 0.24]		0.326 [0.30, 0.35]
Rural × 1940–1949		0.517 [0.50, 0.53]		0.517 [0.50, 0.53]		0.115 [0.10, 0.13]		0.265 [0.25, 0.28]
Rural × 1950–1959		0.325 [0.31, 0.34]		0.325 [0.31, 0.34]		0.116 [0.11, 0.13]		0.331 [0.31, 0.34]
Rural × 1960–1969		0.203 [0.19, 0.21]		0.203 [0.19, 0.21]		0.245 [0.23, 0.26]		0.233 [0.22, 0.24]
Rural × 1970–1979		0.089 [0.07, 0.11]		0.089 [0.07, 0.11]		0.412 [0.38, 0.44]		0.277 [0.25, 0.31]
Urban × 1930–1939		0.417 [0.37, 0.46]		0.417 [0.37, 0.46]		0.158 [0.12, 0.19]		0.362 [0.32, 0.42]
Urban × 1940–1949		0.369 [0.34, 0.39]		0.369 [0.34, 0.39]		0.111 [0.09, 0.13]		0.391 [0.36, 0.42]
Urban × 1950–1959		0.132 [0.11, 0.15]		0.132 [0.11, 0.15]		0.124 [0.11, 0.14]		0.558 [0.53, 0.58]
Urban × 1960–1969		0.078 [0.06, 0.09]		0.078 [0.06, 0.09]		0.277 [0.25, 0.30]		0.471 [0.44, 0.50]
Urban × 1970–1979		0.376 [0.02, 0.06]		0.376 [0.02, 0.06]		0.339 [0.29, 0.39]		0.506 [0.45, 0.56]
Observations	19,002	19,002	19,002	19,002	19,002	19,002	19,002	19,002

Note: 95% confidence intervals in the bracket [lower bound, upper bound].

Females are more likely to fall into the marriage and large families cluster, whereas males are more likely to be classified into the staying single longer cluster (Appendix Figure A-3). Urban dwellers are more likely to be classified into the marriage and few children and staying single longer clusters, and rural residents are more likely to be categorized into the marriage and large families cluster (Appendix Figure A-4).

To summarize, there are gender and urban/rural differences in trajectories to adulthood. Male and urban residents are more likely to fall into the categories characterized by high education, stable work, and late transition. whereas female and rural residents tend to fall into the categories characterized by low education, agricultural work, and early transition.

5. Conclusion and discussion

The existing literature has identified new patterns in the pathways to adulthood since the late 1960s (Furstenberg 2010; Rindfuss et al. 2010); however, only a few studies have examined such changes in China from a holistic perspective. This research used retrospective data, examined five cohorts born from 1930 to 1979 as the research subjects, and constructed respondents' trajectories to adulthood based on education, marriage, childbearing, and employment to investigate the trends and patterns of the pathways to adulthood of young Chinese people.

First, we used sequence analysis to identify four clusters of trajectories to adulthood. For the education and employment trajectories, nearly half of individuals fall into the traditional cluster of low education and agricultural employment and approximately one-quarter fall into the long studies and stable employment cluster. These types reflect the diversity of transition to adulthood patterns, which are delayed and more complex. For the family life course, more than half of individuals belong to the traditional and ordered types of marriage and large families and marriage and two children. Approximately one-third fall into the staying single longer cluster. This type represents the recent change in the transition to adulthood, marked by a delay in the timing of life events during adulthood. This result indicates that the new pathways to adulthood observed in Western countries (Billari and Liefbroer 2010; Ferrari and Pailhé 2017) are also confirmed in China.

Second, the transition to adulthood differs by gender and urban/rural areas. Males and urban residents are more likely to be characterized by high education, stable work, and late transition, whereas females and rural residents tend to be characterized by low education, agricultural work, and early transition. In addition, compared with young people who are not party members, party members are more likely to be categorized by the modern variation of the transition (e.g., long studies and stable employment), which has the advantage of a stable transition to adulthood.

Changes in the pathways to adulthood are also closely related to government policies in China. Compared with the dynamic changes in the transition to adulthood in Western countries, the pathways to adulthood for young Chinese people are more affected by such government policies as the ‘down to the countryside’ policy, one-child policy, 1980 marriage law, and household registration system, which have changed the timing, extent, and order of life events.

By cohort, the 1960–1969 and 1970–1979 cohorts are more likely to be classified into the cluster of marriage and few children because of the implementation of the one-child policy (Hesketh, Lu, and Xing 2005). The 1940–1949 cohort is more likely to be classified into the category of marriage and large families. Therefore, owing to the influence of traditional concepts and absence of a family planning policy, its trajectory to adulthood includes early marriage and unrestricted childbearing. The age at first marriage of Chinese people rose for the first time in the 1970s and declined in the early 1980s (Davis and Friedman 2014), but the rising trend resumed under the influence of the 1980 marriage law, which delayed the timing of marriage among the 1970–1979 cohort. In addition, historical events, such as the Great Leap Forward and Cultural Revolution, have also shaped the pattern of young people’s trajectories to adulthood. For instance, younger Chinese cohorts transition to marriage and parenthood sooner than the 1950–1959 cohort that grew up experiencing the Great Leap Forward and Cultural Revolution (Yeung and Hu 2013).

The occupational trajectories of cohorts are also affected by education and employment policies. For example, a considerable proportion of individuals from the 1930–1939 and 1940–1949 cohorts are classified into the category of long studies and agricultural employment; the improvement of their level of education is related to the anti-illiteracy movement in the 1950s. Another example is that compared with other cohorts, many individuals in the 1940–1949 and 1950–1959 cohorts fall into the low education and agricultural employment cluster, which may be related to the implementation of China's 'down to the countryside' policy in the 1960s and early 1970s. Specifically, when many young urban residents responded to the national call to support agricultural production and development, their participation in agricultural labor interrupted their education (Chen et al. 2020). The 1960–1969 and 1970–1979 cohorts are mainly classified into the long studies and stable employment cluster. These cohorts have raised their level of education because of the resumption of the college entrance exam in 1978 and implementation of the nine-year compulsory education policy in the 1980s. Their stable employment status is also related to the succession replacement system, job assignment system, and danwei system that helped people have a lifelong job. Compared with other cohorts, an increased percentage of the 1970–1979 cohort is not employed, indicating that the job instability of young people has increased. This could be related to China's economic reform and the elimination of the danwei system since its reform and opening up. In addition, urban dwellers are more likely to be classified into the long studies and stable work cluster, whereas rural residents typically fall into the low education and agricultural employment and long studies and agricultural employment clusters, which is related to the household registration system implemented in the 1950s that restricts rural residents from entering the urban labor market. This results in differing employment patterns between young people in urban and rural areas. Therefore, the patterns of the pathways to adulthood of young Chinese people have been impacted by the implementation of various government policies. This means that the trajectories to adulthood of different cohorts in China present irregularities under the influence of policy factors.

In contrast to other countries' transition to adulthood dynamics, this study clarified that the trajectories to adulthood of the young Chinese population have been impacted by government policy. That is, the transition to adulthood of young people in China is policy-driven rather than self-managed (Yeung and Hu 2013). Young Chinese people transitioning to adulthood must make reasonable choices and arrangements for the timing of life events based on the prevailing policy constraints as well as their individual decision-making (Leisering 2003). Hence, future research could explore how young people arrange their lives by balancing national policy and individual agency as well as how the transition to adulthood is affected by government policies. Future research could

also aim to clarify the mechanisms behind how these policies affect the pathway to adulthood.

This study has several limitations. First, the data used are retrospective survey data; asking respondents to recall events that occurred several years or even decades ago may result in memory bias and/or error. Although we carefully sorted the data by deleting apparent mistakes and contradictory observations, the problem of memory bias may still affect the validity of the conclusions to some extent. Second, the data may also have sample selection bias, namely, those among the oldest cohorts who passed away are not in the sample, which may affect the results. Third, this study defines the transition to adulthood as a multidimensional state trajectory within the four domains of education, marriage, childbearing, and employment from ages 16 to 30 years. However, it does not include life events, such as migration, that – if also defined as a state of the transition to adulthood – may provide more comprehensive research findings. These topics remain to be addressed in future work.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the official website of CHARLS, <http://charls.pku.edu.cn/index/zh-cn.html>.

Authors' contributions

DXW led study conceptualization, design, tools development, and performed statistical analysis and writing. YFZ contributed to revisions of this article. The authors read and approved the final manuscript.

Ethics approval and consent to participate

Ethical approval for this study was granted by Institutional Review Board of Peking University. With the approval of the IRB, written informed consent was received from the respondents.

Consent for publication

This manuscript does not contain any individual person's data in any form.

Competing interests

The views expressed in the submitted article are the authors' own and not an official position of the institution or the funders.

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Appendix

Figure A-1: Predicted probability of being in each cluster of education–employment trajectories, by cohorts and gender (model with interaction terms of cohorts and gender)

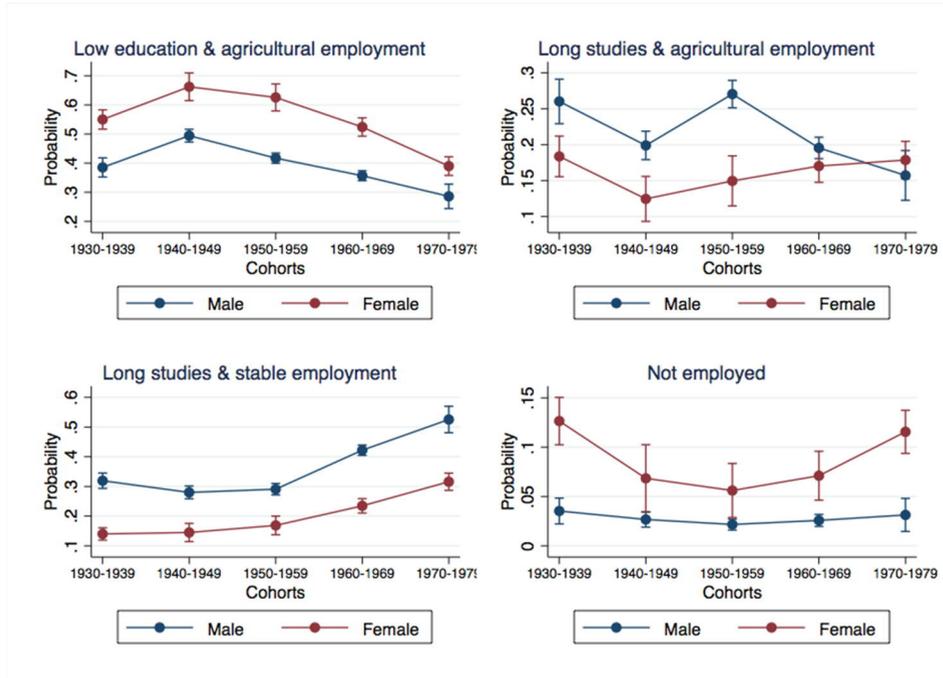


Figure A-2: Predicted probability of being in each cluster of education–employment trajectories, by cohorts and urban/rural (model with interaction terms of cohorts and urban/rural)

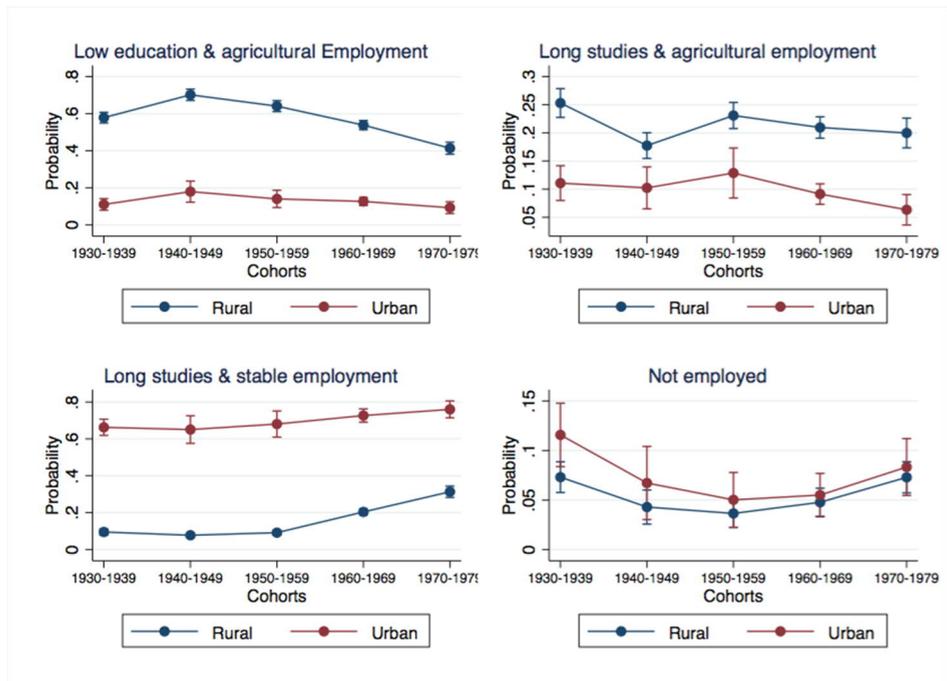


Figure A-3: Predicted probability of being in each cluster of family life course trajectories, by cohorts and gender (model with interaction terms of cohorts and gender)

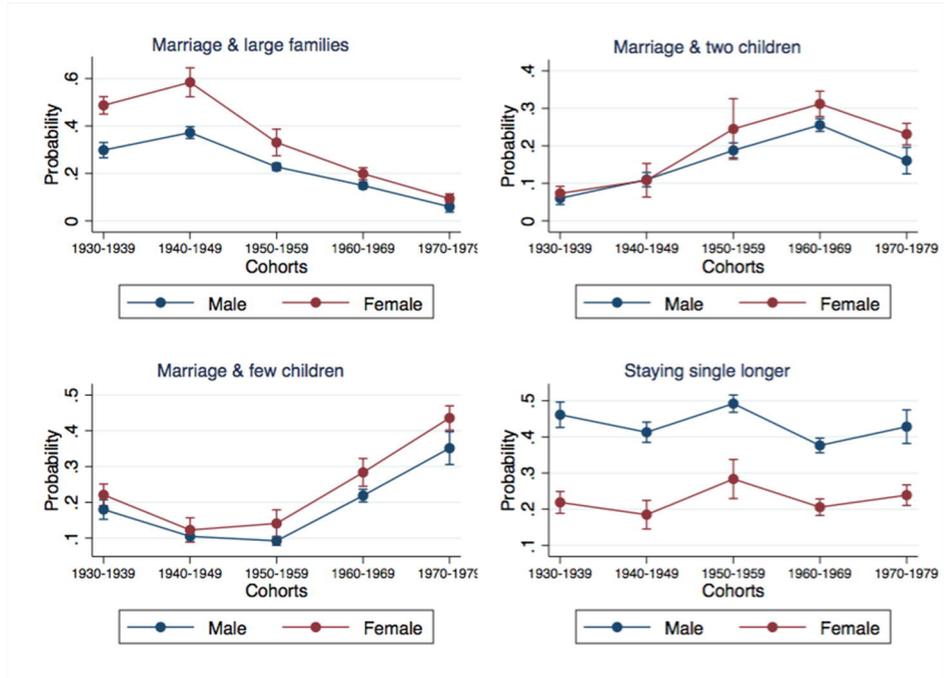


Figure A-4: Predicted probability of being in each cluster of family life course trajectories, by cohorts and urban/rural (model with interaction terms of cohorts and urban/rural)

