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TRANSITION PATHWAYS IN EDUCATION, WORK, AND HOME-LEAVING AMONG RURAL YOUTH IN CHINA

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Abstract

Youth's transition pathways into adulthood are important to study given that they closely relate to many late life outcomes. However, limited scholarly attention is paid in investigating youth's transition pathways in multiple domains of life from a rural, non-western context. Drawing from the multi-dimensional life course framework, this paper has two objectives. The first is to describe transition pathways in education, work and home-leaving among a group of rural youth residing in one of China's most impoverished provinces– Gansu Province. The second objective is to provide a critical documentation on the roles that structural and agentic resources play in shaping rural youth's pathways into adulthood. Data came from Wave 1 (2000) and Wave 4 (2009) of the Gansu Survey of Children and Family (GSCF). This study first uses latent class analysis (LCA) to characterize youth's diverse transition pathways patterns from age 12-19. Multinomial logit model is then applied to investigate agentic and structural resources that associated with different patterns of transition pathways. LCA analysis revealed six latent pathways: (1) vocational school attenders; (2) local high school attenders; (3) move for high school; (4) move for work; (5) late middle school finishers and move for work; and (6) late middle school finishers and local high school. Three sets of variables distinguished between these groups: youth's agentic orientations, family SES, and community-level educational resources. This study highlights heterogeneous pathways experienced by rural Gansu youth in transition into adulthood. It also underscores the role that structural and agentic resources play in shaping youth's transition pathways into adulthood.

1. Introduction

Children living in poverty face limited opportunities in many spheres of life. It is well established that childhood poverty is closely linked with many negative life outcomes, such as deviant behaviors, poor health outcomes, low intellectual development, the risk of dropping out of school early, and adverse labor market outcomes (Chetty, Hendren, and Katz 2016; Guo and Harris 2012; Lichter 1997; Schafter, Ferraro, and Mustillo 2015). In sum, childhood poverty seems to be one of the critical barriers to upward mobility.

Despite the well-documented disadvantages of children who grow up in poverty, the precise pathways in which childhood poverty leads to disadvantages in multiple life-domains during adulthood are less clear. To understand how people ended up in different socioeconomic statuses later in life, one needs to have a better understanding of how the lives of poor children unfold over time, and to what extent structural and agentic resources play a role in shaping their transition pathways. From a policy-making perspective, understanding poor children's experiences transitioning into adulthood can better enable the design and implementation of timely policy interventions that break the intergenerational poverty cycles.

Using the 2000 and 2009 data from the Gansu Survey of Children and Family (GSCF), this study has two objectives. The first is to describe diverse pathways into adulthood among a group of rural youth who live in one of the most impoverished provinces in China. I draw from the multi-dimensional life course framework (Elder, 1998) and examine how transitions in education, work, and home-leaving intersected and formed life pathways from adolescence to early adulthood (ages 12–19). Based on retrospective life history data, I describe youth's move into and out of different

educational institutions, their entry into and exit from the labor force, as well as their home-leaving behaviors along the way. I apply Latent Class Analysis (LCA) to identify six sub-groups of youth who exhibit distinctive transition pathways into adulthood.

The second objective is to document the roles that structural and agentic resources play in shaping rural youth's pathways into adulthood. While existing life course studies predominantly focus on the structural constraints and opportunities in shaping youth's transition pathways, youth do not passively adapt to their life circumstances (Elder 1994). Within the confinement of structural resources, youth's agentic orientations can serve as important psychological resources that buffer against economic hardships (Hitlin and Johnson 2015). I use multinomial analysis to examine the individual, family, and community resources that are predictive of youth's transition pathways. In so doing, I pay particular attention to the joint contributions of both structural and agentic resources that shape rural youth's transition pathways.

This study contributes to the existing literature in three ways. First, the study provides additional evidence on transitions into adulthood in a rural context. Rural youth, along with other socioeconomically disadvantaged youth, are "the forgotten half" in the literature on transition into adulthood (DeLuca, Clampet-Lundquist, and Edin 2016). Rural youth often appear to be studied as a homogenous group in nationwide comparisons. Doing so, however, masks the heterogeneous transitions experienced by rural youth. In applying the LCA model, this study reveals that there nevertheless exist large variations among rural youth in their transition experiences.

Second, this study takes a detailed look at youth's movements through different educational levels, including middle, high, and vocational schools. Most of the existing research that examines multi-dimensional transition pathways treat educational transition as a binary status; that is, it models one's school experience as either finishing the highest schooling or not at any given age.

However, for economically disadvantaged youth, their pursuit of formal education is more complex. Considering that educational transition is a key component for youth's trajectories into adulthood in many less developed areas (Hannum and Liu 2005; Yeung and Hu 2013), this study provides rich information on the ways that rural youth navigate their life pathways by moving through different educational institutions.

Third, this study provides a portrait of youth's transition pathways in a non-western context. It is widely acknowledged that youth's transition experiences are contingent on specific historical and geographic contexts. However, most of the present studies focus on youth's experiences in a European or U.S. context. The lack of relevant studies based on different societal contexts yield limited understandings of how some fundamental life course concepts operate in other cultural contexts. For example, youth's agentic orientations are found to be an important factor in shaping their transition pathways in Europe and the U.S., where the individualistic culture is thought to be paramount (Hitlin and Johnson 2015; Schoon and Lyons-Amos 2017). However, the concept of individual agency has received much less attention among the studies that focus on East Asian societies. This is partly due to the concern that the collective, interdependent culture in East Asian societies may result in youth's own agentic orientations playing a limited role in shaping their future (Hitlin and Kwon 2016). From this perspective, China provides an informative case study on how structural and agentic resources shape youth's transition pathways. The youth in contemporary China have more freedom in deciding their education and careers compared to previous generations; nonetheless, they are still influenced by the residue of a collectivist culture, above and beyond the structural limitations.

The rest of the chapter is organized as follows. The next section discusses the theoretical considerations. The third section introduces the context of rural China and the present study.

Subsequently, the fourth section deals with method, data and measurement. The fifth section provides empirical results, and finally the last section discusses and concludes the research.

2. Theoretical Considerations

2.1 Transition into Adulthood: Markers, Timings, and Pathways

The time between adolescence and adulthood is demographically dense (Rindfuss 1991). Most of the major life events, such as finishing school, leaving home, starting a full-time job, getting married, and having kids occur during this period. These life events are not only demographically meaningful, but also are considered as important markers toward adulthood (Macmillan and Cooper 2005). Existing studies show that the timing and sequencing in which events take place matter, as they are closely related to many later life outcomes, including health, labor market outcomes, and psychological well-being (Amato and Kane 2011; Barban 2013; Mcvicar and Anyadike-Danes 2002; Shanahan 2000).

With the turn of the twenty-first century, youth's passages toward adulthood have become increasingly diversified. Scholars argue that youth from middle-class families experience prolonged transition times. Compared with the previous generations, it takes much longer time for today's youth to completely finish education, secure a full-time job, become financially independent, get married, and/or have kids (Amato and Kane 2011; Mortimer et al. 2016). A major reason for the prolonged transition time can be attributed to youth's increased investment in education in order to be better prepared for the competitive labor market. Other factors, such as high housing prices, also prevent youth from becoming residentially independent

(Kendig, Mattingly, and Bianchi 2014). As a result, a new developmental period—emerging adulthood—is thought to take place between adolescence and adulthood (Arnett 2000).

However, some scholars question the emerging adulthood narrative, arguing that the extended timing in transition into adulthood may only apply to middle-class youth. Poor youth instead may experience an expedited transition (DeLuca et al. 2016; Kendig et al. 2014). Families' lack of financial resources may push youth to leave school early and start full-time jobs to alleviate family financial stress (Kendig et al. 2014). Family economic disadvantages may also result in youth starting family formation, such as entering marriage and having kids, at younger ages. This is especially true for rural girls (McLaughlin, Lichter, and Johnston 1993). Besides achieving transition markers at early ages, poor youth's quick progression into adulthood can also be reflected in other aspects, such as undertaking adult-like responsibilities within families, including providing child care to their siblings (Elder, 1974). Psychologically, families' economic stresses may further translate into youth's mental stresses, fostering youth to be mentally prepared for undertaking adulthood roles at early ages in life (Burton 2007; Shanahan 2009).

2.2 Structural and Agentic Resources that Shape Transition Pathways

Beyond family, community resources are also found to be critical in affecting youth's transition experiences. Local educational resources, such as the availability of higher educational institutions, are directly related with youth's educational transition trajectories (Gregory and Huang 2013). Other community factors, such as local job opportunities, are also closely related to successful school-to-work transitions (Chetty et al. 2016). For rural youth in particular, their transitions into adulthood are often plagued by the lack of local educational and employment

opportunities. As such, their efforts in achieving upward mobility are often accompanied by out-migration intentions (Egondi et al. 2013; Hektner 1994).

Besides family and community, another source of structural inequality is gender. Although gender is often measured as an individual attribute, it reflects how resources are allocated on the basis of individuals' sex category (Moen 2001). In the context of transition into adulthood, research consistently documents that family resources are often distributed on the basis of gender (e.g., Hannum 2016). Along with gendered resource allocation patterns, parents also form different expectations of children's future achievements for girls and boys, which may further influence how children form career and educational aspirations for themselves (Correll 2012). Corresponding with education and career transitions, other transition experiences, such as home-leaving intentions, may be also stratified by gender. For example, Chiang et al. (2016) found that girls and boys in rural Gansu in China do not exhibit significant differences in their propensity to migrate, but they do differ in their reasons to move. Taking all these together, males and females may be stratified into different pathways into adulthood (Oesterle et al. 2011).

However, people do not passively adapt to their life circumstances. Within the constraints of economic, social, cultural, and historical structures, people tend to take action in constructing their life pathways (Bandura 1982). The early Wisconsin status attainment model reveals that young people's plans for the future are a conduit to transmit structural advantages and disadvantages to attainment (Sewell et al. 1969). Recent scholarship has paid increased attention to the mediating role that youth's agentic orientations play in affecting the transition into adulthood. Many psychological concepts were reintroduced as concepts relevant to human agency, such as self-efficacy, mastery, sense of control, planfulness and competencies (Mirowsky and Ross 2007; Scholz et al. 2002). Studies suggest that forward-looking, optimistic orientations can be

interpreted as a type of psychological resource that children can draw upon when facing life challenges (Mirowsky and Ross 2007; Mortimer et al. 2014).

3. The Context of Rural China and the Present Study

Youth's transition pathways need to be understood within a society's socioeconomic, demographic, cultural and policy contexts. To situate the rural Gansu youth's transition into adulthood experiences into a broader context in China, this section discusses social changes that have occurred in China over the past half-century, with a particular focus on the implications for rural children's life experiences.

The early 1980s saw a set of social, economic, and institutional changes that impacted the lives of everyone in China. To begin, the 1978 market reform led to a great improvement of people's living standards. The National Bureau of Statistics of China (2012) shows that the gross domestic product (GDP) per capita rose from $218 purchasing power parity for dollars in 1978 to $11,055 by 2009. Measured by the World Bank (2009) standard, the poverty rate in rural China dropped drastically from 65% in 1981 to only 10 % in 2004, with over half a billion people moving out of poverty. The improved living standard implies that children who were born after the economic reform received better nutrition and that their parents had more resources to invest in their education (Hannum and Park 2007a).

Although the economic reform greatly improved the living standards of Chinese families, the benefits of the reform were not equally distributed across children of different social groups. The rapid economic development also brought elevated income inequality (Xie and Zhou 2014). In particular, the rural-urban divide remains one of the most representative phenomena behind

inequalities (Hauser and Xie 2005; Xie and Hannum 1996). As a result, children in rural areas now have less access to all types of resources that are essential for upward mobility, including parental care and access to quality schooling (Hannum 2005).

Corresponding with the market reform in the late 1970s, the educational system in China also went through a set of reforms. A fiscal decentralization of the educational system took place in the 1980s, with the goal of mobilizing new resources for education (Hannum and Park 2007b). However, the decentralization also elevated regional inequality in education. The differentials of government revenues translated into quantity and quality differentials in education across places. Studies since the 1990s in China have documented substantial enrollment disadvantages of rural youth (Hannum 2016). For example, the proportions of youth ages 10–18 who are in school are 88% for urban boys and 89.4% for urban girls, but 76.6% for rural boys and 74.4% for rural girls (Connelly and Zheng 2007).

It is also necessary to note that another outcome of the economic reform is the liberation of labor markets. Together with the relaxation of the household registration system (the hukou system) since the 1980s, there has been a rapid increase in rural-to-urban migration (Liang 2016). For contemporary rural youth and young adults, the liberation of the labor markets and the relaxation of the hukou system mean that the barriers to migrate to urban areas are much lower.

3.1 The Present Study

As noted previously, social changes have had profound impacts on rural youth's transition experiences. However, there are limited studies focusing on the transition experiences of youth in China. The relevant topics are scattered in the literatures related to social stratification, child development, education, migration, family formation and labor market in China (Chen 2015;

Rozelle et al. 1999; Wu and Treiman 2007; Zhang, Hannum, and Wang 2008). Some review articles have attempted to describe youth's transition into adulthood experiences in multiple domains in life cross-sectionally, focusing on the changes across birth cohorts (Hannum and Liu 2005; Nelson and Chen 2007; Yeung and Hu 2013; Tian 2016).

Furthermore, there is a need to examine youth's transition pathways from multiple domains. Both educational and occupational attainment can be thought of as movements through an ordered sequence of transitions from lower to higher positions in educational categories or occupational categories (Mare 1981; Mortimer, Vuolo, and Wakefield 2008; Robert, Sheridan, and Hauser 2002). Theoretical and methodological development on the subject matter reveal that one needs to go beyond looking at life changes in a single life domain (Amato et al. 2008; Macmillan and Eliason 2003; Osgood et al. 2005). This is because decisions made in one life domain may influence trajectories in other life domains. Therefore, a holistic approach that considers youth's transition experiences in multiple domains of life is necessary.

There has so far been no in-depth investigation on how rural youth navigate their pathways to adulthood in multiple domains in life. In examining rural youth's transition pathways in the domains of education, work, and home-leaving, I propose two research questions:

(1) How do rural youth's education, work and home-leaving pathways, when viewed together, reflect their transition into adulthood profiles?
(2) What roles do structural and agentic resources play in shaping rural youth's transition pathways?

4. Method, Data, and Measurement

4.1 Latent Class Analysis

The complexities and the multi-faceted nature of transition into adulthood suggest it is appropriate to treat youth's transition pathways as latent constructs (Shanahan 2000). For the

purpose of this study, I use latent class analysis (LCA) to identify youth's various pathways to adulthood. LCA models the relationships among the observed variables by making assumptions about hidden, latent variables (Collins and Lanza 2013). In the context of this study, youth's transition pathways are viewed as error-free latent constructs which cannot be directly observed but can be modelled by specifying youth's role-adoption statuses in different life domains at each age. LCA is widely used in identifying patterns in the "transition into adulthood" literature (Amato et al. 2008; Osgood et al. 2005). When using LCA to classify life course pathways, the results are found to be robust and comparable with other methods, such as sequence analysis (Barban and Billari 2012).

Following Collins and Lanza (2013, p 41), with $c=1,\ldots,C$ as the number of the latent class, γ as the probabilities of individuals falling into each latent class (i.e., membership probability), and ρ as the probabilities of observing each response conditional on the probabilities of membership, the LCA model can be expressed as follows:

$$P(Y = y) = \sum_{c=1}^{C} \gamma_c \prod_{j=1}^{J} \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(y_i=r_j)} \qquad [1]$$

in which j=1,2,3, indicating three observed life domains (education, work and home-leaving). The observed life domains have r_j responses (as is elaborated in the next section, the education domain has four responses, so r_1=4, and work and home-leaving each have two responses, therefore r_2=2 and r_3=2). The variable *y* is a vector of responses to the J variables. The variable I ($y_i = r_j$) is an indicator function equal to 1 when the response to variable $j=r_j$ and equal to 0 otherwise. Taking all these together, the probability of observing a particular vector of transition responses (such as finishing middle school at age 15, starting high school at age 16, finishing high school at age 18, and starting to work and leaving home at age 19) is a function of

the probabilities of membership in each latent pathway, and the probabilities of observing each response are conditional on the latent pathway membership.

To fit a latent class model, one needs to estimate two sets of parameters: latent class prevalence (γ) and item-response probabilities (ρ). The parameters are estimated using maximum likelihood estimation. The analysis is mainly conducted using *STATA LCA plugin*, developed by the Methodological Center at The Pennsylvania State University (Lanza et al. 2018). Supplemental model-fit tests are conducted using *Mplus 8.0* (Muthén and Muthén 2017).

4.2 Research Site and Data

This study uses data from the Gansu Survey of Children and Families (GSCF), a longitudinal study that aims to document and examine the influence of poverty on children's education, health, and labor market performances in the Gansu Province of China (Hannum and Zhang 2012). Located in the western inland, Gansu Province is among the least economically developed provinces in China. According to the 2010 population census, 65% of the long-term residents live in rural areas (Statistics Bureau of China 2012). A report issued by United Nations Development Program showed that the Human Development Index of Gansu is 0.63, ranking it the fourth-to-last of all 31 provinces in China (UNDP 2013).

The GSCF survey adopted the multi-stage sampling procedure. Thus, the survey is representative of children in rural Gansu (Hannum and Adams 2008). The first wave was conducted in 2000, during which the research team interviewed 2,000 children aged 9–12 years old from 100 villages in rural Gansu. Questionnaires tapped into children's school experiences, cognitive and non-cognitive performances, achievement-related attitudes and plans for the future (Hannum and Zhang 2012). To better capture these children's living environments in multiple aspects, separate surveys were conducted with the targeted children's parents, teachers, school

principals, and village officers. The second and third waves were conducted in 2004 and 2007, during which time the children and the families from the original sample were revisited. The fourth wave was conducted in 2009, when the targeted children reached early adulthood (ages 17–21).

The analytical sample used for this study includes children who were interviewed in both 2000 (Wave 1) and 2009 (Wave 4). Specifically, children's school, work and migration histories are derived from a series of retrospective screening questionnaires in the 2009 survey. Children's family socioeconomic statuses (SES), school experiences, cognitive and non-cognitive skills, educational aspirations, and future orientations are derived from the questionnaires from the 2000 survey.

Survey attrition is low in GSCF. Among all the children who were interviewed in 2000, only 280 were lost to follow up in the 2009 survey. The sample used for this study is further restricted to those youth who have complete information on the starting and ending dates of school, work, and migration histories in the first wave. The analysis is further limited to the respondents who were at least 19 years old when interviewed in 2009. This restriction maximizes the sample size and also ensures that a sufficient period of time in transition is covered. As a result, an additional 193 youth are excluded from the analysis, leaving a final analytical sample of 1,470 individuals.

4.3 Measurement

Transition Pathways

Education: The 2009 survey asked youth "Have you ever attended middle/high school/vocational high school/technique school /college?" If youth responded yes, the questions then asked the start date (month and year) as well as the length of stay in that specific educational level. Based on this information, each youth was characterized into one of the following four

mutually exclusive statuses: Not in school=0, Middle school=1, High school=2, Vocational school (*Gaozhi* 高职 or *Zhongzhuan* 中专) =3. A few individuals (*N*=65) reported that they attended 3-year technique school (*Dazhuan* 大专) by age 19. To avoid model sparseness, the 3-year technique school attendants are grouped into the vocational school category.

Work: The 2009 survey asked youth "Have you ever undertook a full-time job?" If the answer was yes, the survey then asked the first and the most recent full-time jobs the youth took, as well as the start and end dates of each job. From each age from 12 to 19, youth are characterized into one of the two statuses: *Work full time* =1, otherwise=0.

Home-leaving: The 2009 survey also collected information on youth's residential changes. Specifically, youth were asked "Have you ever lived somewhere else outside of your family home for more than three months?" If the answer was yes, the survey then asked how many times youth had ever lived outside of the family home, as well as the start and end dates (month and year) of each move. For the purpose of this study, *Home-leaving* = 1 if an individual lived somewhere else other than the family home for more than three months in that year, otherwise=0.

Figure 1 further presents the distributions of education, work and home-leaving statuses at each age. It is evident that as youth progress to adulthood, they start to exit from the formal educational system. By the time when the sampled youth reached age 19, more than 60% of them were not in school. In terms of the attendance at each educational level, the attendance of middle school was near universal between ages 12 and 14, and the percentages dropped slightly at 15, when around 80% of youth remained in middle school. The percentage of youth who were in high school increased from under 5% at age 15 to over 30% at ages 17 and 18, then further decreased to under 20% at age 19. Compared to high school enrollment, youth enrollment in vocational school was low. For example, less than 20% of youth were enrolled in vocational school at age 18.

The percentages of youth who reported working full time increased from less than 10% at age 15 to around 30% by age 19. Another notable feature of the sampled youth is the high prevalence of home-leaving at early ages. For example, at age 16, around 20% of youth reported that they lived somewhere else other than their family homes, by the time they reached to age 19, roughly half of them reported that they had lived somewhere else.

[Figure 1 Inserts Here]

Structural and Agentic Resources

Youth's agentic orientation

I capture youth's agentic orientations from two dimensions: (1) their orientations toward the future, and (2) their assessments of their own competencies at the present. To begin, *Educational Aspiration* is captured using three dummy variables indicating the highest educational level the youth aspire to achieve: high school, vocational school, and college and above. The reference group is aspiring to less than a high school education. *Future Orientation* is a scale score that captures youth's responses on six survey items that related to their perceptions toward the future (alpha=0.47). These statements include "I have confidence in the future", "I can live better than most people in the future", "I am mentally prepared for the future", "I won't feel very happy in my future", "I won't get what I truly want in the future", "My future will be better than the present" and responses range from 1=totally disagree to 4=fully agree. Negatively worded items are reverse coded. The response scores are summed and standardized to create a scale score.

Besides future orientations, youth assessments of their own competencies at present are also an important dimension of agentic orientations (Johnson and Hitlin 2017). To this end, I include *Self-Esteem* as a measure of youth's assessment of their own capacities. Following Glewwe et al. (2013), *Self-Esteem* is a scale of 12 statements that measures youth's self-esteem at

the first wave. An exploratory factor analysis reveals that the internal consistency of these 12 statements is high (alpha=0.60) and therefore can be represented with a single factor. The responses scores are summed and standardized to create a scale score. The complete indicators of the *Future Orientation* and S*elf-Esteem* items are provided in Appendix B.

Other individual characteristics

A general cognitive ability test was conducted in the 2000 wave that aimed to test children's common knowledge, abstract reasoning and math skills (Leight, Glewwe, and Park 2015). *Cognitive Skill* is included as a control. A higher value indicates greater cognitive skills. *Good Health* is an assessment of self-evaluated health conditions at wave 1. A higher value indicates youth reported better self-evaluated health. Youth's gender and age at 2009 are also included in the model.

Family resources

Family resources are captured from two perspectives: family SES and children-parent relationships. In particular, family SES is captured by two variables. *Family Wealth* is measured by a summation of the values of households' large assets, including dwellings, automobiles, tractors, and TVs, washing machines, and furniture, to name a few. Compared with annual income, which is subject to variations, family wealth is a better measure of households' economic well-being in rural China. *Parental Education* measures the highest educational level ever attained by either parent. It has four values: 1 = Illiterate or semi-illiterate, 2 = Primary school 3 = Middle school, and 4 = High school and above.

Two additional variables are included to measure youth's perceptions of parental warmth, another important factor related to transition pathways identified by previous literature.

Specifically, *Close to Mother/Father* is a dichotomous measure equal to 1 if youth responded that they feel close to at least one parent, and 0 otherwise.

Local opportunity structures

To capture local structural opportunities, four variables are derived from the village questionnaires of the 2000 survey. *Near to Middle School* equals 1 if the village officers reported that there was a middle school at or near to the village, 0 otherwise; *Near High School* is coded 1 if the village officers stated that there was a high school at or near to the village, 0 otherwise; *Near Vocational School* is coded 1 if there is a vocational school near to the village, 0 otherwise. *Non-Agricultural Employment* is the reported percentage of households with family members working outside of the agricultural sector in a village.

Table 1 presents the descriptive statistics of covariates measured at Wave 1. It is evident that a predominant share of sampled youth (49%) aspired to go to college or higher, despite the fact that very few of them made it to college by 2009. In terms of family resources, the average parental educational level is close to middle school. A large share of youth reported that they feel close to their mother (70%) and/or father (69%). In terms of village-level characteristics, the percentage of households who have family members working outside of the agricultural sector is small (5%).

[Table 1 Inserts Here]

5. Results

5.1 Identification of Common Patterns of Pathways to Adulthood

To identify the optimal numbers of latent pathways to adulthood among GSCF respondents, I compared model-fit statistics for a series of LCA models, ranging from 2 to 8 latent

classes. The model-fit statistics are presented in Table 2 and include Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), BIC with adjustment of sample size (Adj-BIC), Entropy, and Lo-Mendell-Rubin (LMR) test (Lo, Mendell, and Rubin 2001). Although AIC, BIC, and Adj-BIC values continue to decline with the increased number of latent pathways, the LMR test results show that the 7-latent-pathway model is not a significant improvement over 6-latent-pathway model. Based on the considerations of model parsimony and LMR test results, I choose the 6-latent-class model as the final model.

[Table 2 Inserts Here]

5.2 Six Pathways to Adulthood

The final LCA model with six latent pathways generates in total 6×8×8=384 item-response probabilities (ρ). For the ease of presenting the results, the estimated probabilities of each latent pathway are graphed by age (Figure 2). This section also reports the prevalence of each latent pathway (γ).

The first pathway that emerges reflects youth's high chance of attending vocational school after middle school (the estimated probability is 0.41 at age 16 and 0.81 at age 17). I name youth who fall into the first pathway as "vocational school attenders". Corresponding with their vocational school attendance, they also have high probabilities of moving outside of the family home at the same time. For example, the estimated probability of home-leaving is 0.25 at age 15 and 0.44 at age 16. The first pathway is the best fit for 16.7% of the total sampled youth.

I name youth who fall into the second class as "local high school attenders". Compared with the first pathway, these youth have higher probabilities of attending regular high school (for example, the probability of attending high school at age 16 is 0.95). Moreover, these youth also

have lower probabilities of leaving home, indicating that they received high school education at the local level. Around 18% of the youth in the sample fall into this pathway.

For youth falling into the third pathway, home-leaving starts as early as age 13. By age 15, the probability of leaving home is 0.31, and it keeps increasing until age 18, when the chance of leaving the family home is 0.92. Another salient feature of the third pathway is that the probabilities of attending high school overlap with the probabilities of leaving home, suggesting that these youth attend high school somewhere other than local areas. Around 8.3% of the youth in the sample fall into this pathway.

Through the fourth pathway, "move to work", it is apparent that these youth have high probabilities of leaving home for work after middle school. For example, at age 16, the probabilities of home-leaving and work are both 0.45. Meanwhile, these youth have less chance of continuing any form of formal education after middle school (both high school and vocational school included). This group of youth comprises 10.8% of the total sample.

The fifth pathway shows that youth have a delayed transition out of middle school. For example, by age 17, the probability of remaining in middle school is 0.42. Meanwhile, the probability of work and home-leaving start to increase at age 17, indicating a transition from middle school directly to work. These group of the youth are therefore named "late middle school finishers + move to work". The fifth pathway has the largest prevalence among the sample; 27.2% of youth in the sample fall into this pathway.

Youth who fall into the sixth pathway also delay their transition from middle school. However, unlike the fifth pathway, this group of youth has higher probabilities of attending high school after middle school. For example, the estimated probability of attending high school at age 16 is 0.6. Meanwhile, these youth also have low probability of leaving home, indicating that the

high school education is received at the local level. They are named "late middle school finishers+ local high school attenders". The youth who fall into the sixth pathway comprises of 18.9% of the total sample.

[Figure 2 Inserts Here]

5.3 Structural and Agentic Resources Related to Transition Pathways

Multinomial logistic regression is conducted to assess the associations between a set of resource factors and youth's transition pathways. Table 3 reports the estimated odds ratios of the multinomial regression model. The reference group is local high school attendees. The last column reports the *p*-values of the log likelihood test for the overall effects of each covariate.

From Table 3, it can be seen that educational aspiration plays a significant role in predicting transition pathways. In particular, youth who have higher educational aspirations (indicated as aspiring to vocational school or college) have higher odds of falling into the second pathway, which is attending high school after middle school. After taking into consideration youth's educational aspirations, the other three indicators of agentic resources, future orientations and self-esteem, do not significantly relate with youth's pathways into adulthood.

Besides agentic resources, other individual attributes, including gender, age, and cognitive skills, are also significantly associated with transition pathways. In particular, girls have lower odds of falling into the reference pathway, i.e. attending local high school after middle school. Older youth have higher odds of falling into the fourth (move to work), the fifth (late middle school attenders + move to work) and the sixth (late middle school finishers + local school attenders) pathway. Youth's cognitive skills are also significantly associated with their transition pathways.

Specifically, having a higher cognitive test score is associated with higher odds of falling into the reference pathway, compared with the other five pathways.

In terms of family characteristics, it is not surprising that family SES is significantly related with youth's transition pathways. In particular, higher family wealth is related to higher odds of being in the first (vocational school attenders) and the third (move for high school) pathway, relative to the reference pathway. On the other hand, higher family wealth is related to lower odds of being in the fourth (move for work), the fifth (late middle school finishers + move for work), and the sixth (late middle school finishers + local high school attenders) pathway. Meanwhile, youth's feelings of closeness to their mothers or fathers do not show significant associations with transition pathways.

For village-level characteristics, close to vocational school is statistically associated with youth's odds of being in the vocational school attender pathway (OR= 1.02). However, other village-level characteristics do not significantly associate with youth's transition pathways.

[Table 3 Inserts Here]

6. Discussion and Conclusion

This study examines variations of transition pathways among a group of rural youth in Gansu Province, China. The first objective was set to investigate whether the distinctive patterns of transition pathways can be empirically identified. Using latent class analysis, I identified six distinctive transition pathways. The LCA results show that the most common pathway is the fifth pathway, i.e., late middle school finishers + move to work (27.2%), followed by the sixth pathway, late middle school finishers + local high school attenders (18.9%). Together, over 40% of the rural youth fall into these two pathways. A shared characteristic between these two pathways is that the

youth finish middle school at later ages. For example, for youth in the fifth pathway, it is predicted that they still have a 40% chance of remaining in middle school by age 17; the corresponding probability is greater than 50% for pathway six. It is, however, not surprising that a large share of rural youth finish middle school late. For one thing, previous studies have shown that poor families may decide to enroll their children in school at later ages in order to accumulate sufficient economic resources to pay for the cost of schooling (Nonoyama-Tarumi, Loazia, and Engle 2016). For another, youth who delayed entry into formal schooling are found to be more likely to experience grade retention, thus leading to a prolonged time for completing school (Chen 2015).

By taking a detailed look at youth's educational transitions, this study also finds that vocational education plays an important role in the rural educational system. In particular, the LCA model estimates that 16.7% of youth fall into the first pathway of those attending vocational school after middle school. This percentage is comparable with the percentage of youth who fall into the second pathway, i.e. local high school attenders (18%)—a more conventional track to go through after middle school in non-rural settings.

Furthermore, the study reveals that there exists a great share of youth that experience expedited transition from school to work. In particular, 10.8% of the youth in the sample fall into the fourth pathway (move to work). This group of youth stayed in middle school to age 15. By age 16, the probability of working full time is above 40%, and the probability of working full time keeps increasing with their age. When these youth reach age 19, their probability of engaging in full-time work is close to 60%.

In terms of youth's home-leaving and employment trajectories, this study reveals that the pursuit of education and work are important motives for home-leaving. This finding is consistent with the existing studies on home-leaving behaviors during the transition into adulthood (Aassve,

Billari, and Ongaro 2001). Regardless of the motivations for home-leaving, this study finds that a substantial share of youth leave home at much younger ages. For example, unlike the existing home-leaving studies that find college attendance to be one of the main drivers for home-leaving (Anderson and Fleming 1986; Raymore, Barber, and Eccles 2001), the rural youth in this study left their parental homes either for high school (the third pathway) or for vocational school (the first pathway). Previous studies find that even for freshman in college, home-leaving is associated with increased emotional stress (Tognoli 2003). This study does not address the emotional aspect of youth's home-leaving, but it sheds light on another layer of potential disadvantages experienced by the sampled rural youth.

For the second research objective, the multinomial model finds several significant associations between agentic and structural resources and youth's transition pathways. To begin, the results show that youth's educational aspiration has explanatory power in predicting youth's transition pathways. In particular, aspiring to go to higher educational institutions (vocational school or college) increases youth's odds of attending a local high school (the second pathway). This suggests that rural youths who have higher educational aspirations do make efforts toward achieving their aspirations. However, after taking into consideration youth's educational aspirations, youth's orientations toward the future and their assessments of their capacities in the present (i.e. self-esteem) do not exhibit significant associations with their transition pathways. It is possibly because this study focuses only on youth's early transition experiences from ages 12 to 19, a time when the sense of agentic orientation is still developing and thus they have limited power in shaping their life trajectories at these ages.

In terms of structural resources, this study finds that family wealth and parental education are associated with the increased chances of remaining in school rather than working after finishing

middle school. This finding is consistent with the existing literature showing that family socioeconomic status serves as an important factor in shaping youth's transition pathways (Amato et al. 2008).

Limitations and Future Research Direction

This study has several limitations. To begin, this study relies on youth's retrospective responses on the timing of their previous life experiences; therefore, it is possible that their life history data suffer from recall bias. Future studies may gather prospective and actual data on youth life pathways. Second, this study focuses on rural Gansu youth; therefore, generalizations to other youth populations should be made with caution. Third, the study captures the transition from age 12 to 19, which only covers youth's early transition experiences. Future studies may expand this research by looking at youth's transition experiences at later ages. In a similar vein, this study does not include marriage or parenthood histories because only 91 youth in the final sample were reported to have been married in the 2009 survey. Future research should also consider incorporating the marital and parenthood histories to make a complete history of the transition into adulthood. Fourth, this study only measures youth's future orientations at one point in time (Wave 1). The second and the third waves, although they included youth's educational aspirations, lack a consistent measure of future orientation. However, youths 'agentic resources are also inherently changing by nature (Bozick et al. 2010). Future studies may consider the changing nature of youth's agentic orientations over time and examine the dynamic processes between the changes in future orientations and pathways into adulthood.

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Figures and Tables

Figure 1. Distributions on School, Work, and Home-Leaving Status by Age

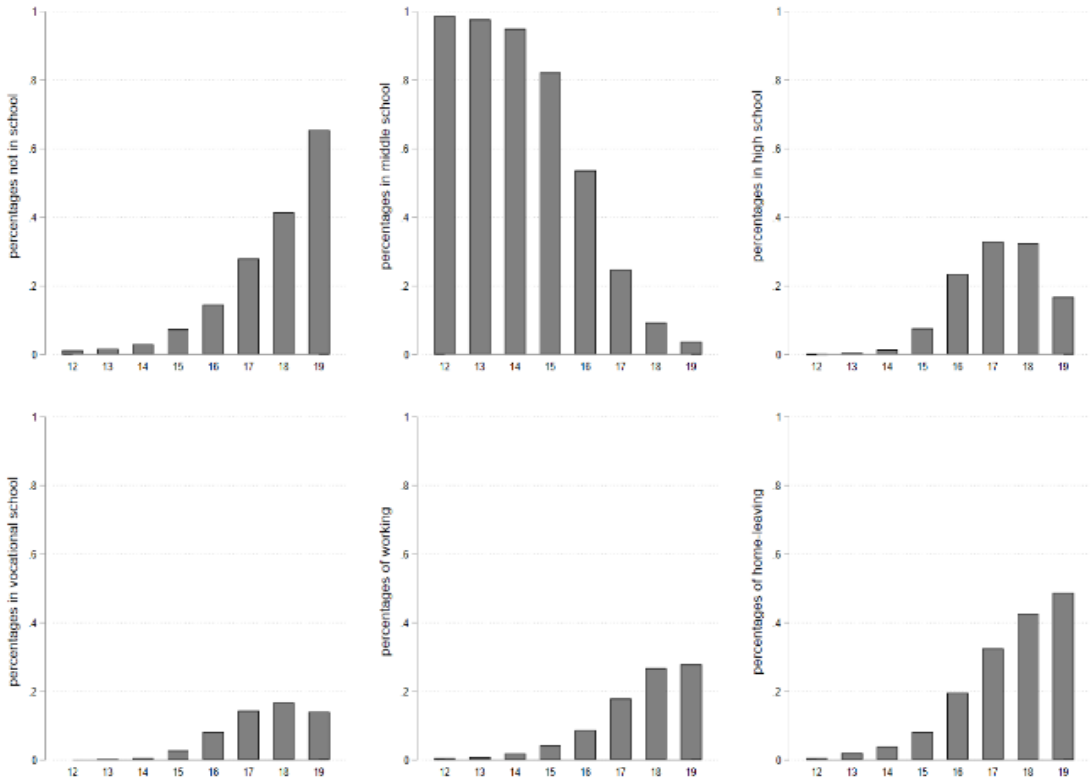


Figure 2. Six Transition Pathways

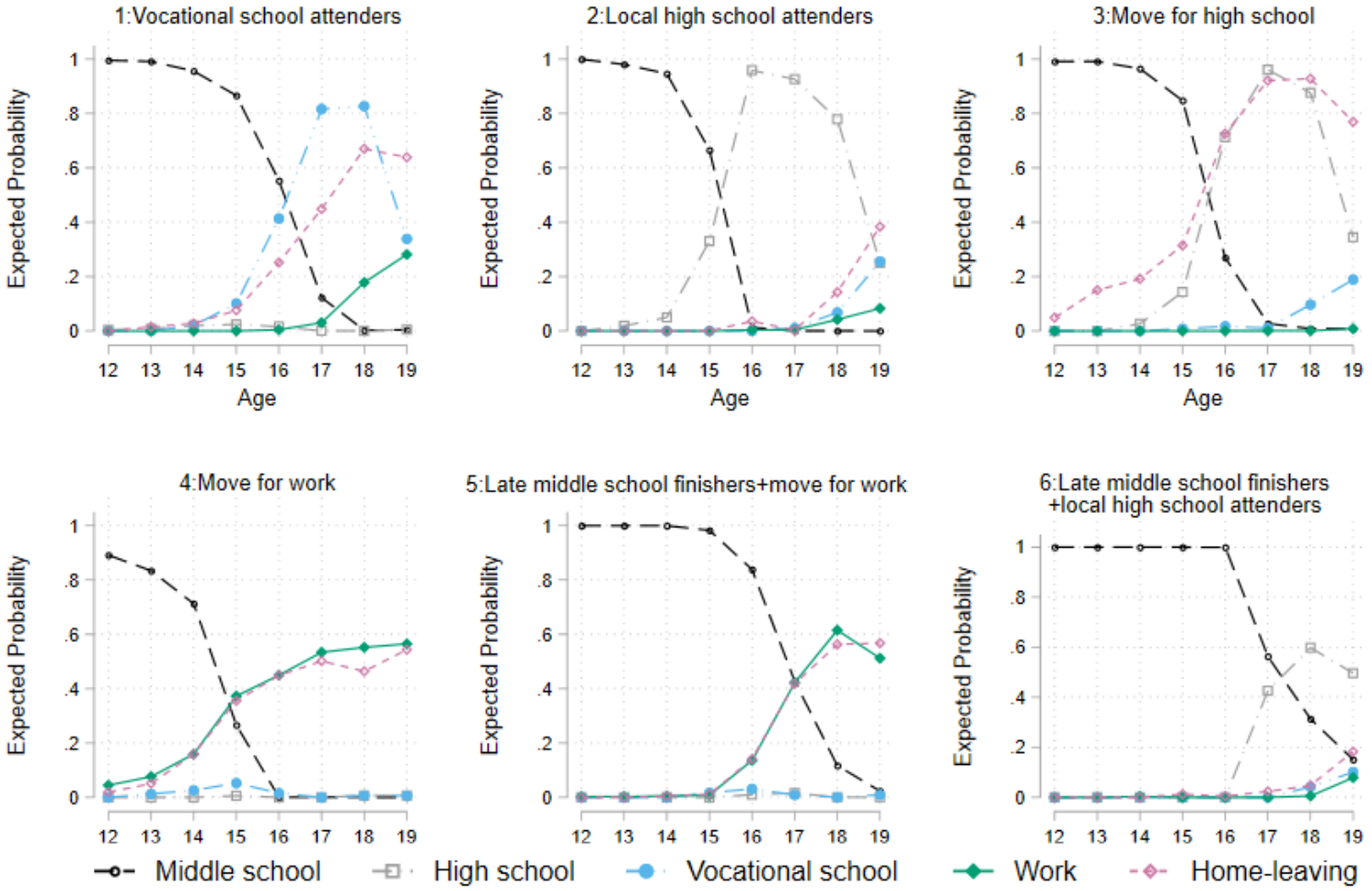


Table 1. Descriptive Statistics at Wave 1 (2000)

	Mean	SD
Agentic orientations		
Educational aspiration: High school	0.18	0.38
Educational aspiration: Vocational school	0.19	0.39
Educational aspiration: College or higher	0.49	0.50
Future orientation	0.00	1.00
Self-esteem	0.00	1.00
Individuals' other characteristics		
Age at 2009 wave	20.33	1.11
Female	0.45	0.50
Good health	0.76	0.43
Cognitive skills	18.16	9.86
Family characteristics		
Household wealth (log transformed)	9.45	0.99
Parental education	2.62	1.03
Close to mom	0.70	0.46
Close to dad	0.69	0.46
Village characteristics		
Non-agricultural employment	0.05	0.12
Near high school	0.44	0.50
Near vocational school	0.33	0.61
Near middle school	0.80	0.40

Table 2. Model-Fit Statistics

# of latent pathways	AIC	BIC	Adj-BIC	Entropy	LMR *p*-value
2	29381.89	29801.48	29550.52	0.91	0.00
3	27543.13	28175.17	27797.14	0.93	0.00
4	26425.69	27270.17	26765.07	0.93	0.00
5	25559.40	26616.33	25984.17	0.93	0.00
6	**24996.42**	**26265.80**	**25506.57**	**0.94**	**0.00**
7	24487.54	25969.37	25083.06	0.94	0.27
8	24142.29	25836.57	24823.19	0.94	0.00

AIC = Akaike information criterion; BIC = Bayesian information criterion;
Adj-BIC =Sample-size adjusted BIC, LMR = Lo-Mendell- Rubin test.
The LMR test is conducted using Mplus.

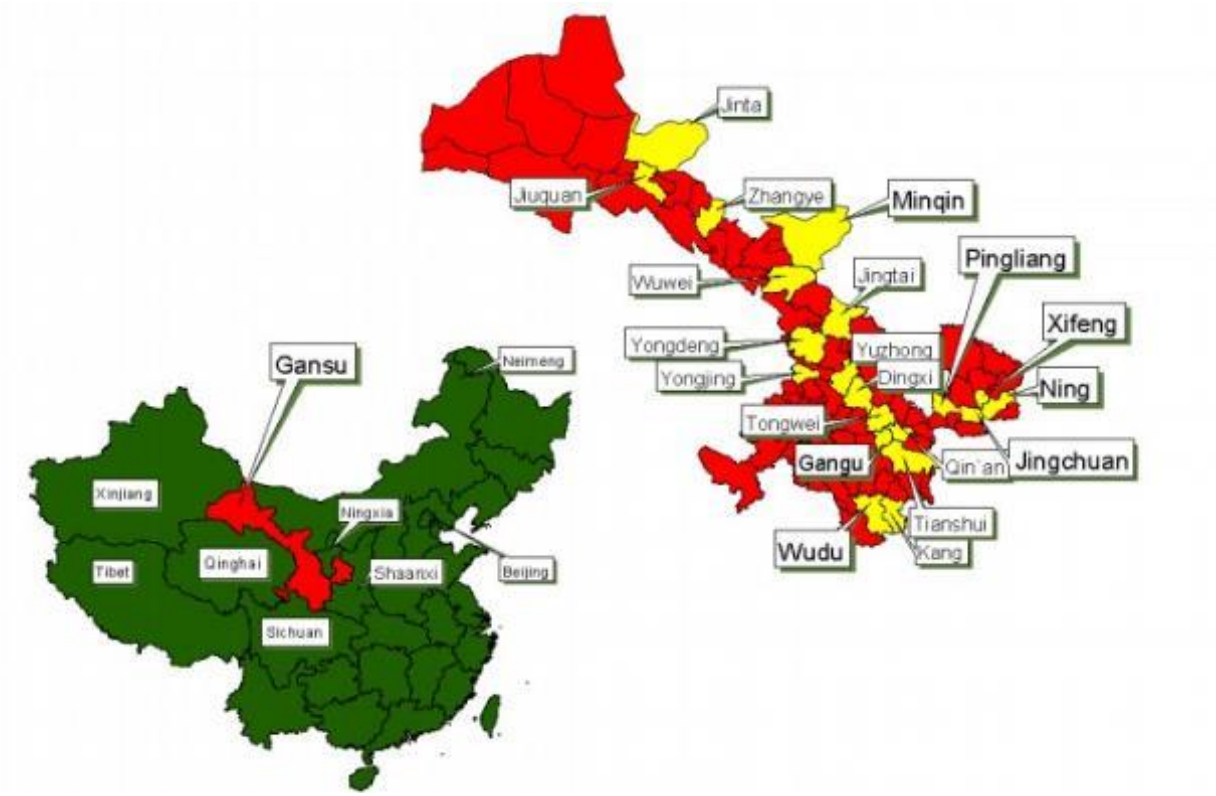
Table 3. Multinomial Model Predicting Latent Pathway Membership (ref: local high school attenders)

	Vocational School Attenders	Move for high school	Move for work	Late middle school finishers+ Move for work	Late middle school finishers + Local high school attender	*P-value*[1]
Agentic orientations						
Educational aspiration: High school	0.69	0.77	0.60	0.78	0.72	0.79
Educational aspiration: Vocational school	0.53	0.52	0.36	0.38	0.50	0.02
Educational aspiration: College	0.37	0.69	0.30	0.28	0.41	0.00
Future orientation	1.04	1.21	1.08	0.98	0.91	0.22
Self-esteem	1.01	0.99	0.97	1.00	1.08	0.92
Individuals' other attributes						
Age at 2009 wave	0.94	0.76	1.54	1.26	1.71	0.00
Female	1.67	1.30	1.67	1.75	1.43	0.01
Good health	0.80	0.82	0.77	0.88	0.84	0.84
Cognitive skills	0.96	0.99	0.94	0.95	0.94	0.00
Family Characteristics						
Household wealth (log transformed)	1.17	1.16	0.73	0.84	0.92	0.00
Parental education	0.81	1.02	0.64	0.63	0.80	0.00
Close to mom	0.60	0.91	0.61	0.62	0.73	0.07
Close to dad	1.15	0.94	0.89	0.98	1.12	0.81
Village characteristics						
Non-ag employment	0.99	0.11	0.69	1.08	0.72	0.36
Near high school	0.88	1.02	1.12	1.01	0.93	0.87
Near vocational school	1.02	0.62	1.00	0.84	0.77	0.04
Near middle school	0.86	0.91	0.95	1.17	1.30	0.38

Note: loglikelihood=-11914.65; The model is adjusted for sampling clusters at village level

[1]p-value reflects 4 degrees of freedom test of overall relation between covariates and latent pathway membership

Appendix A. Map of Gansu and Study Site



Source: Gansu Survey of Children and Family World Bank Proposal (2002)

https://china.pop.upenn.edu/documentation

Appendix B. Descriptive Statistics of Variables that Construct Measures of Future Orientations and Self-Esteem

Orientations toward future (alpha=0.47)	Mean	SD
I have confidence in the future	3.33	0.76
I can live better than most people in the future	2.76	0.85
I am mentally prepared for the future	2.96	0.80
I won't feel very happy in my future life (reverse)	2.77	0.93
I won't get what I truly want in the future (reverse)	2.72	0.91
My future will be better than the present	3.05	0.76
Self-esteem (alpha=0.60)		
I get most of the things I want	2.72	0.88
I give up on the things I could not achieve (reverse)	2.97	1.02
I always achieve what I want most	2.98	0.78
I have many things to be proud of	2.25	0.93
I always do things well	2.95	0.79
I always win praise from others for what I've done	2.82	0.88
I cannot do things well without the presence of my parents (reverse)	2.95	0.90
I think I should be good at everything	2.97	0.85
I feel inferior to others (reverse)	2.64	0.91
My school performance is good	3.12	0.79
I am satisfied with my life	3.23	0.73
I have reasons for what I do	3.04	0.78

Note: All the items are measured in 1-4 scale, where 1=totally disagree and 4=totally agree