人口學刊
第 61期，2020 年 12 月，頁 51-96
Journal of Population Studies
No. 61, December 2020, pp. 51-96

Special Issue
DOI:10.6191/JPS.202012_(61).0002

Intergenerational Influences, Educational Expectation, and Transition to Parenthood Among Young Taiwanese Adults

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Received: September 4, 2020; accepted: March 17, 2021.

Abstract

Social scientists have long been interested in how an increase in educational status affects childbearing intentions and behavior, leading to the postponement of parenthood. What has been missing is information on whether attitudes toward education at earlier ages predict fertility outcomes, and on how parents' attitudes affect children during their transition to adulthood. Using longitudinal panel data from the Taiwan Youth Project (TYP) between 2000 and 2017, we examine the relationship between adolescents' educational expectations and the timing of their entry into parenthood. Aside from children's own attitudes, we also address how parents' attitudes with respect to a child's education influence this same timing. We find that higher educational expectations contribute to a delay in parenthood or a decision to have fewer children. In addition, parents' educational preferences for their child have an independent effect on the child's timing of entry into parenthood. There are notable gender differences regarding the relationship between educational attitudes and the transition into parenthood. Specifically, parents' attitudes have greater bearing on men than women. Young adult men whose parents expect them to attend a graduate program and complete a post-bachelor's degree have the lowest rate of entering parenthood at a younger age. And young adult women with an expectation of receiving a bachelor's degree (but not a post-bachelor's degree) are more likely to postpone the timing of transition into parenthood. The implications of these findings are discussed in the conclusion.

Keywords: transition to parenthood, first birth, educational expectation, intergenerational relationships, life course

I. Introduction

Recent worldwide trends have been moving toward declining fertility rates and deferred childbearing (Myrskylä et al. 2013; The World Bank Group 2019). East Asian societies like Taiwan (Chen 2012; Chu et al. 2014) and Korea (Anderson and Kohler 2013; Choi 2018) are now characterized by extremely low fertility rates of around 1.0, which is among the lowest worldwide (Gauthier 2015; Raymo et al. 2015). Below-replacement fertility has important implications for economic growth and population structure, including labor force shortages and aging populations (Raymo et al. 2015). As such, scholars and policy makers have a longstanding interest in factors that explain variations in fertility outcomes (Chu et al. 2014; Dahlberg 2015; Morosow and Trappe 2018; Raymo et al. 2015).

Abundant sociological research has focused on the role of education in determining childbearing behavior (Raymo et al. 2015). At the macro level, an inverse relationship exists between educational expansion and fertility, whereby increased higher education leads to the postponement of marriage and delayed parenthood (Choi 2018; Monstad et al. 2008). At the micro level, higher educational attainment is likely to affect young adults' decisions on the timing of first childbirth and their expected number of children (Ní Bhrolcháin and Beaujouan 2012; Nisén et al. 2018). To date, however, there is a dearth of research addressing how attitudes toward education predict childbearing behavior.

Educational influence is multidimensional, and involves not only educational attainment but also its related aspirations, plans, and enrollment (Kravdal and Rindfuss 2008). Moreover, one's educational aspirations in early life affect future educational attitudes and life goals. As a result, young

adults make plans for family formation (e.g., marriage and childbirth) as a response to their educational aspirations (Barber 2001). Based upon life course perspectives, attitudes, and ambitions in early life can have a long term effect on a wide range of later life outcomes (Elder 1998; Guzzo et al. 2019). This is due to "a sequence of intentions constructed whether in parallel or at different points in time, independently of whether they will be realised or not" (Philipov et al. 2016, p. 4).

In light of sociologists' longstanding emphasis on the intergenerational influences of parents on children (Morosow and Trappe 2018; Sewell and Hauser 1975), there is a need to examine the role of parents in shaping their children's educational aspirations and attitudes toward forming families. In East Asian nations like Taiwan, where parent-child relationships play an important part in people's lives (Raymo et al. 2015; Yi 2013), several distinctive features of this intergenerational relationship are different from the West. These include the strong emphasis on familism (Thornton and Lin 1994), filial piety (Yu et al. 2012), and the next generation's educational success (Lan 2014). East Asian adolescents and young adults are characterized by generally longer exposure to parental influence and a delay in living independently due to leaving home at a later age (Raymo et al. 2015). In this context, decisions about marriage and childbirth have often been considered too important to be left to children themselves—especially to sons (Chu et al. 2014; Yi and Chang 2008).

Taiwan presents an ideal case for studying variations in the timing of first birth in East Asian societies. Compared to Western societies, parents in East Asia exert greater influence on their child's decisions regarding family formation (Chu et al. 2014; Yi 2013). While recent research shows a reversal of low fertility rates in several industrialized countries (Myrskylä et al. 2013; Zaidi and Morgan 2017), the fertility rates in Taiwan remain

one of the lowest in the world (Chen 2012). This is surprising, since the proliferation of children and grandchildren is one of the distinctive features of traditional families (Yi and Chang 2008). Furthermore, previous literature suggests substantial gender differences in childbearing attitudes and behavior (Guzzo et al. 2019; Tong et al. 2017), in part because women respond to rapid economic changes and movements toward gender equality in a much different way than men (Raymo et al. 2015).

This paper aims to extend the current framework for the study of fertility by accounting for educational attitudes, while more closely examining how educational expectations shape future childbearing outcomes. Specifically, it will address whether and how adolescent educational expectations in Taiwan influence the age of entry into parenthood or the timing of starting a family. Moreover, it will examine how parents' attitudes to their children's academic performance affect later childbearing, independent of a child's own educational attitudes, while addressing the gender differences in how children's and parents' educational aspirations affect the timing of transition to parenthood.

II. Theoretical Framework

How Educational Expectations Affect the Timing of Entry into Parenthood

Social psychological scholarship on the attitude-behavior link is often concerned with how specific attitudes (or beliefs) that are coupled with subjective norms and social pressure predict intentions, and how those intentions predict subsequent behavior (Ajzen 1991; Ajzen and Klobas 2013). That is, "intentions to attain a behavioral goal, such as having a child, should be predictable from attitudes, subjective norms, and perceived

control with respect to the goal in question (Ajzen and Klobas 2013, p. 207).” Following this, positive attitudes toward childbirth, together with the social pressure favoring parenthood, increase the likelihood and speed of first birth (Guzzo et al. 2019; Thomson 1997).

It is equally important to examine the relationship between specific behavior and attitudes that are in the opposite direction from attaining this behavioral goal. This is what Barber (2001, p. 101) calls “attitudes toward competing behaviors (or competing attitudes).” Competing attitudes such as educational aspirations and career goals are likely to be at odds with attitudes toward childbearing in early adulthood because the opportunity costs of early childbearing (or early transition into parenthood) are the sacrifice of time and money that could be used for pursuing higher educational goals (Barber 2001). In relation to this concept, role conflict theory states that people will avoid transitioning into roles that induce tension (Goode 1960) or produce a sense of dissonance or discomfort (Heider 1958). When the fulfillment of one goal (i.e., the role of parenthood requires staying home to raise children) hinders the fulfillment of another goal (i.e., the role of students spending large amounts of time away from home), individuals experience role conflict. Four distinct but related mechanisms are proposed here to help explain how educational expectations affect the timing of transition into parenthood.

First, one’s educational expectations in former life stages are likely to influence subsequent attitudes and later educational goals. Adolescents’ attitudes toward education may affect fertility outcomes in the long term if these attitudes reflect persistent goals and values (Guzzo et al. 2019). Thus, if adolescents have already planned long-term goals (e.g., completing graduate programs or receiving professional certificates), they are likely to postpone childbearing until these goals have been achieved.

Second, the educational attitudes that are usually constructed in early life stages (e.g., childhood and adolescence) may determine fertility behavior, which is independent regardless of whether particular educational goals have been achieved (Philipov et al. 2016). If students with high educational aspirations fail to do well in post-secondary education, they may keep trying to pursue these same goals over the next few years, or at least extend the period of staying in school. Related research suggests that this extended schooling delays the timing of family formation (Skirbekk et al. 2004).

Third, educational aspiration may affect one's sexual and romantic relationships. Adolescents with higher levels of educational expectations are less sexually active (Ohannessian and Crockett 1993). Plotnick (1992, p. 802) states that "young women with favorable attitudes toward their current school experiences and with high long-run educational aspirations tend to have long-term goals that help them resist pressures to become sexually involved, or at least that make them more careful contraceptors."

Fourth, one's future educational goals determine the age of first marriage. In Taiwan, there is a strong cultural link between marriage and childbearing, which is commonly called "the marriage-childbirth package" (婚育包裹) (Jones and Gubhaju 2009; Wu and Yi 2003). This strong tendency toward delayed marriage—in part because of prolonged participation in schooling—is likely to lead to postponement of first childbirth, which eventually prevents married couples from reaching their ideal family size (Raymo et al. 2015; Yi and Chen 2014).

To date, only a handful of studies have tested the direct effect of educational attitudes on childbearing outcomes. Some suggest that educational expectations are moderately associated with delayed parenthood (Barber 2000, 2001) and planned childlessness (Guzzo et al. 2019). Based

on these, it is likely that educational attitudes affect subsequent actions because young adults make plans for family formation as a response to their perceived control over education (Barber 2001). We propose that planning to participate in advanced levels of education leads to postponement of the transition to parenthood:

H1: Individuals with higher levels of educational expectations, as measured in adolescence, will enter parenthood later than those with lower levels of educational expectations.

Influence of Parents' Educational Attitudes

Scholarship has clearly established that parents play a large role in transmitting advantages (or disadvantages) to the next generation (Guo and Harris 2000; Sewell and Hauser 1975). It logically follows that the educational attitudes and expectations of parents should also influence their child's fertility outcomes (Barber 2000). For instance, if parents discourage their children from aiming high, children might face limited career options and therefore choose to bear children at an earlier age. In contrast, if parents aspire to higher levels of educational attainment for their children (and are able to help fulfill these aspirations), children may face limited prospects for early parenthood.

Two theoretical accounts are useful to explain the potential relationship between parents' educational attitudes and children's childbearing behavior. First, parental influence can spread through the process of socialization, whereby children internalize the attitudes and preferences of their parents (Starrels and Holm 2000). Children may behave in accordance with parental aspirations simply because of shared social positions, values, and life experiences across generations (Bengtson 1975). Dahlberg (2015, p. 422) further calls this socialization process "the intergenerational harmonization

of individuals' beliefs, preferences, and behaviors with that of their cultural surroundings." Thus, parents may set goals for their children in order to align directly with those deemed appropriate within the same social and status group. Second, the attitudes and preferences of parents can shape children's behavior via social control techniques (Jennings et al. 2012). Independent of children's own attitudes, it is possible that parents wanting their children to achieve high levels of education will exert social control by cutting financial assistance or other forms of support should their children happen to give birth early. These parents may also have strong opinions about when it is or is not appropriate for their child to form a family.

In Taiwan, we can argue that the role of parents in navigating their children's life course decisions around education and family formation is particularly important. As in other East Asian societies, Taiwanese parents put great emphasis on children's educational success, pushing them to attend high-ranking colleges and perhaps also graduate programs (Lan 2014). Although a distinctive feature of the traditional Chinese family is familism, which supports the value of having many descendants (Raymo et al. 2015; Thornton and Lin 1994), parents with strong educational preferences and career goals understand that nurturing youngsters and investing in their education take an enormous amount of time and money. In addition, a considerable proportion of Taiwanese adult children co-reside or have a strong bond with their parents, especially in their 20s (Yi 2013; Yu et al. 2012). Parental influence may therefore extend beyond the adolescent period into adulthood (Raymo et al. 2015).

Based on these accounts, parents who expect their children to achieve high levels of academic success are likely to use a set of strategies to guide their decisions on various aspects of life—such as school choice, dating experience, sexual relationships, and decisions on marriage and childbirth—

so that children know the importance of putting education ahead of becoming parents.

H2: Individuals whose parents have higher levels of educational expectations for them will enter parenthood later than those with parents having lower educational expectations.

Gender Differences

There may be considerable gender differences in the level of the relationship between educational attitudes and the transition to parenthood. Traditionally, women take a larger share of the child care burden than their male counterparts, thereby experiencing more role conflict between education and work versus family domains like childrearing. And women's participation in school or work is more likely to interfere with the responsibility of child care (Hochschild and Machung 1990). As such, they may feel a stronger trade-off between pursuing high educational achievement (or career participation) and childbearing (Monstad et al. 2008).

A large body of literature has shown educational status to be a powerful predictor of women's fertility behavior (Monstad et al. 2008; Ní Bhrolcháin and Beaujouan 2012; Raymo et al. 2015), partly due to educational expansion and the spread of gender egalitarian values (Choi 2018). At the global scale, studies suggest a "pro-girl" difference in adolescents' attitudes toward high educational attainment (Lauglo and Liu 2019), as women experience greater college performance and graduation rates than men (Buchmann and Diprete 2006). Also, women without college degrees experience severe gender discrimination in the workforce (England 2010), thereby perceiving a greater need for higher education in order to stave off the influence of patriarchal family norms (Lauglo and Liu 2019).

As long as adolescent girls and boys perceive different future prospects in work (Dwyer et al. 2012), life, and family domains, it is reasonable to expect gender differences in how education determines family formation.

We propose that there may be a non-linear relationship between educational attitudes and the timing of first childbirth. On one hand, educational expectations affect women's transition to parenthood only when their educational goals are likely to be fulfilled and supported by mainstream society. Charles (2011, p. 365) notes:

> Educational and career aspirations are shaped by beliefs about one's own competencies and affinities, beliefs about the masculine and feminine task content of specific social positions, and beliefs about the categories of persons who are appropriate incumbents for such positions.

Due to the expansion of higher education and the spread of gender egalitarian values in Taiwan, women have about the same opportunity as men to enroll in high-ranking tertiary institutions (Tsai 2004). As discussed above, adolescent girls understand that higher education can help empower them and their roles in future family life (Lauglo and Liu 2019). Compared to adolescent boys, girls who attend college are more likely to foresee greater career opportunities, avoid traditional gendered family roles, and pursue a more self-expressive and personally meaningful way of life.

On the other hand, young women in gender-progressive societies continue to seek career-oriented goals and incorporate gender egalitarian attitudes into their life course plans. However, they often feel great uncertainty as they seek extremely high levels of educational achievements and career goals (Aronson 2008) and experience gender segregation in

higher education and the labor markets (Charles 2011). In Taiwan, for example, research finds that women working in higher education continue to feel disadvantaged as a result of the low number of female professionals and the gendered nature of the academic system (Chen and Hsieh 2019). In the marriage market, moreover, highly educated, and professional women may face a risk of being "leftover women" (Lauglo and Liu 2019). They may also downplay their educational and career aspirations in order to avoid hurting their male partners' self-esteem (Van Bavel et al. 2018). Given the influence of a strong patriarchal culture in Taiwan (Tong et al. 2017), we argue that the longer women plan to stay in school for advanced post-secondary degrees (e.g., Ph.D.), the more likely they are to be caught between their educational goals versus the pressure of marriage and parenthood. Taking the above accounts into consideration (and with no apparent reason to separate one from the other) leads to the following two hypotheses:

H3: Educational expectations will affect women's timing of first childbirth more strongly than men's.

H4: Women who expect to complete a bachelor's degree will enter parenthood later than those with lower educational expectations. However, completing a post-bachelor's degree (e.g., a master's or doctoral degree) will not influence the timing of transition into parenthood.

In addition, due to the strong emphasis on patrilineage and patriarchal family systems in Chinese culture (Yi and Chang 2008; Yu et al. 2012), sons typically feel more obligated than daughters to respect and care for their parents in Taiwan (Chu et al. 2014; Raymo et al. 2015). In exchange for this care and companionship as they grow old, some parents put more weight on sons than on daughters in terms of educational and career success, providing

them with greater financial assistance and other forms of support. Although gender egalitarianism is spreading worldwide, it remains widely believed that men should achieve greater success in education and careers than women (Hsieh 1998; Liu 2019). Due to these different cultural norms along gender lines, parents in Taiwan may exert greater influence on sons than on daughters. Accordingly:

H5: Parents' educational expectations will affect men's timing of first childbirth more strongly than women's.

III. Data, Measures, and Methods

Data

Our analyses compile several waves of data from the Taiwan Youth Project (TYP), 2000-2017. Based on a multi-stratified random sampling procedure, TYP selected 2,693 students in 7th grade (called the "J1 sample") and 2,890 students from 9th grade (called the "J3 sample") from 40 representative schools in the year 2000. These 40 schools are located across three areas of northern Taiwan that represent different levels of urbanization and economic structures, including Taipei City (a metropolitan area), Taipei County (the city outskirts, recently renamed New Taipei City), and Yilan County (countryside). Between 2000 and 2017, TYP followed the same respondents from adolescence through young adulthood in twelve survey waves. Because of its longitudinal design, TYP is uniquely suited for our research. Moreover, the data were collected during a period when the fertility rates in Taiwan began to drop significantly. Mother's mean age at first birth increased from 28.2 years old in 2000 to 30.6 years old in 2010. It is now more than 32 years old (32.1 in 2019) (Gender Equality Committee, Executive Yuan 2020). Dropping cases with missing values on our variables

of interest leads to a sample of 4,465 respondents (2,268 males and 2,197 females). To use event history measures, we transform the individual-based data to person-year observations (n = 21,331 for males and 19,127 for females). We then focus on all the person-years during which respondents were in the age range between 19 and 33 years old.

Because attrition is a common problem for longitudinal data, we follow the suggestion made by Bartlett (2012) and apply the inverse probability weight (IPW) method. To be more specific, we give weight to the original sample by inverting their probability of having data observed when the respondents reached age 30 years. A logistic regression analysis is performed to predict the probability of respondents staying in one of the follow-up surveys from waves 10 to 12 (1 = yes, 0 = no) at age 30 years or above; when modeling, we include a set of individual and family background characteristics at the initial waves as independent variables. In our statistical analyses, respondents with a greater risk of being missing from one of the most recent follow-up surveys are assigned a greater weight (Tai et al. 2019). Sensitivity analyses are conducted in order to evaluate whether the inclusion of IPW affects the main findings.

Measures

Dependent Variable

The measure "first childbirth (ages 19-33)" is based on the questions from several waves of data that address whether or not the respondent had a first child and, if so, how old the respondent was in years when this occurred. If respondents reported a first birth in earlier waves of the TYP surveys, we know exactly the age of the respondent when the event occurred. We also utilize the information from later waves (i.e., Waves 10

to 12) that contain retrospective information on family formation. If the information regarding respondents' childbearing activities is not available—perhaps because data collection ended before an event occurred, or respondents simply did not experience first childbirth—then the time of the event is unidentified or unknown. All cases in which the age of first birth (entering parenthood) is unidentified or unknown are coded as censored. Because there are only a few respondents whose first childbirth occurred at ages 16-18 years, they are coded as having their first child at age 19 years. Table 1 presents descriptive statistics and coding for all variables used in the analyses.

Key Independent Variables

The key independent variables in our analyses are "child's educational attitudes (time 1)" and "parent's educational attitudes for their child (time 1)," which were used to measure educational expectation when respondents were in 9th grade (Wave 3 for J1 sample; Wave 1 for J3 sample). In the student survey, the question is, "Considering your ability and the place where you live in, what is the highest amount or kind of schooling you think you will ever complete?" In the parent survey, the question is "What is the minimum amount of schooling that you would like him (or her) to complete?" Each variable contains four response categories: (1) high school or lower (expectation to complete 9th or 12th grade); (2) associate's degree (expectation to complete a five-year junior college, equivalent to two years of post-secondary education); (3) bachelor's degree (expectation to complete a four-year university or technical college); and (4) master's degree or higher (expectation to complete a graduate program at the master's level and perhaps also the doctoral level). In modeling, we take "high school or lower" as the reference category.

Table 1. Descriptive statistics and variable descriptions in the analysis

Variable	Description/coding	Men		Women	
		Mean	*SD*	Mean	*SD*
Dependent variable					
First childbirth (ages 19-33)[a]	Whether or not the respondent had a first childbirth; if so, how old he/she was in years when this occurred.	–	–	–	–
Independent, time-constant variable					
Child's educational expectation (time 1)[a]					
Associate's degree	1 = yes, 0 = no.	0.11		0.13	
Bachelor's degree	1 = yes, 0 = no.	0.44		0.53	
Master's degree or higher	1 = yes, 0 = no.	0.13		0.10	
Parent's educational expectation (time 1)[a]					
Associate's degree	1 = yes, 0 = no.	0.21		0.21	
Bachelor's degree	1 = yes, 0 = no.	0.50		0.52	
Master's degree or higher	1 = yes, 0 = no.	0.09		0.09	
Child's educational expectation (time 2)[b]					
Associate's degree	1 = yes, 0 = no.	0.07		0.05	
Bachelor's degree	1 = yes, 0 = no.	0.37		0.44	
Master's degree or higher	1 = yes, 0 = no.	0.21		0.20	
Parent's educational expectation (time 2)[b]					
Associate's degree	1 = yes, 0 = no.	0.08		0.05	

Table 1. Descriptive statistics and variable descriptions in the analysis (continued)

Variable	Description/coding	Men		Women	
		Mean	*SD*	Mean	*SD*
Bachelor's degree	1 = yes, 0 = no.	0.37		0.42	
Master's degree or higher	1 = yes, 0 = no.	0.19		0.20	
School location					
Taipei City[c]	1 = yes, 0 = no.	0.38		0.35	
Taipei County[c]	1 = yes, 0 = no.	0.39		0.42	
Highest parental education	In years.	11.57	3.03	11.59	2.99
Monthly family income	In $10,000 New Taiwan Dollars, adjusted by family size.	6.29	3.45	5.87	3.41
Parental divorce or separation	Have you ever experienced parental divorce or separation? 1 = yes, 0 = no.	0.10		0.12	
Number of siblings	Student respondent is included.	2.57	0.87	2.79	0.97
J1 sample[d]	1 = yes, 0 = no.	0.50		0.50	
Independent, time-varying variable					
Enrolled in school (ages 19-33)	1 = yes, 0 = currently not enrolled.	–	–	–	–
Educational level (ages 19-33)	In years.	–	–	–	–

Note: [a]Time 1 variables are measured in waves 1 (J3 sample) and 3 (J1 sample); reference group: high school or lower. [b]Time 2 variables are measured in waves 4 (J3 sample) and 7 (J1 sample); reference group: high school or lower. [c]Reference group: Yilan County. [d]Reference group: J3 sample.

Source: The Taiwan Youth Project (TYP) data, 2000-2017.

Control Variables

We include five time-constant control variables that were collected through the TYP student survey. "School location" indicates whether respondents attended schools in Taipei City, Taipei County, or Yilan County (reference category) at the initial wave. We include this measure because the attitudes and behavior of childbearing may differ between those living in rural areas versus those in urban areas. To measure family socioeconomic status, we include two variables: "highest parental education," measured in years of schooling, and "monthly family income," which is measured in ten-thousand New Taiwan Dollars (NTD) and adjusted by the size of the household. We include "number of siblings" because previous research suggests that sibship attributes play a significant role in shaping attitudes and behavior toward family formation (Yu et al. 2012). We also include "J1 sample" to control for the difference between respondents taking different grades in 2000 (1 = J1 sample; 0 = J3 sample). In sum, all of the above control variables were collected when students were in 9th grade (Wave 3 for J1 sample; Wave 1 for J3 sample). We assume that omitting these factors may induce common-cause confounding bias, since they are likely to affect both our key independent variables of interest (educational expectation) and the dependent variable (Elwert and Winship 2014).

Mediating Variables

Moreover, "child's educational attitudes (time 2)" and "parent's educational attitudes for their child (time 2)" measure the educational expectations when respondents were about 18 or 19 years old (Wave 4 for J3 sample; Wave 7 for J1 sample). We assess whether these two factors would mediate the relationship between respondents' educational expectations (time 1) that were asked at initial waves and the timing of the

first birth. We also include another two time-varying variables that may mediate the relationship between educational expectations and the timing of the transition into parenthood. First, "enrolled in school" (1 = yes; 0 = currently not enrolled) addresses whether respondents were enrolled in school at different ages. Second, "educational level" (in years) measures respondents' educational status at different ages. We compile several waves of data in order to delineate the change in respondents' status of enrollment in school as well as how their educational status changes across a specific age range—from 19 to 33 years.

Analytical Strategy and Statistical Methods

To apply event history methods, we use discrete-time logit modeling (Rabe-Hesketh and Skrondal 2008) to analyze young adults' timing of their first birth, in part because we only measure the time of this event in years, and also because the results produced from discrete-time models are usually robust and reliable compared to other types of event history analyses (Allison 1984, p. 22). The discrete-time hazard function, P_t, is the conditional probability that the respondents' first childbirth occurred at age t, given that it had not occurred before age t. The dependence of P_t on a number of covariates is assumed to follow a logit model,

$$\log\left[\frac{P_t}{1-P_t}\right] = \alpha + \sum_{i=1}^{k} \beta_i \times x_i. \quad \text{.....(1)}$$

For each set of discrete-time logit models, we first examine the effect of the child's educational expectations with the inclusion of control variables (first statistical model). We then add the parent's educational expectations for the child into the model. Lastly, we test whether including several mediating factors leads to the reduction in the relationship between

educational expectations and the timing of entry into parenthood. To examine whether the effects of educational expectations vary between young adult men versus young adult women, all of our analyses are performed separately by gender.

IV. Results

Overall Trends in the Transition to First Birth

In Table 2 we present the non-parametric life tables for the ages of first childbirth among young adult men and women. Less than one percent of men (0.18%) and women (0.73%) had their first birth before the age of 20 years. The probabilities of having a first childbirth remain low until the ages of 26 years for men and 24 years for women, with less than four percent of young adults having experienced first childbirth by then. The rates begin to increase more substantially after 27 years of age, when most college-educated young adults had completed educational qualifications and entered the workforce. The rates reach the first peak at 32 years old (8.79% for men and 6.65% for women). This may reflect the fact that an increasing proportion of adults plan to marry as well as enter parenthood as they are turning 30 years old (Chen 2012). Once young adults reach this age stage, the percentage of entry into parenthood should keep increasing substantially.

In order to visualize a general trend toward delaying parenthood and the notable gender differences in Taiwan, we plot the discrete-time survival function of the ages of first childbirth by gender in Figure 1. The survival distribution function refers to the proportion of men or women who have not experienced first childbirth (= remaining childless) until a specific age. Again, we can see that a great majority of adults had not experienced first

Table 2. Life table for age of first childbirth among Taiwanese young adults

Age interval	Effective sample size	Cumulative probability of first childbirth	Conditional probability of first childbirth	Survival (= remaining childless)
Men				
< 20	2,268	0.0018	0.0018	0.9982
≥ 20, < 21	2,113	0.0027	0.0009	0.9973
≥ 21, < 22	2,032	0.0066	0.0039	0.9934
≥ 22, < 23	1,965	0.0097	0.0031	0.9903
≥ 23, < 24	1,841	0.0150	0.0054	0.9850
≥ 24, < 25	1,693	0.0226	0.0077	0.9774
≥ 25, < 26	1,571	0.0288	0.0064	0.9712
≥ 26, < 27	1,534	0.0440	0.0156	0.9560
≥ 27, < 28	1,444	0.0665	0.0235	0.9335
≥ 28, < 29	1,296	0.1011	0.0370	0.8989
≥ 29, < 30	1,212	0.1382	0.0413	0.8618
≥ 30, < 31	1,091	0.1808	0.0495	0.8192
≥ 31, < 32	641	0.2307	0.0608	0.7693
≥ 32, < 33	478	0.2983	0.0879	0.7017
≥ 33, < 34	152	0.3214	0.0329	0.6786
Women				
< 20	2,197	0.0073	0.0073	0.9927
≥ 20, < 21	1,987	0.0133	0.0060	0.9867
≥ 21, < 22	1,885	0.0201	0.0069	0.9799
≥ 22, < 23	1,797	0.0255	0.0056	0.9745
≥ 23, < 24	1,660	0.0349	0.0096	0.9651
≥ 24, < 25	1,509	0.0458	0.0113	0.9542
≥ 25, < 26	1,387	0.0575	0.0123	0.9425
≥ 26, < 27	1,343	0.0793	0.0231	0.9207
≥ 27, < 28	1,241	0.1045	0.0274	0.8955
≥ 28, < 29	1,121	0.1492	0.0500	0.8508
≥ 29, < 30	1,032	0.1995	0.0591	0.8005
≥ 30, < 31	907	0.2357	0.0452	0.7643
≥ 31, < 32	530	0.2833	0.0623	0.7167
≥ 32, < 33	391	0.3309	0.0665	0.6691
≥ 33, < 34	140	0.3596	0.0429	0.6404

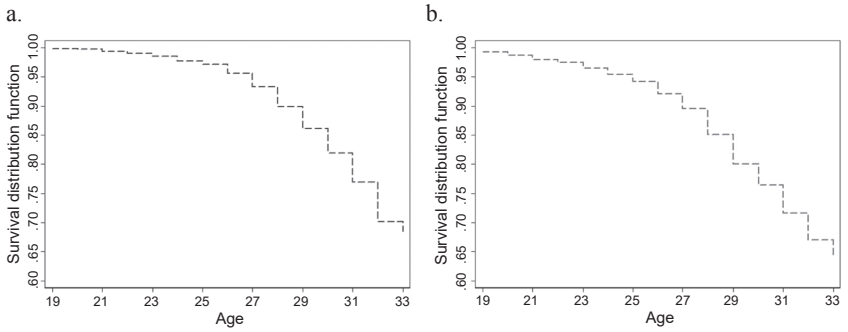

Figure 1. Estimated survival functions of not experiencing first childbirth for men (a) and women (b)

childbirth in their early 20s. At age 31 years, around three quarters of young adults had not entered parenthood, specifically 76.93% for men and 71.67% for women. These findings indicate an obvious trend of postponement of the transition into parenthood, which is not surprising in light of similar findings in previous studies (Chen 2012; Raymo et al. 2015). However, an interesting question remains: what explains variations in the timing of first birth; or, why do young adults choose to (or choose not to) enter parenthood before the age of 30 years?

Effects of Educational Expectations

Table 3 presents results of multivariate analyses using discrete-time hazards modeling for first childbirth among young adult men. As in Model 1, the educational expectations at 9th grade (around the age of 15 years) have a significant and negative association with the timing of first birth, net of individual and family background characteristics. Adolescent boys who expect to receive a bachelor's degree (β = -0.463, $p < .01$) or a post-bachelor's degree (i.e., master's degree or higher; β = -0.510, $p < .05$) are more likely to delay their first birth or have lower rates of having

Table 3. Logistic discrete-time hazards models for first childbirth among Taiwanese young adult men

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	-6.168 (0.640)**	-6.051 (0.642)**	-5.796 (0.676)**	-5.366 (0.655)**	-3.799 (0.741)**
Child's educational expectation (time 1)[a]					
Associate's degree	-0.156 (0.207)	-0.059 (0.217)	-0.017 (0.224)	-0.035 (0.218)	0.143 (0.229)
Bachelor's degree	-0.463 (0.140)**	-0.244 (0.160)	-0.140 (0.166)	-0.197 (0.160)	0.050 (0.174)
Master's degree or higher	-0.510 (0.222)*	-0.235 (0.247)	-0.143 (0.259)	-0.160 (0.246)	0.106 (0.263)
Parent's educational expectation (time 1)[a]					
Associate's degree		-0.412 (0.185)*	-0.369 (0.191)#	-0.382 (0.186)*	-0.262 (0.191)
Bachelor's degree		-0.544 (0.177)**	-0.395 (0.192)*	-0.487 (0.179)**	-0.228 (0.191)
Master's degree or higher		-0.775 (0.283)**	-0.538 (0.293)#	-0.725 (0.284)*	-0.451 (0.285)
Child's educational expectation (time 2)[b]					
Associate's degree			-0.324 (0.258)		
Bachelor's degree			-0.601 (0.227)**		
Master's degree or higher			-0.365 (0.261)		
Parent's educational expectation (time 2)[b]					
Associate's degree			-0.025 (0.298)		
Bachelor's degree			-0.081 (0.257)		
Master's degree or higher			-0.596 (0.295)*		
Enrolled in school (ages 19-33)				-1.171 (0.318)**	-1.022 (0.315)**

Table 3. Logistic discrete-time hazards models for first childbirth among Taiwanese young adult men (continued)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Educational level (ages 19-33)					-0.165 (0.034)**
Taipei City[c]	-0.928 (0.161)**	-0.878 (0.162)**	-0.851 (0.168)**	-0.845 (0.163)**	-0.796 (0.167)**
Taipei County[c]	-0.353 (0.143)*	-0.343 (0.143)*	-0.377 (0.150)*	-0.337 (0.143)*	-0.321 (0.147)*
Highest parental education	-0.014 (0.021)	-0.002 (0.022)	0.006 (0.022)	0.001 (0.022)	0.015 (0.022)
Monthly family income	0.041 (0.017)*	0.044 (0.017)**	0.042 (0.017)*	0.043 (0.017)*	0.039 (0.017)*
Parental divorce or separation	0.071 (0.219)	0.050 (0.218)	0.049 (0.222)	0.060 (0.219)	-0.052 (0.222)
Number of siblings	0.094 (0.070)	0.076 (0.072)	0.070 (0.073)	0.080 (0.072)	0.084 (0.071)
J1 sample[d]	-0.055 (0.134)	-0.053 (0.135)	0.005 (0.139)	-0.040 (0.135)	-0.016 (0.135)
Age fixed variables (ages 20-30)	included	included	included	included	included
Pseudo-R^2	0.137	0.141	0.147	0.149	0.158

Note: Number of male respondents = 2,268 (person-year N = 21,331). All estimates are calculated using inverse probability weight. Numbers in parentheses are standard errors.

[a]Time 1 variables are measured in Waves 1 (J3 sample) and 3 (J1 sample); reference group: high school or lower. [b]Time 2 variables are measured in Waves 4 (J3 sample) and 7 (J1 sample); reference group: high school or lower. A dummy variable is created for respondents missing from the survey conducted at time 2. [c]Reference group: Yilan County. [d]Reference group: J3 sample.

$^{**}p < .01$; $^{*}p < .05$; $^{\#}p < .10$ (two-tailed).

a child compared to those with a low level of educational expectations (i.e., high school or lower). Model 2 includes the influence of parent's educational expectations for sons at 9th grade. After accounting for son's educational expectations and other control variables, we can see that parents' educational expectations for sons affect the timing of the first birth. This is to say, men whose parents expect them to attain higher educational goals tend to postpone their first childbirth. In contrast, when parents have lower educational expectations toward their sons, sons are more likely to experience first birth earlier. Parents expecting their sons to receive a post-bachelor's degree produces the largest negative effect on the timing of the first birth (β = -0.775, $p < .01$). Notably, when including both son's and parent's educational expectations in the same model, the coefficients for sons' educational expectations diminish substantially in size and become statistically insignificant ($p > .10$). This indicates that parents' attitudes toward education are more influential than children's own educational attitudes when predicting the timing of entry into parenthood. Later (in Figure 2), we will further explain this effect in context.

In order to examine whether adolescents' educational attitudes in former life stages become persistent goals and values (Guzzo et al. 2019) which also influence their educational attitudes later in life, Model 3 includes both son's and parent's educational expectations that were collected in Wave 4 (for the J3 sample) or Wave 7 (for the J1 sample), when adolescents were about 18 to 19 years old. Results indicate that when young adults approach 20 years of age, both their own and their parents' educational preferences have negative and statistically significant effects on the timing of entry into parenthood. It is noteworthy that the net effects of parents' educational attitudes in former life stages (i.e., when children were in 9th grade) remain statistically significant and substantial in size. This

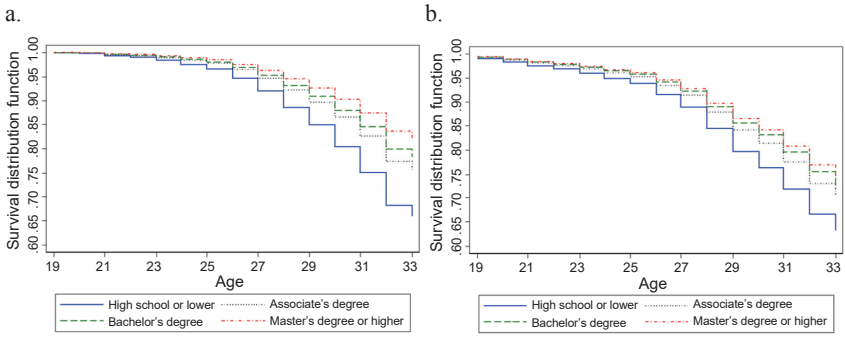

Figure 2. Predicted probabilities for not experiencing first childbirth by age for men (a) and women (b): comparing different levels of parents' educational expectations for child

Note: 1. Predicted probabilities are calculated from Model 2 in Tables 3 (young adult men) and 4 (young adult women). These probabilities are calculated for J1 male and female respondents who had lower educational expectations themselves, grew up in Taipei City and had no experience of parental divorce or separation before 9th grade, with other covariate values at the pooled sample mean except age (time-variant variable).

2. See the online version (https://goo.gl/9CgARX) for the full-colored figure.

suggests a long-term effect with respect to the intergenerational influence of parents' educational attitudes on children's future fertility behavior.

In Model 4, we further address whether the negative association between educational expectations and first birth can be explained by individuals staying in school for a longer period of time. While educational enrollment has a strong and negative effect on the odds of first birth (β = -1.171, $p < .01$), it does not result in a reduction in the influence of parent's educational preferences. But when including respondents' educational level (in years), as shown in Model 5, the effects of parents' educational attitudes shrink and become statistically insignificant. Previous literature suggests that staying in school delays the transition into marriage and childbearing (Gebel and Heyne 2016; Skirbekk et al. 2004). In line with this group of studies, we find that the school-to-work transition and educational status

determine the timing of family formation. Together, they mediate the relationship between educational attitudes and childbearing outcomes.

In Table 4, we turn to focus on the transition into parenthood among young adult women, using the same analytic strategy as above, shown in Table 3. Model 1 suggests that women's educational expectations in 9th grade negatively affect their odds of first birth. For example, when controlling for other socio-demographic characteristics, women who expect to earn a bachelor's degree are more likely to delay first birth or remain childless compared to those with lower educational expectations ($\beta = -0.537$, $p < .01$). Surprisingly, whether women expect to earn a graduate degree does not significantly affect their timing of first birth, after controlling for the control variables ($p > .10$). Previous research suggests that women's school or work participation tends to interfere with their childcare time (Hochschild and Machung 1990), so they face a trade-off between pursuing high levels of academic achievement (or career success) and having children (Monstad et al. 2008). In line with the findings, we explain that the longer young adult women plan to stay in school in order to pursue advanced post-secondary degrees, the more they are caught between setting high educational goals and the pressure of marriage and parenthood. Compared to young men, young women's high educational or career goals are more likely to be interrupted or challenged and, as a result, have less influence on the timing of their first childbirth.

Model 2 includes both children's and parent's educational expectations. After accounting for daughters' own educational attitudes and other control variables, the educational expectations of parents have substantial impact on the timing of first birth. Compared to those with parents having low levels of educational expectations, for example, young adult women whose parents

Table 4. Logistic discrete-time hazards models for first childbirth among Taiwanese young adult women

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	-3.584 (0.447)**	-3.471 (0.445)**	-3.084 (0.496)**	-3.021 (0.444)**	-1.650 (0.549)**
Child's educational expectation (time 1)[a]					
Associate's degree	0.016 (0.186)	0.079 (0.190)	0.117 (0.197)	0.114 (0.190)	0.205 (0.195)
Bachelor's degree	-0.537 (0.138)**	-0.395 (0.152)**	-0.304 (0.165)#	-0.343 (0.154)*	-0.189 (0.166)
Master's degree or higher	-0.365 (0.226)	-0.185 (0.238)	-0.006 (0.269)	-0.089 (0.238)	0.095 (0.245)
Parent's educational expectation (time 1)[a]					
Associate's degree		-0.274 (0.171)	-0.224 (0.175)	-0.274 (0.170)	-0.159 (0.173)
Bachelor's degree		-0.382 (0.173)*	-0.272 (0.179)	-0.362 (0.173)*	-0.222 (0.178)
Master's degree or higher		-0.451 (0.259)#	-0.304 (0.265)	-0.442 (0.259)#	-0.298 (0.265)
Child's educational expectation (time 2)[b]					
Associate's degree			-0.119 (0.305)		
Bachelor's degree			-0.195 (0.259)		
Master's degree or higher			-0.240 (0.310)		
Parent's educational expectation (time 2)[b]					
Associate's degree			-0.077 (0.342)		
Bachelor's degree			-0.433 (0.298)		
Master's degree or higher			-0.633 (0.331)#		
Enrolled in school (ages 19-33)				-0.693 (0.195)**	-0.589 (0.195)**
Educational level (ages 19-33)					-0.129 (0.033)**

Table 4. Logistic discrete-time hazards models for first childbirth among Taiwanese young adult women (continued)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Taipei City[c]	-0.855 (0.161)**	-0.842 (0.162)**	-0.833 (0.162)**	-0.818 (0.162)**	-0.823 (0.162)**
Taipei County[c]	-0.423 (0.133)**	-0.418 (0.133)**	-0.429 (0.137)**	-0.399 (0.133)**	-0.414 (0.134)**
Highest parental education	-0.053 (0.020)**	-0.046 (0.021)*	-0.042 (0.022)#	-0.042 (0.022)#	-0.035 (0.022)
Monthly family income	-0.020 (0.019)	-0.016 (0.019)	-0.015 (0.019)	-0.016 (0.019)	-0.012 (0.018)
Parental divorce or separation	0.329 (0.183)#	0.308 (0.187)#	0.285 (0.190)	0.331 (0.186)#	0.340 (0.187)#
Number of siblings	0.136 (0.056)*	0.119 (0.055)*	0.110 (0.056)*	0.118 (0.055)*	0.094 (0.055)#
J1 sample[d]	0.041 (0.126)	0.041 (0.128)	0.050 (0.127)	0.047 (0.127)	0.053 (0.127)
Age fixed variables (ages 20-30)	included	included	included	included	included
Pseudo-R^2	0.098	0.100	0.104	0.105	0.110

Note: Number of male respondents = 2,197 (person-year N = 19,127). All estimates are calculated using inverse probability weight. Numbers in parentheses are standard errors.

[a]Time 1 variables are measured in Waves 1 (J3 sample) and 3 (J1 sample); reference group: high school or lower. [b]Time 2 variables are measured in Waves 4 (J3 sample) and 7 (J1 sample); reference group: high school or lower. A dummy variable is created for respondents missing from the survey conducted at time 2. [c]Reference group: Yilan County. [d]Reference group: J3 sample.

**$p < .01$; *$p < .05$; #$p < .10$ (two-tailed).

expect them to complete a bachelor's degree (β = -0.382, $p < .05$) are less likely to have their first child at an earlier age. In contrast, parents who expect their daughters to receive a post-bachelor's degree have a modest effect on the timing of the first birth (β = -0.451, $p < .10$). Unlike their male counterparts, young adult women's expectation to receive a bachelor's degree has an independent and robust effect (β = -0.395, $p < .01$) on the timing of transition into parenthood. Note that the effect remains statistically significant in Models 3 and 4 when adding more variables into the models. In Model 3, we find that the inclusion of educational attitudes at time 2 (when young women were about 18 or 19 years of age) does not appear to mediate the relationship between the educational attitudes at time 1 (when they were in grade 9) and the timing of their first birth. Educational enrollment has a negative and statistically significant effect (β = -0.693, $p < .01$) on the odds of first birth in Model 4, while it does not mediate the relationship between educational expectation and first birth. In Model 5, we further find that not only does educational status have a negative and statistically significant effect, but also the effect of expectation to receive a bachelor's degree shrinks and becomes statistically insignificant ($p > .10$).

Generally, the findings shown in Tables 3 and 4 support the research hypotheses. Both child's and parent's educational expectations influence the postponement of transition into parenthood (*H1* and *H2*). It is noteworthy that adolescent girls who expect to receive a bachelor's degree are more likely to postpone the timing of transition into parenthood, whereas the expectation to receive a post-bachelor's degree (like a master's degree or a doctoral degree) produces little effect on their childbearing outcomes (*H3* and *H4*). Equally importantly, parents' educational attitudes are more influential in determining the timing of entry into parenthood for men compared to women (*H5*).

To further examine the patterns of intergenerational influences, we

plot the predicted probabilities of remaining childless from ages 19 to 33 years by parent's educational expectations for sons or daughters in Figure 2. The graphs indicate the rates of young adult men and women who have not experienced first childbirth or have not entered parenthood at any given age. Before age 26 years, the gaps in the probability of having not experienced first birth between respondents with different levels of parent's educational preferences are small. From ages 27 to 33 years, the probabilities of remaining childless drop much faster among young adults whose parents have lower educational expectations for children (i.e., expect them to finish high school or lower) compared to those whose parents have higher levels of educational preferences for their child. Taking young adult men as an example, the predicted probabilities without experiencing first birth drop about 34 percentage points when parents have lower educational expectations (from 99.8% at age 19 years to 66.0% at age 33 years; see the solid line), which is about two times larger than the probabilities for men whose parents expect them to complete a post-bachelor's degree (from 99.9% to 82.4% between ages 19 and 33 years; see the dash-dot line). In contrast, 63.3% of young women remain childless at age 33 years if their parents have a low level of educational expectation. On the other hand, 73.0% and 74.5% of young women remain childless until the age of 33 years if their parents expect them to receive a bachelor's degree or a post-bachelor's degree, respectively. To summarize, young adults have the highest probability of transition into parenthood (or have the lowest likelihood of remaining childless) at a younger age if their parents do not have high educational aspirations for them. Parents' educational attitudes seem to be more important to men than women. Young adult men have the lowest probability of transition into parenthood should their parents expect them to attend and complete a graduate program.

Effects of Control Variables

Comparing Tables 3 and 4, most of the effects of control variables in Models 2 and 4 perform as expected, but there are some notable gender differences. Beginning with the first control variable listed in the tables, growing up in cities is associated with reductions in the rates of first birth compared to those growing up in the countryside (i.e., Yilan county). A notable finding is that after controlling for educational expectations and other individual-background factors, parental education has an independent effect on women's timing of first childbirth, whereas the effect is not statistically significant for men. This suggests that, for men, educational expectations mediate the relationship between parental education and the timing of first birth. In models not shown, family income has no significant effect on the timing of first birth when not including control variables in the analysis (findings are available upon request). But interestingly, after controlling for other socio-demographic characteristics, men from affluent families tend to experience childbirth at an earlier time. This seems to indicate that, all else being equal, more family wealth increases men's opportunities and motivations of family formation in order to fulfill the traditional Chinese family norms on expecting sons to continue the family lineage, thereby accelerating their transition to parenthood. The same effect does not appear for women. Moreover, both experiencing parental divorce or separation in childhood ($p < .10$) and having more siblings ($p < .05$) accelerate women's transition into parenthood, but the effects do not exist for men.

V. Discussion and Conclusion

Scholarship on childbearing behavior and transition to parenthood has

largely focused on how educational status contributes to delayed parenthood or having fewer children (Ní Bhrolcháin and Beaujouan 2012; Raymo et al. 2015). To date, little is still known about how adolescents manage their educational aspirations and expectations as they move into later stages of life, such as the transition into parenthood. These expectations may not proxy future educational performance, but may indicate "motivation for distinctly high educational attainment" (Lauglo and Liu 2019, p. 29). It is argued here that people's early life attitudes and ambitions have long-term influence on a wide array of later life outcomes, as long as these attitudes reflect persistent values and goals (Guzzo et al. 2019) and regardless of whether these goals have been fulfilled (Philipov et al. 2016). That said, adolescents' educational attitudes not only shape future education plans and career pathways, but also affect decisions on family formation. Motivated by scholarship on parent-child relationships (Bengtson 1975), it is of equal or even greater importance to address the role of parents' attitudes, intentions, and expectations in determining children's decisions on family formation. This is in part because many young adults postpone leaving their parental home, leading to the extension of parental influence beyond the adolescent period into adulthood (Raymo et al. 2015).

Our paper suggests that both adolescents' educational expectations at grade 9 and parent's educational preferences for their child affect the timing of the transition to parenthood. Supplementary analyses show that the effects of educational attitudes are robust, and independent of Taiwanese young adults' fertility preferences, early sexual experience, attitudes of familism, and marital status (results are available upon request). In line with prior research (Gebel and Heyne 2016; Nisén et al. 2018), we also find that both school-to-work transition and educational status mediate the relationship between educational attitudes and the timing of entering parenthood. These

findings provide new insights into life course perspectives and research on the attitude-behavior link; that is, one's educational aspirations or preferences at earlier ages have longstanding consequences for family formation outcomes.

Our paper also finds that a parent's educational expectations for an adolescent child have an independent effect on the child's timing of transition into parenthood. When parents have low educational preferences for their child, young adult men and women will be likely to transition into parenthood at a faster rate. In addition, our findings reveal notable gender differences. For male children, a parent's educational expectations are more influential than their own expectations, and the higher these expectations, the more likely they are to postpone the timing of entering parenthood or to remain childless. Young adult men whose parents expect them to attend a graduate program and complete a post-bachelor's degree have the lowest rate of entering parenthood at a younger age. This implies potential gender differences in the intergenerational transmission of values, attitudes, and preferences. Due to the influence of patriarchal values (Yu et al. 2012), parents might for example put more weight on sons than daughters in terms of educational and career success by providing them greater financial assistance and other forms of support. Although gender egalitarian values are spreading in Taiwan as well as the rest of the world, there is some evidence that men still generally believe they should achieve greater success compared to women (Hsieh 1998; Liu 2019).

People from more recent generations face a greater likelihood of uncertainties during the transition to adulthood, as it is hard for them to see clear pathways into the future (Bernhardt et al. 2001). As young people look to their future, they may consider many factors such as what their lives will be in the future, whether they plan to marry or have children, whether

they expect to attend higher education, and whether they will need or be able to make use of an advanced post-secondary degree. As a result of the expansion of higher education and the spread of gender egalitarian values in Taiwan (Tsai 2004), young women may foresee improved future prospects as they enter a college or university and understand that higher education can empower their lives and their roles in the family (Lauglo and Liu 2019). In this article, we find that women who expect to earn a bachelor's degree are more likely to delay the timing of first birth compared to those with lower educational expectations.

Conversely, whether women expect to attend graduate education and complete a master's or doctoral degree does not significantly affect the timing of their first birth, after controlling for socio-demographic characteristics. To explain this result, we argue that educational expectations affect women's transition to parenthood only when their educational goals become realistic and are supported in the context of national gender ideology (McDaniel 2010). When setting up high levels of educational goals like pursuing a Ph.D., women need to acknowledge that their chance of succeeding in both pursuing a Ph.D. career and the opportunity for childbearing are much lower than men's. Previous research suggests that women's extensive school or work participation tends to interfere with the time they need for childcare (Hochschild and Machung 1990). We argue that the longer young adult women plan to stay in school in order to pursue advanced post-secondary degrees, the more strongly they are caught between setting high educational goals and the pressure of marriage and parenthood. Compared to young adult men, women's high educational goals are more likely to be interrupted or challenged. As a result, it is likely that women who want to succeed in higher education and professional careers face more constraints and uncertainties as opposed to men. They

will thus feel a strong trade-off between two competing goals: educational performance versus entering parenthood during the transition into adulthood.

Acknowledgements

We would like to thank two anonymous reviewers and Fung-Mey Huang for their valuable comments on previous versions of this paper. We also want to thank the National Taipei University research assistants Yong-Jian Wu, Yu-Shan Chen, and Àrya Lin for their assistance.

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Special Issue

人口學刊
第 61期，2020 年 12 月，頁 51-96
Journal of Population Studies
No. 61, December 2020, pp. 51-96

晚生或不生？
探討教育期望對生育年齡的影響

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摘要

過去已有許多研究探討教育與生育兩者的關係，並提供豐富的研究成果。文獻指出，教育的擴張提升了個人教育地位，改變其生育意願與生育行為，延遲了「開始為人父母」（entry into parenthood）的年紀，形成「晚生或不生」的現象。然而至今尚未有足夠的實證研究，探討個人在早期（青少年）階段的教育態度與抱負如何影響其成年後的生育行為。同樣的，儘管文獻已指出父母的教育期望會影響子女的學業成就，但是否會進一步影響子女日後的生育抉擇與行為，相關的研究至今仍付之闕如。本研究合併臺灣青少年成長歷程研究2000-2017年的資料，探討青少年於國中階段的教育期望、是否會影響其成年後生第一胎的年齡（即初次為人父母的年紀），也同時檢視父母對國中子女的教育期望是否影響其成年後的初育年齡。在控制其他因素後，本文發現：一、教育期望愈高者愈有可能晚生或不生。二、父母親的影響效果對男

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收稿日期：2020.09.04；接受刊登：2021.03.17

性比較大，當父母親期待兒子大學畢業後繼續念研究所或深造，兒子愈可能晚生或不生。三、對女性來說，如果期望取得大學文憑，愈可能晚生或不生；但如果女性期望大學畢業後繼續念研究所或深造，對其生育未有影響。本文將從傳統與現代性別意識規範兩者的交織影響、高教擴張與職場性別階層化等層面來解釋這些差異。

關鍵詞：由青年邁入成年、初生、教育期望、代間關係、生命歷程