

The Influence of Family Background on Educational Expectations:

A Comparative Study



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Abstract

It has been well documented that East Asian students in primary and secondary education academically outperform their Western counterparts. One prominent explanation points to the role of culture. This study explores the cultural explanation from a comparative perspective. Analyzing data from mainland China, Taiwan, South Korea, the U.S., Germany, and Australia, we examine the variation across social contexts in the importance of family SES to parents' and children's educational expectations, paying particular attention to comparison between East-Asian and Western societies. We find that educational expectations are much less dependent on family background in East Asian societies than in the West, in that parents and children in the former all tend to hold high educational expectations, irrespective of family socioeconomic status.

Keywords: Educational expectation; West-East achievement gap; SES gradients

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Introduction

A significant gap in academic achievement between East-Asian and Western countries has been widely known and publicized. For example, two international standardized tests—the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS)—have consistently shown top performances of students in East Asian countries, including China, Japan, South Korea, and Singapore (OECD, 2016; Provasnik et al., 2016). Among researchers studying American students, it is also well known that relative to whites and other racial/ethnic groups, Asian Americans achieve higher levels of school performance and educational attainment (Kao, 1995; Xie and Goyette, 2003). Given the central role of education in determining labor market outcomes and socio-economic status in modern societies (Fischer and Hout, 2006), the East-West, as well as Asian-White, education gaps have been of interest to scholars who study social inequality and stratification.

Reasons why East-Asian students consistently outperform their Western counterparts have long been debated. One prominent explanation emphasizes the role of culture. It is maintained that differences in cultural traditions about education are responsible for the observed East-West disparities in educational outcomes. According to Stevenson and Stigler (1994), Confucian culture exerts a positive influence on East Asians through its emphasis on educational effort and attainment. Researchers have also presented evidence that Asian Americans in the United States—both students and their parents—tend to place a higher value on education, possess higher educational aspirations, and exert greater effort in studying than whites even among families with low socio-economic status (SES), all of which benefit students' academic achievement (Goyette and Xie 1999; Hsin and Xie, 2014; Jimenez and Horowitz, 2013; Liu and Xie, 2016). In contrast, for most Americans, parenting and childhood outcomes vary greatly by social class so as to disadvantage educational outcomes of children from low-SES families (Heckman, 2006; Lareau, 2011).

In this article, we evaluate the cultural explanation empirically from a comparative perspective. Capitalizing on recently available survey data from six societies, we examine the variation across social contexts in the importance of family SES to parents' and children's educational expectations, paying particular attention to comparison between East-Asian and Western societies. As a form of educational beliefs, values, and practices, educational expectations have long been identified to be a significant predictor of later educational achievement (e.g., Sewell et al., 1969). This study improves our understanding of the known education gap between East-Asian

and Western countries and, more broadly, the causal mechanisms driving educational achievement in a broad international context.

Theoretical Issues

A Cultural Explanation for the East-West Education Gap

Why do students in East Asia generally outperform their European and American counterparts academically? To answer this question, let us first consider the Asian Americans' educational advantage over whites in the United States, a widely studied topic in social science. If culture plays a role, it should hold the same explanatory power for both the East-West differences across societies and the Asian-White gap in the United States.

Decades of research have focused on two main explanations for Asian Americans' educational advantage over whites. The first explanation suggests that Asian Americans' academic advantage is attributable to socio-economic advantages of their families. Relative to whites, Asian Americans tend to have parents with better educations and higher incomes, giving them an advantage in the provision of educational resources (Sakamoto, Goyette, and Kim, 2009). However, research has found that family SES has only limited explanatory power for the Asian-White achievement gap (Goyette and Xie, 1999; Kao, 1995). More importantly, it has been observed that even Asian-American children from disadvantaged family backgrounds academically outperform their white peers (Lee and Zhou, 2014; Liu and Xie 2016).

The second explanation posits that Asian Americans' advantage in education is due to their greater work ethic and motivation for educational achievement rooted in East-Asian cultures. East Asians have been deeply influenced by Confucianism, which places a high value on educational effort and achievement. In East-Asian societies, education is viewed as a pathway of upward social mobility for all, and educational achievement is believed to be attainable through hard work and persistence. In addition, East Asian children's educational achievement has an important social meaning, as it brings honor to the family, a fulfillment of filial piety (Hawkins,1994). While these cultural beliefs originated in East Asia, numerous studies have shown that Asian-American parents and children in the U.S. hold similar views, placing high values on educational success, and investing great energy into academic endeavors, whereas white Americans tend to believe in the importance of innate talents and abilities (Corwyn and Bradley, 2008; Ogbu, 1978; Peng and Wright, 1994; Sun,1998; Xie and Goyette, 2003). A study by Liu and Xie (2016) showed, for example, that Asian-American students' education-related beliefs and practices are much less influenced by family SES than those of white students.

In contrast, strong socio-economic gradients in parenting and children's academic achievement have been well documented as being normative in the West, particularly in the United States. Generally speaking, high-SES, but not low-SES Americans, hold high educational expectations for their children and foster their children's educational outcomes by incorporating organized activities (Lareau, 2011). In other words, it is among low-SES families where we observed the greatest disparity

between Asians and whites. Liu and Xie (2016) attributes this differential SES gradient, much flatter for Asian Americans than for whites, to a culture-based difference that helps generate Asian Americans' overall advantage in achievement. However, much less is known about the relationship between family background and educational attitudes and practices across societies that differ by cultural traditions. We fill this empirical gap in this study.

In the past research on the East-West education gap, the role of culture has already received significant attention. In a landmark study, Stevenson and his colleagues (1994) conducted a cross-cultural comparison of education-related beliefs and practices of parents, children, and teachers across the U.S., Japan, Taiwan, and Mainland China. Compared with American whites, East Asians were found to be more likely to adopt attitudes and practices conducive to academic success, such as stricter work ethics and higher educational aspirations. Recent work on East-Asian countries, including China, South Korea, and Japan, provides substantial empirical support for the posited cultural explanation—educational beliefs and practices are of great importance to children's achievement (Byun, Schofer, and Kim, 2012; Liu and Xie, 2015; Yamamoto and Brinton, 2010).

In short, the existing literature has established that certain cultural beliefs and practices contribute to East Asians' advantage in education. However, this research is largely concerned with the overall differences between students in East-Asian societies and those in the West. Statistically speaking, the literature has been mostly concerned with the “additive effect.” Liu and Xie's (2016) study on Asian Americans

calls for an interactive model of culture, meaning that SES-performance gradients should be less pronounced for students in East Asian societies than for those in the West. In a recent study, Lyu, Li and Xie (2019) have indeed revealed that family SES plays a much smaller role in affecting students' academic achievement in China than in the United States and Germany. However, it remains unclear what accounts for this cross-national variation in the SES-performance relationship. In our study, we focus on educational expectations, both of students and their parents, as a potential causal mechanism in explaining this variation. That is, we wish to examine cross-society variations in the importance of family SES for educational expectations to test the cultural explanation for the overall academic advantage of East Asians over Americans and Europeans.

Family SES, Educational Expectations and Children's Outcomes

Ever since the classic Blau-Duncan model revealed a high correlation between family background and education (Blau and Duncan, 1967), a large body of literature has been devoted to examining the mechanisms by which family characteristics affect children's development. In this literature, educational expectations have long been identified as an important vehicle through which parents transmit family advantages or disadvantages to their children, attributable to the pioneering work by Sewell and his colleagues in what is commonly known as the Wisconsin Model of status attainment (Sewell et al., 1969; Sewell and Hauser, 1975). According to the Wisconsin Model, the influences of family SES on children's education and their later career success are mediated by social-psychological factors, important ones being

educational and occupational expectations. A series of subsequent studies have provided further support for the role of educational expectations—both parents' and children's—in the social attainment process (Bozick et al.,2010; Davis-Kean, 2005; Hanson,1994; Schneider and Stevenson,1999; Wang and Shi, 2014). This body of research has well established the empirical pattern that students' educational achievement and attainment are positively influenced by their own educational expectations for themselves and/or others' expectations for them.

Research in psychology and sociology has also uncovered underlying processes through which educational expectations affect educational outcomes. On the one hand, young people's future orientation is believed to promote positive self-concepts and motivate ongoing behaviors conducive to achieving desired future outcomes (Bandura et al.,1996; Nurmi,1991). For example, empirical studies have shown that students with higher expectations generally expend more time and effort on academic endeavors (Beal and Crockett, 2010; Domina, Conley, and Farkas, 2011). On the other hand, parental expectations for a child's education play a crucial role in determining how parents invest both monetary and nonmonetary resources in raising their children (Hao and Yeung, 2015). Not surprisingly, parents who have high expectations tend to prioritize their investment in children which, in turn, enhances their developmental outcomes. Positive parental expectations are also transmitted from parents to their children, which promote greater academic effort and achievement (Bandura et al.,1996; Bandura et al., 2001; Fan and Chen, 2001).

Importantly, prior research has long established that family SES exerts a strong and positive influence on educational expectations, with children from low-SES families and their parents generally being less ambitious than their counterparts from more affluent families (Goyette and Xie, 1999; Hanson, 1994). Moreover, young people from higher SES families are more likely to sustain their high expectations over time than lower-SES youths (Bozick et al., 2010). However, we recognize that the SES gradient in educational expectations is not simple or universal. There may be variations across racial and ethnic groups. For example, Asian Americans expect to, and are expected to, achieve higher levels of education, irrespective of their own socioeconomic status (Glick and White, 2004; Goyette and Xie, 1999; Hao and Bonstead-Burns, 1998; Lee and Zhou, 2015; Kao and Tienda, 1995; Vartanian et al., 2007). Although there are many studies on Asian immigrants in the U.S. on this subject, little attention has been paid to the variation in the relationship between family SES and educational expectations across different social contexts. A more recent study in China indicates that parenting practices, including parents' expectations for their children, do not vary greatly by family socioeconomic resources (Liu and Xie, 2015). As discussed earlier, it is plausible that the association between family SES and educational expectations may be weaker in East-Asian than in Western societies.

Research Questions

In this study, we examine the societal variation in the importance of family background to educational expectations, comparing East-Asian and Western societies.

We analyze data from a series of large-scale, high-quality, and nationally representative datasets to address the following research question: How does family SES affect parents' and children's educational expectations differentially in three East-Asian societies (mainland China, Taiwan, and South Korea) and three Western societies (the U.S., Germany and Australia)?

We chose to focus on six societies – mainland China, Taiwan, South Korea, the U.S., Germany, and Australia – for both theoretical and practical reasons. The practical reason is that we were able to secure high-quality data for these six societies so that a comparison across them is possible. We are aware that any comparative study is difficult and inevitably requires unverifiable assumptions about comparability, as societies differ in geography, political structure, economic development, and regional culture. However, the presence of these differences also facilitates the comparison, as they allow us to focus on the key contextual variation of interest to us—cultural beliefs and practices pertaining to education. Among the six societies, three of them—mainland China, Taiwan, and South Korea—share a Confucian ethical philosophy, although they have their own cultural peculiarities. The importance of education as emphasized by Confucianism is deeply rooted in all three societies, despite their differences in political and economic systems. Meanwhile, the Western world also varies greatly, covering many countries in Europe, North America, and Oceania. In our study, the U.S., Germany, and Australia resemble each other in their broad cultural traditions, although they differ greatly with regard to welfare state regimes and educational systems (Nauck, Groepler, and Yi, 2017). The

U.S. and Australia represent a liberal welfare regime, and Germany is a corporatist conservative welfare state (Aspalter, 2006). The dual education system is widespread in Germany (Thelen and Busemeyer, 2012), which is different from the single-tier educational systems of the other two Western countries.

The previous literature suggests that parents' and children's educational expectations should be less dependent on family SES in Confucian societies than in Western societies. Hence, we propose a hypothesis that family background exerts relatively weaker importance for both parents' and children's educational expectations in mainland China, Taiwan, and South Korea than in the U.S., Germany and Australia.

Data and Measures

Data

In this study, we examine how family SES affects educational expectations differently between East-Asian and Western societies. We draw on the following comparable survey data from six societies: (1) mainland China: the 2014 wave of the China Family Panel Studies (CFPS), the 2013-2014 baseline wave of the China Education Panel Studies (CEPS), and the 2014 baseline wave of Huachi survey; (2) Taiwan: the 2001 baseline wave of the Taiwan Education Panel Survey (TEPS) and the 2000 baseline wave of the Taiwan Youth Project (TYP); (3) Korea: the 2003 baseline wave and 2004 wave of the Korea Youth Panel Survey (KYPS); (4) the U.S.: the 1998 baseline wave and 2007 wave of the Early Childhood Longitudinal Study (ECLS-K)

and the 1988 baseline wave of the National Education Longitudinal Study of 1988 (NELS); (5) Germany: the 2012 and 2013 waves of the German National Educational Panel Study (NEPS); (6) Australia: the 2015 wave of the Longitudinal Surveys of Australian Youth (LSAY). In addition to children's information, those survey projects also collected information from parents. A detailed description of these surveys is provided in the Appendix. Table 1 summarizes these datasets with basic information about interview date, sample coverage, and sample size.

[Table 1]

For comparability, we restrict our analysis to junior middle-school students. Of note here is that, unlike the other datasets being analyzed, the CFPS is not a survey of a cohort of students but a household survey that covers all household members in a sampled household, with information on children under age 10 collected through proxy by the childcare person, or guardian, in most cases a parent. For the CFPS data, we divide young respondents into four age groups in this study: 0-6 years, 7-9 years, 10-12 years, and 13-15 years.

Measures

Parents' Expectations. We measure a parent's (or guardian's) educational expectations for his or her child as expected years of schooling, as follows: less than high school = 9, high school graduation = 12, two-year college or some college = 14, four-year college and above = 16. Of note here is that education systems vary widely across societies. Germany has a dual education system that combines apprenticeship with formal vocational education, whereas a comprehensive school system is used in

all the other societies in this study. We borrow from the International Standard Classification of Education in its version of 1997 (ISCED-97) mappings to ensure international comparability. Appendix Table A shows detailed information for comparability of educational expectations across surveys. To ensure that our results are not sensitive to the specification of parent's educational expectations as a continuous outcome variable, we also entered it in a regression analysis as a dichotomous variable (those who expected their children to finish a 4-year college = 1, otherwise = 0) in alternative models. The models yield comparable results, shown in Appendix Table B. We note that the KYPS asked children to report parents' educational expectations with the question, "How much education would your parents like you to receive?" Although the practice of using children's proxy reports has been used in earlier research (e.g., Gill and Reynolds, 1999), we know this difference in measurement of parent's education expectations for the South Korean data and should thus interpret the results with caution.

Children's Expectation. As respondents, children were asked, "How far in school do you think you will get?" For our main analyses in this paper, children's educational expectations were also measured continuously as years of education in linear models and dichotomously in linear probability models. The results from linear probability models are presented in Appendix Table C.

Family Socio-economic Status. Family SES is commonly measured by parents' education, occupation, and family income. Because parents' education is well measured in all surveys and is relatively comparable across societies, we choose the

higher self-reported years of each parent's schooling as the main explanatory variable in our analysis. If this information is missing for one parent, we use years of schooling for the other parent.

Control variables. The basic control variables in our analysis are children's gender and age. For gender, female is coded as one, with male coded as zero.

Analytic Strategies

To assess the relative importance of family SES on parents' and children's educational expectations, we first construct a series of linear regression models across countries, with parents' and children's expectations as dependent variables and parents' education as the key independent variable, as in the following equation:

$$Y = \beta_0 + \beta_1 EDU + \beta_2 X + \varepsilon , \quad [1]$$

where Y alternatively represents parents' or children's educational expectations, EDU denotes parents' highest education, X refers to social demographic control variables, and ε is the unexplained residual. Our focal interest is the coefficient of parents' education β_1 in each estimated model.

To ensure the robustness of our results, we also present the partial effects of parents' education and other co-factors on the probability of expecting a 4-year college graduation with a linear probability model, which is the same model as equation (1), with Y as a dichotomous variable denoting whether a parent expected his or her child to finish college (yes = 1) or whether a student expected to finish college (yes = 1). The results from the linear probability model corroborate our main findings from the linear model, as shown in Appendix Figures A and B.

Results

SES Gradients in Parents' Expectations

We summarize our main findings pertaining to the SES effects on parents' educational expectations in Figure 1, which displays the estimated coefficients of parents' education, β_1 in equation (1), for the same model specification across the thirteen datasets. The results confirm our hypothesis concerning differential effects of family socioeconomic status on parents' educational expectations across the societies being studied. As shown in the figure, while the effect sizes of parents' education on parental expectations vary greatly, there are systematic patterns by society. On average, a one-year increase in parents' education is associated with a 0.02–0.12 increase in the years of schooling that a parent or guardian expected his or her child to attain in mainland China, Taiwan, and South Korea. Only one exception to this generalization is the result for Taiwanese parents' expectations using data from the TEPS, the coefficient of which is 0.24. Likewise, in the U.S. and Germany, the corresponding increase in parents' expectations ranges between 0.14 and 0.31. In a supplementary analysis, we split the U.S. sample into whites and Asians to test the hypothesized explanation for the Asian-white gap in cultural orientation. The results reveal that the influence of parents' education is weaker among Asian Americans than among whites. For instance, using the data from NELS, a one-year increase in an Asian-American parent's education is associated with 0.10 more years of parental expectations, while the increase is 0.23 among their comparable whites.

[Figure 1]

A different visual display of the same results can be found in Figure 2, which shows steeper estimated slopes for the U.S. whites and Germans, indicating stronger positive effects of SES on parental expectations, than for East Asian counterparts. Asians' flatter slopes, together with larger intercepts, of the regression line, indicate that the East-West gap in educational expectations varies across family SES levels – being greater at the lower than at the upper end of the family SES distribution. This is also true for the Asian-White gap in the U.S. sample.

[Figure 2]

In addition, it has been clearly established that the early academic performance plays a role in shaping the educational expectations of children and their parents (Andrew and Hauser, 2011). If children fall behind their peers academically, they and their parents may become discouraged and thus lower their educational expectations. Therefore, we examine the relationship between parents' education and parental expectations at different ages. In particular, we assess differences in educational expectations between Chinese and Americans parents of newborn babies, investigating the “ideal” (overly optimistic) thoughts of parents at the beginning of their children's lives, when children are too young for parents to observe their educational potential. The 2015 baseline survey of the Huachi project interviewed all children aged 0-21 months in Huachi county, a national-level poor county in Gansu province, China. Even parents in poor rural areas hoped that their children would have great educational attainments, 96% expecting their children to finish 4-year college and 53% doctorate degrees. Meanwhile, the results from the ECLS-K data showed

that 75% of U.S. parents with children in Kindergarten expected their children to get bachelor's degrees, and only 15% expected their children to achieve Ph.Ds. Not only do we observe an overall difference in education for newborn children between China and the U.S., we also find a large difference in the SES gradient consistent with earlier results: the SES difference in parental expectations for newborn children was far greater in the U.S. than in China. A one-year increase in parents' education in the U.S. was associated with a 0.14 increase in expected years of schooling, seven times as large as that among Chinese parents (0.02).

In Figure 3, we display the SES variations in parental expectations across age groups in China. The fitted line for SES on parental expectations among newborn babies is almost flat, implying that all parents, regardless of family background, have high expectations for their children's future. These results also reveal the pattern that the younger the children, the smaller the association between parents' education and parents' expectations. That is, SES gradients in parents' expectations increase with age, as SES gradients in academic performance may emerge after children begin schooling, and earlier SES-performance gradients may strengthen later SES-expectations gradients. The fitted line plot suggests that the SES gradients in parental expectations become stronger as children grow older.

[Figure 3]

For robustness, we also examine an alternative outcome variable, a dichotomous variable indicating whether parents expect a child to complete a 4-year college education. The results of the linear probability models, as presented in

Appendix Figure A, are consistent with those of the linear regression models. As expected, as parents themselves are more educated, they are more likely to expect their children to attain a bachelor's degree. Consistent with earlier findings using the continuous measure of parents' educational expectations, the influence of parents' education on college education expectations is smaller in East Asian than that in Western societies.

In sum, our results confirm a pattern consistently found in the prior literature: strong SES gradients in parental expectations in Western societies, with parents from lower-SES families holding much lower expectations of their children than their counterparts from higher-SES families. In contrast, Asian parents report high expectations for their children's academic success even if they do not have education themselves. That is, consistent with the cultural orientation hypothesis, these results reveal high emphasis of Asians on education, regardless of SES.

SES Gradients in Children's Expectations

In Figure 4, we present similar results, parallel to Figure 1, pertaining to the influence of parents' education on children's expectations in each of these datasets. Consistent with the literature, we find a positive effect of parents' education: the more educated parents are themselves, the higher the educational expectations of their offspring. The cultural orientation explanation suggests smaller effects among Asians, due to their cultural beliefs that emphasize the importance of effort for educational achievement regardless of family background. Indeed, parents' educational attainment explains only a smaller portion of educational expectations for East Asians. A one-year

increase in parents' education is associated with 0.05-0.21 more years in Asian children's expectations.

In contrast with the results for East Asians, parents' education indeed exerts a stronger influence on children's expectations in the West, with the coefficient of parents' education ranging from 0.12-0.30. Another notable result in this figure is the Asian-white difference in the U.S. sample. We find that, compared to Asian Americans, white students' education plans are more strongly influenced by their parents' educational attainment.

[Figure 4]

For easiness of interpretation, Figure 5 presents the summary results from regression models. The patterns of the relationship between parents' education and children's expectations in Figure 5 are similar to those for parental expectations in Figure 2, with the slopes of the fitted lines less steep and the intercepts greater for Asian than for Western young people. The differences in slope and intercept indicate that the Asians' advantage over Western youths in educational expectations is greater at lower than at higher levels of family SES.

[Figure 5]

We further evaluate the relative contribution of family SES in explaining the children's expected transition to a 4-year college education. The results are shown in Appendix Figure B. Again, they confirm that parents' education is less important for Asian children's expectations to attain bachelor's degrees than for those of Western children.

Altogether, our evidence suggests that parents' educational backgrounds play a smaller role in determining students' educational ambitions in the East-Asian than in the Western societies. In other words, East-Asian young people, as well as Asian Americans, benefit from cultural orientations that reinforce the relevance and importance of education even when their parents have no education.

Conclusion and Discussion

Numerous studies have found that East Asians, including Asian immigrants and their descendants in the U.S., academically outperform their Western/white counterparts. The most popular explanation has been cultural—Asians are more likely than whites to believe in the value of education. Although there is a growing body of research on the role of culture in explaining the East-West educational gap, hitherto our knowledge has been limited about how the effect of family socioeconomic background on education-related attitudes and behaviors may differ between East-Asian and Western societies. Drawing on recently available data from many large-scale survey projects, we examine the differential importance of family SES to parents' and children's educational expectations in mainland China, Taiwan, South Korea, the U.S., Germany, and Australia.

Results from our analyses reveal substantial variation in the influence of family SES on parents' and children's educational expectations across Eastern and Western societies. There is an empirical pattern that, compared with Western societies, both parents' and children's educational expectations are less dependent on parents' education in East-Asian societies. In the West, parents' education holds high

explanatory power for between-family differences in educational expectations. When parents are educated, they are likely to hold high expectations for their children's education, and children have high expectations for themselves. Both parents' and children's expectations are highly constrained by family socio-economic resources. The story, however, is quite different for East Asians. Asian parents hold high expectations for their children, and Asian children also hold high expectations themselves, irrespective of family socioeconomic status.

These findings support our argument that East Asians' educational attitudes and behaviors are less influenced by family SES than those of Westerners. This societal difference may well be attributable to Confucian cultural traditions in East Asia. East Asians place high values on educational effort and attainment, even when parents have low socioeconomic status. This important cultural difference between East Asia and the West, and between Asian Americans and whites, may help explain Asians' achievement premium over Westerners, as well as Asian Americans' higher academic achievement than that of whites in the U.S.

While we believe that our results significantly advance our understanding of the East-West education gap internationally and the Asian-white education gap in the U.S., we are aware that they are only suggestive. As in any international comparative study, the analysis presented here is constrained by having to make best use of available data. In all ten survey projects, we did our best in harmonizing similar data regarding parent's education and educational expectations of children and their parents, although the data were collected by different research teams with different

sample designs and survey instruments. Our analyses also suffer from a lack of other explanatory variables. For example, we measured family SES by the highest level of education completed by either parent due to data limitations. Ideally, we would want to use a more comprehensive set of measures of family socioeconomic resources, including but not limited to parents' education, parents' occupation, and family income. Although educational expectations have been found to be important to academic success, the research reported in this paper is only a first step toward understanding how and why Asians are able to achieve higher achievement relative to that of whites. Future research should explore the potential variation in the role of educational expectations in explaining how family background affects later achievement across countries.

Despite these concerns, our study contributes to a better understanding of how culture works interactively with family socioeconomic characteristics—well known social determinants of education—to influence children's education and to generate between-society or between-group achievement differences. We urge researchers in the future to pay attention to how culture, defined as beliefs and values at the group level passed on through tradition, may serve as causal mechanisms mediating family resources and children's educational outcomes.

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Table 1. Basic Information about Datasets

Society	Data source	Interview date	Coverage of children	Sample size (no.children)
Mainland China	CFPS	2014	Aged 0-15	8,616
	CEPS	2013-2014	Grade 7/9	19,487
	Huachi	2015	Aged 0-21 months	1,587
Taiwan	TEPS	2001	Grade 7	20,055
	TYP	2000	Grade 7/9	5,447
South Korea	KYPS	2003	Grade 8	3,697
		2004	Grade 9	3,449
U.S.	ECLS-K	1998	Kindergarten	2,1409
		2007	Grade 8	9,725
	NELS	1988	Grade 8	27,394
Germany	NEPS	2012	Grade 7	8,317
		2013	Grade 8	8,317
Australia	LSAY	2015	Age 15	14,530

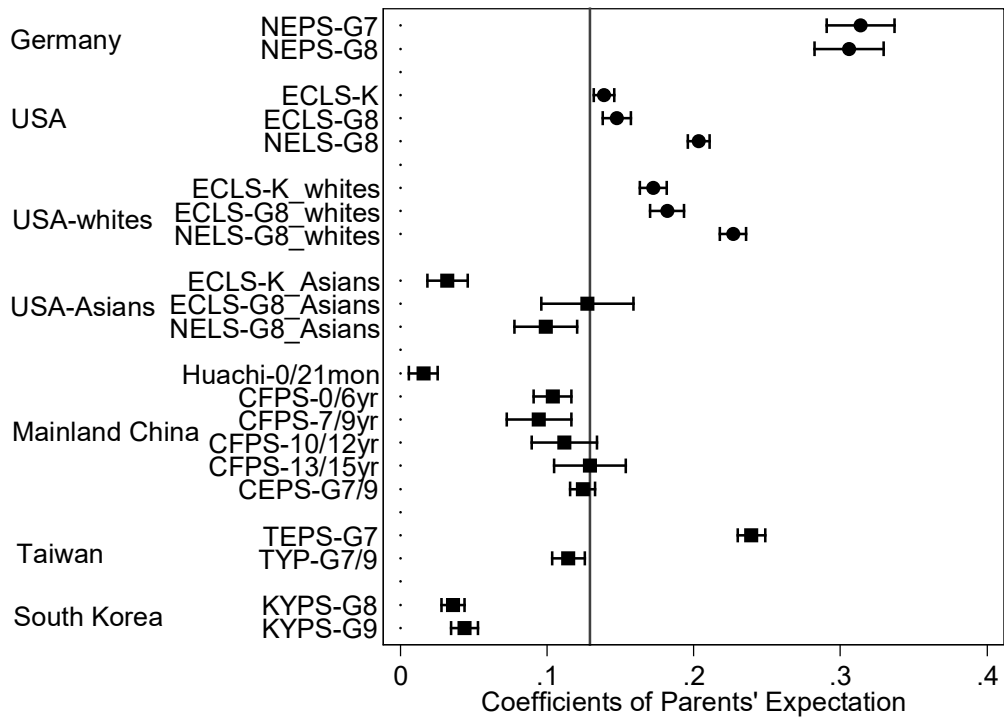


Figure 1. Coefficients from OLS Regression of Parents' Educational Expectations on Family Background

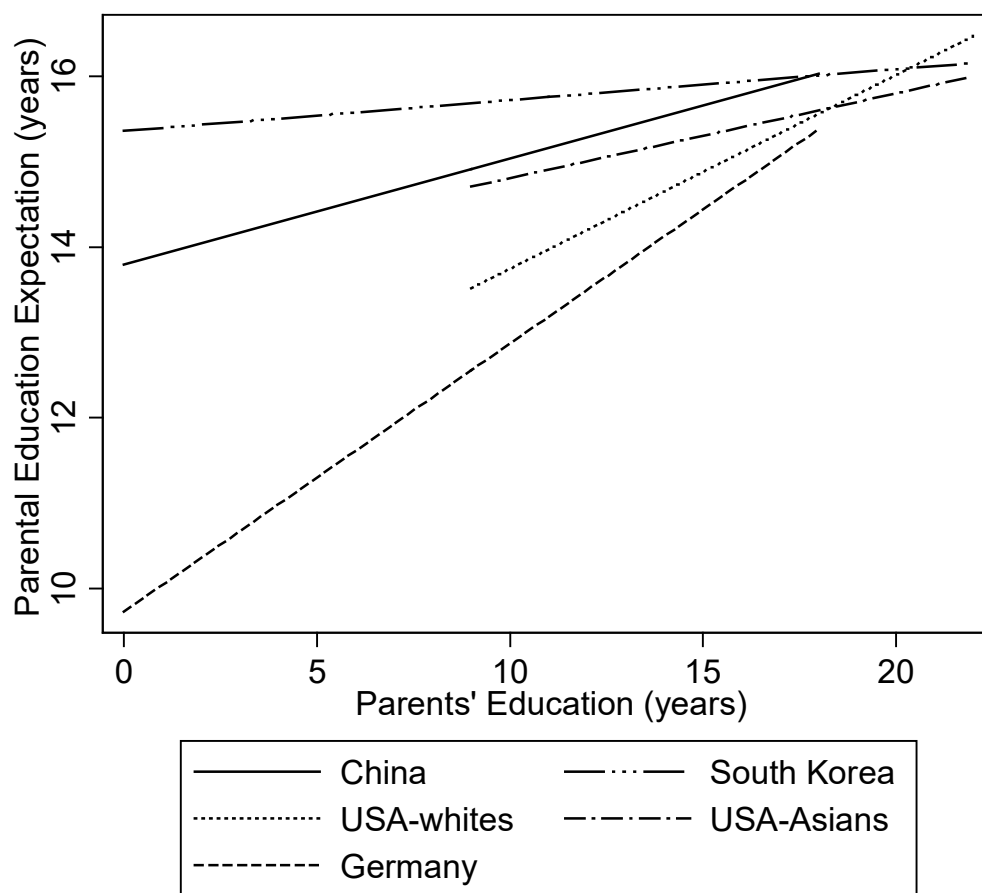


Figure2. The Influences of Parents' Education on Parental Education Expectations

Note. The results reported here are from CEPS, KYPS, NELS, and NEPS data for China, South Korea, USA, and Germany, respectively.

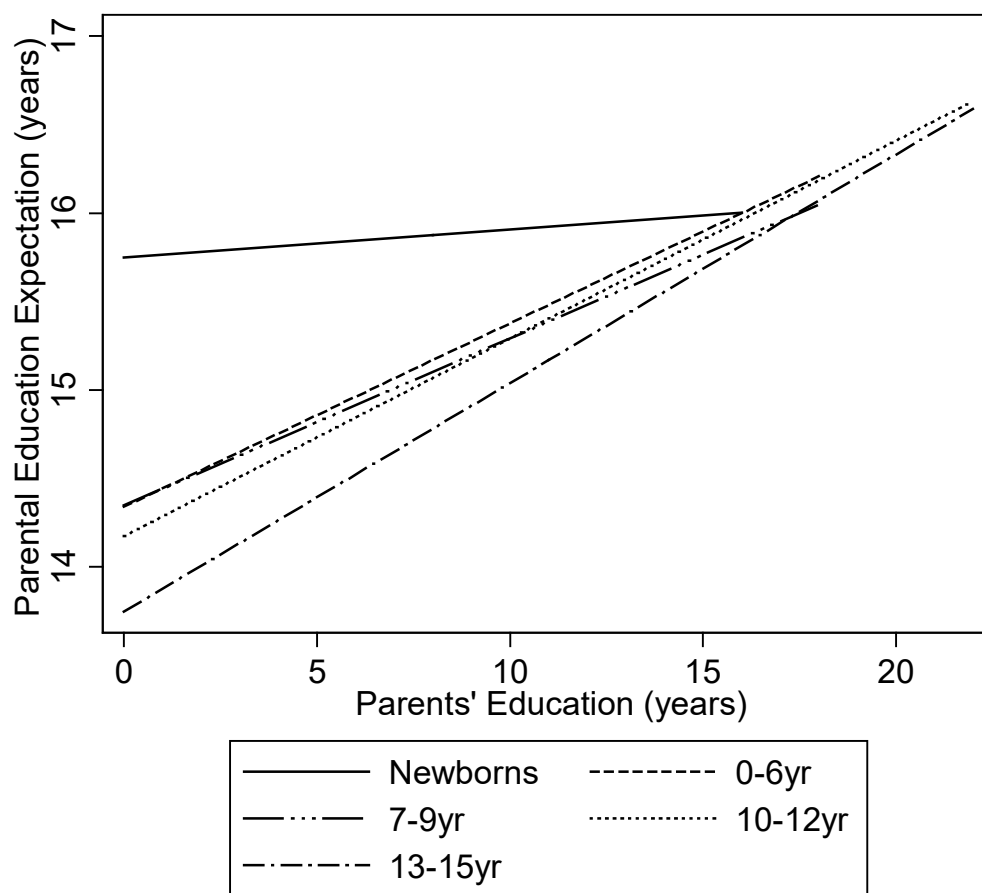


Figure3. The Influences of Parents' Education on Parental Education Expectations in China

Note. The newborns sample is from Huachi survey. The CFPS sample is divided into four age groups: 0-6 years, 7-9 years, 10-12 years, and 13-15 years.

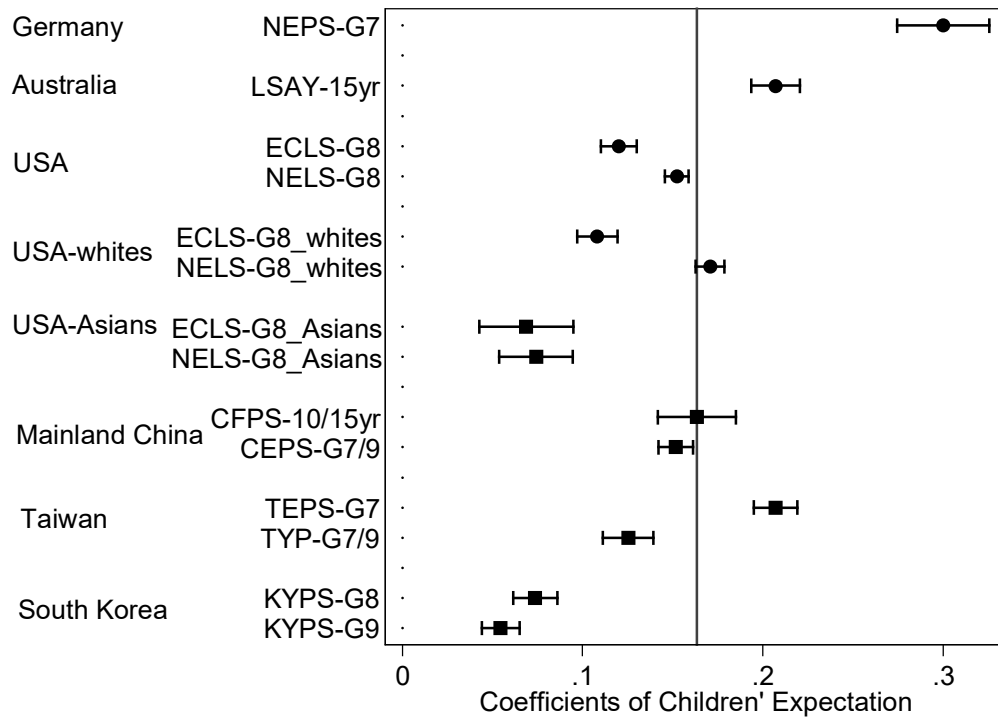


Figure 4. Coefficients from OLS Regression of Children's Educational Expectations on Family Background

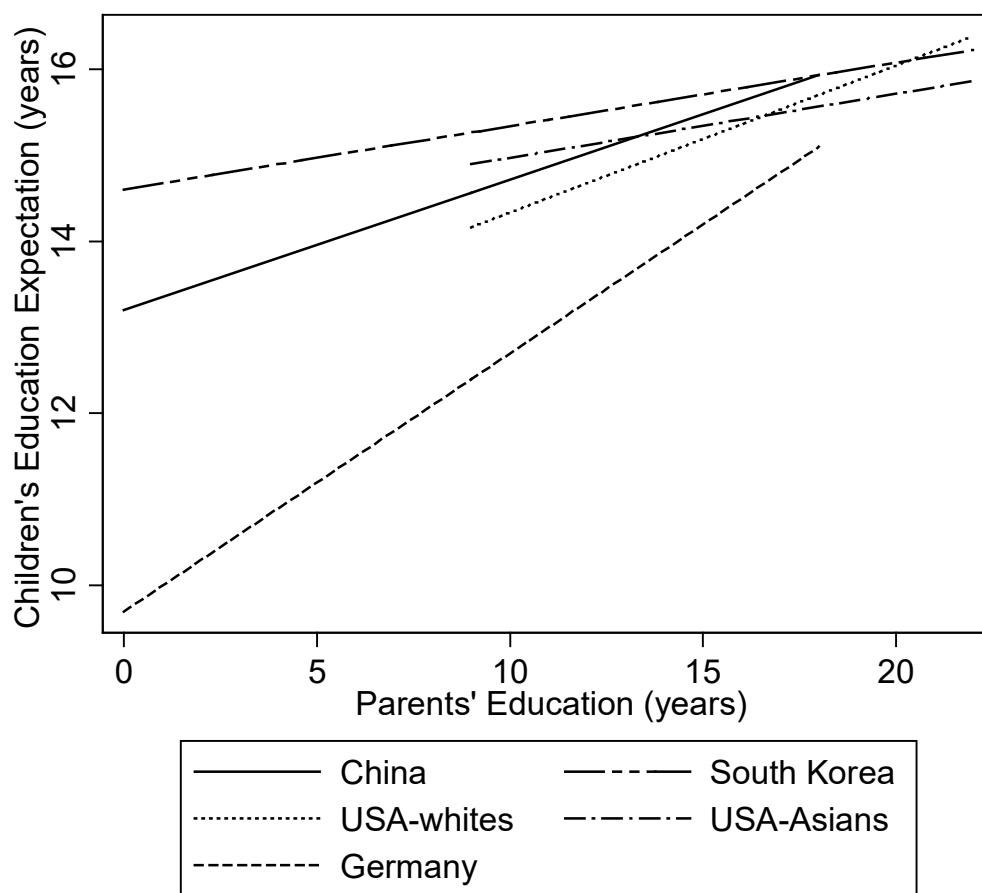


Figure 5. The Influences of Parents' Education on Children's Educational Expectations

Note. The results reported here are from CEPS, KYPS, NELS, and NEPS for China, South Korea, USA, and Germany, respectively.

Appendix:

Data. To measure the differential effect of family SES on educational expectations across countries, we use data from ten survey projects in the six selected countries, mostly being nationally representative, longitudinal surveys.

China. The CFPS is a large-scale, nationally representative, panel survey of Chinese individuals, families, and communities. The 2010 baseline survey interviewed 14,960 households in 25 provinces, along with 33,600 adults and 8,990 children within these households. The individuals are tracked through biennial follow-up surveys. The CFPS has a child module for all respondents below age 15 and, therefore, those aged 0 to 15 are selected in this study. The CEPS is a nationally representative, longitudinal survey that followed the 7th and 9th graders in the 2013-2014 academic year. It is designed to collect information about early school experiences beginning from middle school. The baseline survey of the Huachi project interviewed all children aged 0-21 months in 2015 in Huachi County, a national-level poor county in Gansu Province, China. It was jointly launched by the Development Research Foundation and the Center for Social Research at Peking University.

Taiwan. The TEPS includes two longitudinal sample that examine child education and development in Taiwan. One is a sample of children in the 7th grade in 2001 and followed from the 7th grade through the 12th grade. The TYP is another youth longitudinal survey in Taiwan. The survey followed the 7th and 9th graders in 2000. To date, nine waves of data have been collected.

South Korea. The KYPS includes two longitudinal studies in South Korea. One is a sample of children followed from the 7th grade in 2003 throughout one year after graduating from high school in 2008.

U.S. The ECLS-K is a longitudinal study that followed the same children from kindergarten through the 8th grade in the U.S. The ECLS-K focuses on children's status at entry into school, their transition into school, and their progression through 8th grade. It is noted that the children in the ECLS-K were not asked to report the highest level of education they themselves expect to complete. The U.S. dataset ELS is another nationally representative, longitudinal study of 10th graders in 2002 and 12th graders in 2004. Parents were not interviewed in the ELS and, thus, there is no information about parental educational expectations. The third data set from the U.S. analyzed for this study is the 1988 baseline of the NELS. The NELS is a sample of students followed throughout secondary and postsecondary years.

Germany. The German dataset NEPS is to collect longitudinal data on education and development throughout the life span. Six starting cohorts of over 60,000 persons were sampled through the years 2009 to 2012.

Australia. The LSAY project includes six cohorts starting in 1995, 1998, 2003, 2006, 2009 and more recently in 2015. In 2015, a nationally representative sample of 14,530 students aged 15 years was selected to participate in PISA and this sample became the sixth cohort of the LSAY.

Table A. Description of educational expectations.

Dataset	Educational expectations
CFPS/Huachi	Primary school=2; Junior high school=3; Senior high school=4; 2- or 3-year college=5; 4-year college=6; Master's degree=7; Doctorate degree=8; No need to go to school=9
CEPS	Drop out now=1; Junior high school=2; Vocational secondary school =3; Vocational high school=4; Senior high school=5; 2- or 3-year college=6; Bachelor's degree=7; Master's degree=8; Doctorate degree=9; I don't care=10
TEPS	Less than junior high school=1; Senior(vocational) high school=2; Institute of technology=3; University=4; Graduate school=5
TYP	Junior high school=1; Senior (Vocational) high school=2; 2- or 3-year college=3; 4-year college=4; Master's degree=5; Doctorate degree=6
KYPS	Junior high school=1; High school=2; 2- or 3-year college=3; 4-year college=4; Master's or Ph.D. degree=5
ECLS-K	To receive less than a high school diploma=1; To graduate from high school=2; To attend two or more years of college=3; To finish a four- or five-year college degree=4; To earn a Master's degree or equivalent=5; To finish a Ph.D., MD, or other advanced degree=6
NELS	Parents' expectation: Less than high school diploma=1;GED=2;High school graduation=3;Voc,Trd,Bus<1year=4; Voc,Trd,Bus 1-2 years=5; Voc,Trd,2 years or more=6;<2years of college=7;2 or more years program=8;Finish a 2-year program=9;Finish 4/5 year program=10;Master's degree=11;Ph.D., M.D.=12 Children's expectation: Less than high school graduation=1; High school graduation only=2; <2 years trade school=3; 2+ years trade school=4; <2 years of college=5; 2/more years of college=6; Finish college=7; Master's degree=8; Ph.D., M.D.=9
NEPS	Leave school without any qualification=1; Leaving certificate from the Hauptschule [basic secondary school]=2; Leaving certificate from the Realschule [intermediate secondary school]=3; Abitur [higher education entrance qualification]=4

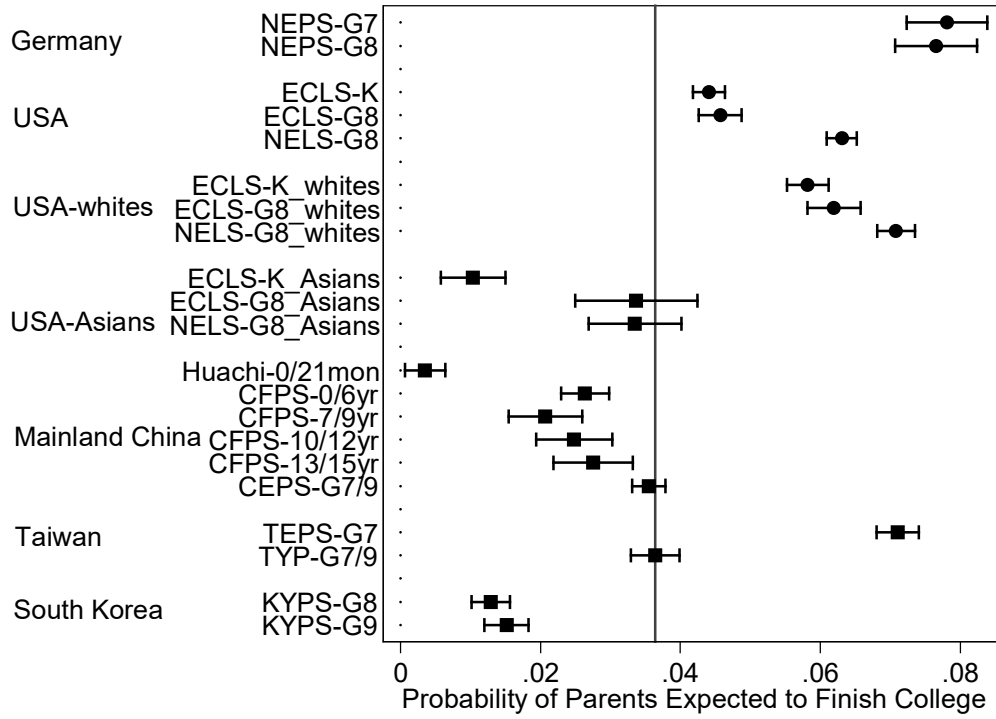


Figure A. Coefficients from Probability Linear Regression of Parents' Educational Expectations on Family Background

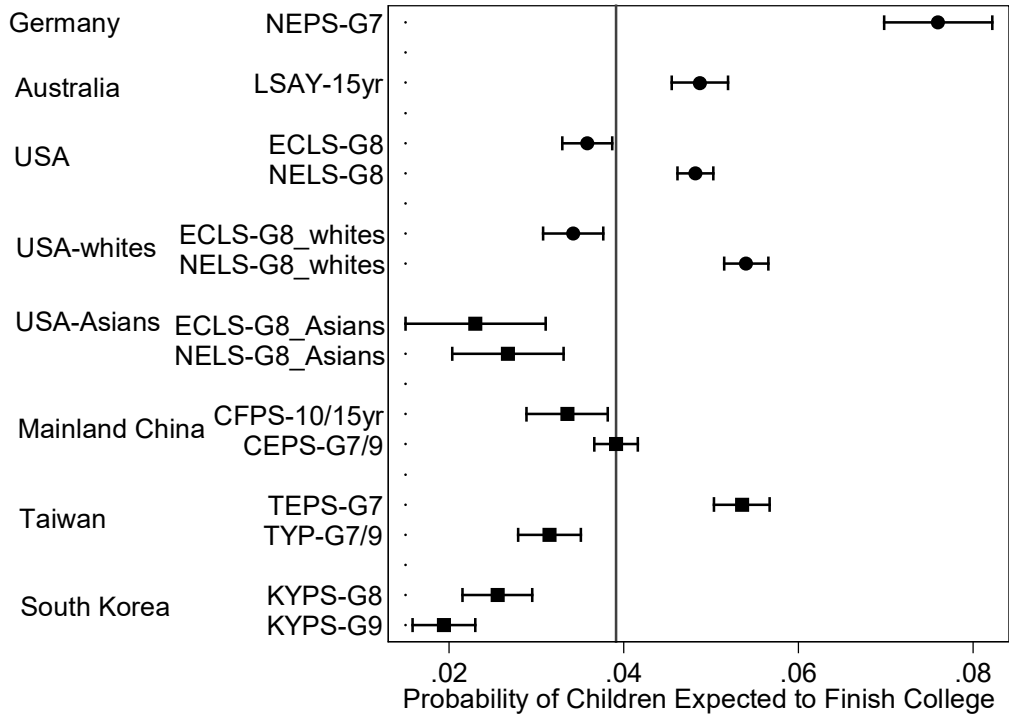


Figure B. Coefficients from Probability Linear Regression of Children's Educational Expectations on Family Background