



Longitudinal Pathways to Educational Attainment and Health of Immigrant Youth in Young Adulthood: A Comparative Analysis

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Abstract

This study examined longitudinally sequential pathways between parental socioeconomic status and immigrant children's school performance and depressive symptoms during adolescence, as well as educational attainment and self-rated health upon transitioning into young adulthood among three immigrant groups. Participants included 1522 immigrant youth (*M* age = 14 years) and their parents. The youth were assessed at three time points (1992, 1995, and 2002). The parents were assessed at time 2. The mediating effects of intergenerational transmission of educational expectations and parent-child conflict, and the moderating effects of parental school involvement were also examined. The findings showed that lower levels of parental school involvement combined with higher levels of parental educational expectations were associated with increased depressive symptoms in adolescence and diminished self-rated health in young adulthood among Asian youth composed of Chinese, Koreans, and Filipinos. For Latino youth from Mexico and Central America, intergenerational transmission of educational expectations mediated the effects of parental SES on youth's GPA in adolescence and educational attainment in young adulthood only among those who reported high levels of parental school involvement. Findings showed that family mechanisms operated differently across immigrant groups and contributed to variations in immigrant youth's adjustment outcomes in both adolescence and young adulthood.

Keywords Intergenerational transmission of educational expectations · Parental school involvement · Parent-child conflict · Adjustment outcome · Immigrant youth

Highlights

- Parental school involvement functions differently for youth from different immigrant groups.
- Parental school involvement moderates the effects of parental educational expectations on immigrant youth's adjustment.
- Family-level interventions targeting parental school involvement should consider youth's immigration origins.

Educational attainment and health during early adulthood are critical for well-being later in the life course (Manor et al., 2001; Rumbaut, 2005). Yet, knowledge about

immigrant youth's educational attainment and health upon transitioning into young adulthood and the associated family mechanisms is limited. Even less is known about how these adjustment outcomes and related family mechanisms operate across different immigrant groups. Immigrant youth exhibit large diversity in terms of their adjustment outcomes, partly reflecting variations in their socioeconomic positions (Roche et al., 2017). For instance, using data from the National Educational Longitudinal Study (NELS), Portes and MacLeod (1999) indicated that Mexican parents' socioeconomic status (SES) is consistently lower than other immigrant parents, whereas Chinese, Korean, and Filipino parents exceed other immigrant groups in terms of their educational levels on average. Relatedly, Mexican immigrant children fall behind in their

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school adjustment and educational attainment more so than their counterparts.

Another factor that may contribute to variations in immigrant youth's adjustment outcomes is whether the relocation to a foreign country occurs on a voluntary basis (Ying & Han, 2008). Among Asian Americans, often depicted as "model minorities," substantive diversity in terms of educational experience exists (Ngo & Lee, 2007). When examining the educational attainment of immigrant youth, Southeast Asian immigrants (i.e., individuals from Vietnam, Cambodia, Laos, and Hmong) are disadvantaged. Research highlights that as involuntary migrants, immigrants from Southeast Asia (also referred to as Southeast Asians in the present study) are less prepared for their relocation to the United States and the subsequent acculturation and adjustment compared to other groups of immigrants (Ying & Han, 2008). One aspect that reflects the unpreparedness of Southeast Asian immigrant families is parents' confusion about parental roles in their children's schools. The expectations related to parental involvement in children's schools is a new concept for Southeast Asian immigrant parents who perceive that teachers assume full responsibility for their children at school based on prior experiences in their home country (Collignon et al., 2001). As refugees, Southeast Asians have suffered political persecution and war-related trauma before their relocation to the United States, which compromises their parental efficacy (Ying & Han, 2008). Moreover, compared to other Asian groups, a lower percentage of Southeast Asians have a bachelor's degree or higher (Ngo & Lee, 2007). As parenting is one of the most proximal socialization contexts for children's educational experiences, educational attainment of youth from Southeast Asian immigrant families is likely to be compromised. Moreover, refugee status may further influence the dynamics within immigrant families, including compounded parent-child conflict. Specifically, although parent-child conflict is common among immigrant families and can undermine youth's mental health and academic performance (Choi et al., 2008; Ying & Han, 2008), it tends to escalate among refugee families where parents typically exhibit high psychopathology related to involuntary, and oftentimes traumatic, relocation to the United States (Choi et al., 2008; Ying & Han, 2008). As such, youth from Southeast Asian immigrant families may suffer the negative effects (e.g., poor mental health and academics) associated with parent-child conflict to a greater extent than youth from other immigrant groups.

Compared to the growing literature on unequal educational attainment among immigrant youth, less is known about health disparities of youth from across immigrant groups, as well as the underlying mechanisms. Self-rated health is a strong indicator of individual health and is associated with morbidity and mortality (Bauldry et al.,

2012; Zhang et al., 2010). The well-established longitudinal association between educational attainment and health (Bauldry et al., 2012; Zhang et al., 2010) suggests that these two variables are likely to share similar mechanisms or precursors. For example, family mechanisms transmitting the effects of early socioeconomic position to educational attainment later in the life course may be echoed in processes contributing to variations in self-rated health. Indeed, internalized cognitive skills and abilities (e.g., synthesizing and reasoning, motivation, and future-planning) associated with school-related behaviors (e.g., youth educational expectations and performance) facilitate individuals' engagement in healthy lifestyles, such as regular exercising, abstaining from smoking, and maintaining a healthy weight (Zhang et al., 2010). Thus, in the current study, we expected that mechanisms underlying educational attainment of immigrant youth would also contribute to their self-rated health in young adulthood.

Using a longitudinal sample focusing on immigrant youth's adjustment spanning from adolescence to young adulthood, the current study examined sequential family mechanisms (i.e., parental and child educational expectations, parental school involvement, parent-child conflict) that connect parental SES to immigrant youth's school performance and depressive symptoms during adolescence, and educational attainment and self-rated health upon transitioning into young adulthood. These longitudinal associations were compared among three immigrant groups: Asians made up of Chinese, Koreans, and Filipinos (labeled Asians – CKF), Southeast Asians, and Latinos from Mexico and Central America.

Intergenerational Transmission of Educational Expectations as a Mediating Pathway

According to the Expectancy-Value Model of Achievement-Related Choices, the family is an important socialization context for individual educational achievement (Eccles et al., 2004). Research has well documented the association between parental SES and youth academic achievement (Benner & Mistry, 2007). Parental educational expectations are considered an important factor in transmitting the effects of parental SES to child academic outcomes. In general, parents with lower SES are likely to report lower educational expectations for their children compared to their counterparts with higher SES, although some parents with low SES hold high educational expectations for their children (Benner & Mistry, 2007). Additionally, parents' values, attitudes, and expectations toward education influence their children's educational values, attitudes, and expectations (Gniewosz & Noack, 2012).

Youth with parents holding high educational expectations tend to earn higher achievement test scores compared to their counterparts (Wang & Benner, 2014). Furthermore, informed by the Expectancy-Value Model that suggests individuals' academic expectations and school-related behaviors developed early in the life course (e.g., adolescence) can influence later educational attainment (Eccles et al., 2004), parents' SES is likely to influence their children's school performance in adolescence, and subsequently, educational attainment in young adulthood through intergenerational transmission of educational expectations.

Parent-Child Conflict as Another Mediating Pathway

Although much research has examined parental educational expectations on youth's educational expectations and performance as aforementioned, little has explored how parental educational expectations may influence parent-child relationships, and subsequently, youth's academic outcomes and psychological well-being. Parental educational expectations largely reflect parents' concern, interest, and investment in their offspring's development (Sandefur et al., 2006) and often involve parental emotional support (Davis-Kean, 2005). Research shows that parental educational expectations are positively associated with parental warmth characterized by parents' praise and positive feelings towards their children (Davis-Kean, 2005), which may contribute to positive parent-child relationships including increased family cohesion and decreased parent-child conflict. Positive parent-child relationships have been shown to be a strong predictor of youth's positive outcomes such as school engagement and psychological well-being (Annunziata et al., 2006; Li & Warner, 2015). As such, parental educational expectations and related parent-child relationships are likely to serve as pathways in transmitting the effects of parental SES to youth's school performance and psychological well-being, and these effects may extend to educational attainment and health in young adulthood.

The Moderating Role of Parental School Involvement

In addition to parental beliefs (e.g., parental educational expectations), parental academic behaviors are another factor that plays a critical role in children's academic development (Gniewosz & Noack, 2012). One parental academic behavior that consistently predicts children's academic success is parental school involvement. Parental school involvement is conceptualized as a multidimensional construct that includes involvement at home (e.g., providing

structure for homework time), involvement at school (e.g., parent-teacher communication, participation in school events), and academic socialization (e.g., communication about schoolwork and future educational and career goals) (Hill & Tyson, 2009; Wang & Sheikh-Khalil, 2014). Parental school involvement in the form of academic socialization particularly enhances child academic performance during adolescence (Hill & Tyson, 2009). Accordingly, we examined the academic socialization dimension of parental school involvement in the present study. Numerous studies have provided evidence for the effect of parental school involvement on improving academic achievement (Gniewosz & Noack, 2012; Jeynes, 2007; Wang & Sheikh-Khalil, 2014) and reducing academic gaps (Dearing et al., 2006). The association between parental school involvement and child academic success has also been observed among immigrant youth (Kim, 2002; Zhang et al., 2019).

Research suggests parental school involvement usually aligns with parental educational expectations (Gniewosz & Noack, 2012), such that high levels of parental educational expectations are associated with high levels of parental school involvement, and consequently contribute to children's academic success. However, in the context of immigration, parental school involvement may not always be in accordance with parental educational expectations. For instance, despite their high educational expectations for their children, Southeast Asian parents who come to the United States as refugees hold different perspectives about their roles in children's schooling. They expect teachers to take full responsibility for their children's schooling (Collignon et al., 2001). Moreover, Southeast Asian parents are not able to spend time helping their children with schoolwork or to get involved with school-related activities due to the demands of employment and family responsibilities (Collignon et al., 2001). In such situations, a combination of high parental educational expectations with low parental school involvement may be observed. While research suggests that high levels of parental educational expectations together with high levels of parental school involvement contribute to children's positive school performance (Gniewosz & Noack, 2012), it is unknown how high levels of parental educational expectations in combination with low levels of parental school involvement may influence youth's educational expectations and school performance. In this study, we investigated how parental school involvement may interact with parental educational expectations to influence youth's educational expectations and school performance in adolescence, and educational attainment and self-rated health in young adulthood.

Parental school involvement may also interact with parental educational expectations to influence parent-child relationships and youth's psychological well-being. Although the effects of parental school involvement on

adolescents' academic performance have been well documented, the effects of parental school involvement on adolescent depressive symptoms are less understood (Wang & Sheikh-Khalil, 2014). Research suggests that parental school involvement in the form of academic socialization plays a salient role in enhancing adolescents' emotional functioning (Bean et al., 2006) and contributes to adolescent well-being (Grolnick et al., 2000). Parental school involvement in the form of academic socialization is also one way to convey parents' concern and care for their adolescents and to promote the parent-child relationship (Hill & Tyson, 2009). The improved emotional functioning and parent-child relationships may protect adolescents from developing depressive symptoms. Given the potential protective effects of parental school involvement for adolescent mental health, it is reasonable to expect that low levels of parental school involvement may relate to negative parent-child relationships and exert negative influence on adolescents' mental health. Furthermore, low levels of parental school support combined with high levels of parental educational expectations may create tension between the parent and the child, contributing to parent-child conflict that subsequently contributes to adolescent depressive symptoms. Elevated parent-child conflict may also negatively impact school performance during adolescence (Weymouth et al., 2016). As such, we anticipated that contingent on the levels of parental school involvement, parental educational expectations would exhibit different associations (e.g., positive or negative) with parent-child conflict, which would subsequently link to youth's school performance and depressive symptoms in the short term, and educational attainment and self-rated health in young adulthood in the long term.

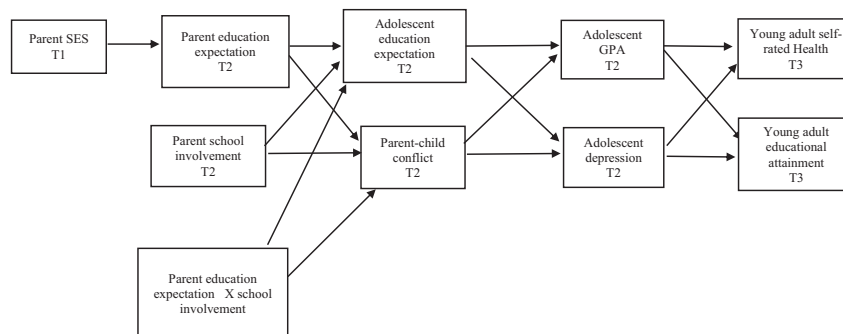
In summary, despite the respective roles of parent-child educational expectations, parental school involvement, and parent-child conflict that have been widely examined in youth's adjustment outcomes, little is known about how these factors may interplay to influence youth's psychological well-being and educational achievement in the context of immigration. For example, parental educational

expectations have always been considered a promotive factor in understanding immigrant youth's educational achievement (Cross et al., 2019), yet minimum research has explored how other familial factors (e.g., parental school involvement) may moderate and subsequently differentiate the effects of parental educational expectations on immigrant youth outcomes. Furthermore, how the relational pathways and moderating mechanisms compare across different immigrant groups is essentially nonexistent. The current study extends the extant literature by testing the mediating and moderating mechanisms among parent-child educational expectations, parental school involvement, and parent-child relationships in transmitting the effects of parental SES to adjustment outcomes of immigrant youth from different groups, with particular attention given to how these mechanisms may function differently across groups.

The Present Study

Building on previous literature, the current study examined the longitudinal associations between parental SES and immigrant youth's adjustment outcomes during adolescence and early adulthood among three immigrant groups: (a) Asians made up of Chinese, Koreans, and Filipinos (labeled Asians – CKF), (b) Southeast Asians, and (c) Latinos from Mexico and Central America. The underlying family mechanisms (e.g., parent-child educational expectations, parent-child conflict, parental school involvement) were examined. Figure 1 presents the overarching conceptual model. Specifically, we sought to investigate (a) how the interaction between parental educational expectations and parent school involvement transmitted the effects of parental SES to child educational expectations and parent-child conflict; and (b) how child educational expectations and parent-child conflict subsequently influenced GPA and depressive symptoms in adolescence, and self-rated health and educational attainment in young adulthood. We hypothesized that (1) there would be two-way interactions between parental school involvement and parental

Fig. 1 Conceptual model. *Note.* T1 = time 1; T2 = time 2; T3 = time 3



educational expectations in predicting child educational expectations and parent-child conflict; and (2) parental school involvement would moderate the mediating pathways from parental SES to youth's depressive symptoms and school performance during adolescence, and educational attainment and self-rated health in young adulthood. We expected the results of the pathways hypothesized above would differ across immigrant youth groups (i.e., Asians-CKF, Southeast Asians, Latinos). However, given that no prior studies have compared how these longitudinal pathways may differ across immigrant groups, we did not have specific hypotheses regarding the pattern or the extent to which the model results might differ across the three immigrant groups.

Method

Participants

The data were part of the Children of Immigrants Longitudinal Study (CILS; Portes & Rumbaut, 2001) and were collected at three time points (1992, 1995, and 2002). Participants were recruited from schools in the Miami/Ft. Lauderdale and San Diego metropolitan areas in the United States. At time 1, a total of 5262 eighth and ninth graders participated in the study. These participants were born in the United States with at least one foreign-born parent or were foreign born but came to the United States at an early age (Portes & Rumbaut, 2001). At time 2, 81.5% of the youth ($n = 4288$) of the original sample participated in the study (M age = 17 years). According to the CILS, youth from intact families (i.e., with both parents present) were slightly over-represented at time 2 follow-up than those from single-family households; however, comparisons between respondents retained (i.e., with data at both time points) and respondents lost (i.e., with only time 1 data) revealed no significant statistical differences in terms of gender, nativity, citizenship, or nationalities (Portes & Rumbaut, 2001; Portes & Rumbaut, 2005). At time 3, 84.3% of the participants ($n = 3613$) who completed the survey at time 2 participated in the study (M age = 24 years). Analyses showed that age, family composition, and early academic performance predicted attrition at time 3. Specifically, participants who were younger, came from intact families, or reported better early academic performance were more likely to remain in the study. Adjusted averages were applied to relevant outcome variables; however, the adjusted averages did not differ significantly from those unadjusted in terms of the source of difference (i.e., age, family composition, and early academic performance) (Portes & Rumbaut, 2005).

In terms of parent sampling at time 2, a probability sample including parents of 46% of the original participating youth

was selected to participate in a parent survey ($n = 2,442$). The sample of parents was drawn randomly with differential probabilities by national groups to ensure smaller nationalities were represented (Portes & Rumbaut, 2005). Our data were drawn from three time points among the 2442 students whose parents completed the parent survey at time 2 to allow the inclusion of data from both adolescents and parents. Among the 2442 students, 1522 students met our selection criteria in terms of immigrant racial/ethnic groups. The final analytic sample included 1522 adolescents and their parents, consisting of Chinese ($n = 31$, 2.0%), Koreans ($n = 4$, 0.3%), Filipinos ($n = 374$, 24.6%), Southeast Asians ($n = 525$, 34.5%; Vietnamese, $n = 251$; Laotian, $n = 143$; Cambodian, $n = 85$; Hmong, $n = 46$), and Mexicans or Central Americans ($n = 588$, 38.6%; Mexican, $n = 341$; Nicaraguan, $n = 206$; Honduran, $n = 16$; El Salvadoran, $n = 13$; Guatemalan, $n = 12$). Given the small percentage of Koreans, the Asians-CKF group included primarily Chinese and Filipino immigrants.

Measures

Educational attainment and health. Educational attainment and self-rated health were examined at time 3. Health was assessed by one self-rated question, “*In general, how is your health?*,” with responses ranging from 1 (*poor*) to 5 (*excellent*). Educational achievement was assessed by youth's report of their highest educational attainment, ranging from 1 (*some high school*) to 6 (*graduated from 4 to 5 years of college or above*).

Parental socioeconomic status at time 1 was assessed by a unit-weighted standardized scale of fathers' and mothers' education, Socioeconomic Index (SEI) Score, and family home ownership.

Youth's grade point average (GPA) was assessed at time 2. The GPA was obtained from the school records.

Youth's depressive symptoms at time 2 were assessed by four items from the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977). Each item was measured on a 4-point scale ranging from 1 = *rarely* to 4 = *most of the time*. An example item is “I felt sad during the past week”. An average score was used with higher scores indicating higher levels of depressive symptoms. In the current study, the internal consistency reliability of youth depressive symptoms was 0.77.

Parent and child educational expectations. Parental educational expectations at time 2 were assessed by the highest education that parent expected their youth to attain, ranging from 1 = *eighth grade or less* to 11 = *Ph.D. or other advanced degrees*. Youth's educational expectations were assessed by the highest education that youth realistically expected to attain, ranging from 1 = *less than high school* to 5 = *finish graduate degree*.

Parental school involvement at time 2 was assessed by two questions that asked parents how often they or their spouse got involved in their children's school experiences. Items include "talk with children about their school experiences" and "talk with children about plans for future education." Each question was measured on a 4-point scale ranging from 1 = *not at all* to 4 = *regularly*. An average score of the two items was used, with higher scores indicating higher levels of parental school involvement. In the current study, the internal consistency reliability of parent-child conflict was 0.78.

Parent-child conflict at time 2 was assessed by adolescent response on four items rated on a 4-point Likert scale (1 = *not true at all* to 4 = *very true*). One example is "I get in trouble because my way of doing things is different from that of my parents." An average score was used with higher scores indicating higher levels of parent-child conflict. In the current study, the internal consistency reliability of parent-child conflict was 0.71.

Overview of Analyses

Data were analyzed with Mplus 8.0 (Muthén & Muthén, 1998–2017). A multiple-group path analysis testing the moderated mediation was estimated across the three immigrant groups. If significant moderation effects were detected, analogous to probing significant interaction effects in regression (Aiken & West, 1991), the significant conditional indirect effects at values (i.e., +1 SD and -1 SD) of the moderator were estimated (Preacher et al., 2007). That is, two additional path models were estimated, one with parental school involvement centered at +1 SD and the other with parental school involvement centered at -1 SD. The sequential mediation pathways from parental SES to youth GPA and depressive symptoms, and subsequently to self-rated health and educational attainment in young adulthood were estimated. Nonsignificant interaction terms were not retained in the final model. Bootstrapping procedures (Shrout & Bolger, 2002), with 1000 bootstrap samples being generated, were performed to examine the hypothesized mediation effects across different levels of the moderator (i.e., parental school involvement). A 95% confidence interval excluding zero indicates significant indirect effects (Shrout & Bolger, 2002). Bias-corrected bootstrap confidence intervals were used (MacKinnon, Lockwood, & Williams, 2004).

Little's MCAR test (Little, 1988) revealed that data were not missing completely at random, $\chi^2(118) = 246.414$, $p < 0.001$. The amount of available data for each variable was included in Table 1. Missingness of educational attainment was associated with lower parental SES ($t(926.3) = 5.0$, $p < 0.001$), lower parental school involvement ($t(847.5) = 2.0$, $p = 0.048$), lower parental ($t(844.4) = 3.1$, $p = 0.002$) and child educational expectations ($t(763.2) = 5.1$,

$p < 0.001$), and lower GPA ($t(958) = 5.8$, $p < 0.001$). Similarly, missingness of self-rated health was associated with lower parental SES ($t(886.8) = 5.4$, $p < 0.001$), lower parental school involvement ($t(796.2) = 2.3$, $p = 0.023$), lower parental ($t(801.9) = 2.9$, $p = 0.004$) and child educational expectations ($t(723.8) = 5.8$, $p < 0.001$), and lower GPA ($t(907.4) = 5.9$, $p < 0.001$). As study variables in the current study accounted for missingness of educational attainment and self-rated health, full information likelihood (FIML) estimation was used to generate less biased estimates, compared to situations where there was no explanation for missingness (Enders & Bandalos, 2001). According to Hu and Bentler (1995), fit indices indicating a good fitting model include root mean square error of approximation (RMSEA) with the cutoff value of 0.05, standardized root-mean-square residual (SRMR) with the cutoff value of 0.08, and comparative fit index (CFI) with the cutoff value of 0.95.

Results

Table 1 presents the means, standard deviations, and bivariate correlations of the study variables. Significant correlations among variables across the three groups showed similar patterns except for the relationships between a few variables. For example, child educational expectations were significantly correlated with parental SES in a positive direction (Asians-CKF: $r = 0.17$, $p < 0.01$; Latinos: $r = 0.29$, $p < 0.01$; Southeast Asians: $r = 0.28$, $p < 0.01$) in all three groups. There was a significant positive correlation between parental school involvement and parental SES among Asians-CKF ($r = 0.10$, $p < 0.05$) and Latinos ($r = 0.19$, $p < 0.01$), but not among Southeast Asians. Parental educational expectations were significantly associated with parental SES in a positive direction among Latinos ($r = 0.26$, $p < 0.01$) and Southeast Asians ($r = 0.17$, $p < 0.01$), but not among Asians-CKF. Parent-child conflict was significantly and negatively correlated with self-rated health in young adulthood in Asians-CKF ($r = -0.13$, $p < 0.05$), but not in Southeast Asians or Latinos. Moreover, parent-child conflict was significantly and negatively correlated with GPA in adolescence among Latinos ($r = -0.14$, $p < 0.01$) and Southeast Asians ($r = -0.10$, $p < 0.05$) but not among Asians-CKF. These findings suggest that family and parental variables may potentially vary in their effects on youth's adjustment outcomes among different immigrant groups.

Moderation Effects of Parental School Involvement

Results of the multiple group analysis indicated an acceptable fit of the model to the data: $\chi^2(59) = 143.38$, $p < 0.001$; CFI = 0.94; RMSEA = 0.05 (90% CI [0.04, 0.06]); SRMR = 0.04. The results across three immigrant groups are presented in Figs. 2–4. Among Asian-CKF youth, the

Table 1 Descriptive statistics and bivariate correlations of study variables for Asians-CKF, Latinos, and Southeast Asians

Asians – CKF	1	2	3	4	5	6	7	8	9
1.P_SES	—								
2.P_edu	0.08	—							
3.P_sch	0.10*	0.14**	—						
4.A_edu	0.17**	0.27**	0.13*	—					
5.Conflict	−0.07	−0.08	−0.12*	−0.18**	—				
6.A_GPA	0.12*	0.23**	−0.01	0.43**	−0.08	—			
7.A_Dep	0.05	−0.07	−0.04	−0.11*	0.29**	−0.06	—		
8.Edu	0.20**	0.21**	0.10	0.39**	−0.11	0.52**	−0.04	—	
9.Health	0.13*	0.07	0.13*	0.13*	−0.13*	0.10	−0.13*	0.13*	—
M	0.35	9.25	3.59	4.32	1.91	3.02	1.77	4.50	4.16
SD	0.52	1.31	0.56	0.79	0.66	0.84	0.68	1.41	0.82
<i>Latinos</i>	1	2	3	4	5	6	7	8	9
1.P_SES	—								
2.P_edu	0.26**	—							
3.P_sch	0.19**	0.27**	—						
4.A_edu	0.29**	0.43**	0.23**	—					
5.Conflict	−0.04	−0.12**	−0.06	−0.17**	—				
6.A_GPA	0.07	0.30**	0.01	0.27**	−0.14**	—			
7.A_Dep	−0.02	0.01	−0.01	−0.04	0.34**	0.01	—		
8.Edu	0.31**	0.38**	0.17**	0.45**	−0.07	0.48**	−0.06	—	
9.Health	0.12*	0.06	0.07	0.07	−0.00	0.11*	−0.25**	0.18**	—
M	−0.34	8.37	3.76	3.99	1.73	2.32	1.65	3.62	4.14
SD	0.73	2.24	0.48	1.00	0.64	0.87	0.65	1.56	0.88
<i>Southeast Asians</i>	1	2	3	4	5	6	7	8	9
1.P_SES	—								
2.P_edu	0.17**	—							
3.P_sch	0.05	0.01	—						
4.A_edu	0.28**	0.31**	0.05	—					
5.Conflict	−0.03	−0.02	−0.13**	−0.14**	—				
6.A_GPA	0.13**	0.20**	0.09*	0.49**	−0.10*	—			
7.A_Dep	−0.00	−0.03	−0.06	−0.04	0.36**	−0.01	—		
8.Edu	0.31**	0.26**	0.05	0.57**	−0.05	0.55**	−0.04	—	
9.Health	0.04	−0.04	0.07	0.13*	−0.06	0.01	−0.10	0.08	—
M	−0.67	8.42	3.35	4.03	1.97	2.90	1.65	4.00	4.10
SD	0.81	2.20	0.73	0.93	0.65	0.89	0.62	1.71	0.93
N	1522	1505	1517	1468	1468	1520	1467	1042	1057

Note. P_SES = parent socioeconomic status; P_edu = parent educational expectations; P_sch = parent school involvement; A_edu = adolescent educational expectations; Conflict = parent-child conflict; A_GPA = adolescent grade point average; A_Dep = adolescent depressive symptoms; Edu = educational attainment in early adulthood; Health = self-rate health in early adulthood

N = the amount of available data for each measure

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

moderating effects of parental school involvement on the association between parental and child educational expectations were not significant and, therefore, were not retained in the final model. In contrast, parental school involvement significantly moderated the association between parental educational expectations and parent-child conflict ($\beta = -0.21$ $p < 0.001$). That is, the association between parental

educational expectations and parent-child conflict was contingent on the levels of parental school involvement (see Fig. 2). The significant interaction effect was then probed for the associations between parental educational expectations and parent-child conflict at one standard deviation above and two standard deviations below the mean to represent high and low levels of parental school

Fig. 2 Results of parameter estimates of Asians – CKF. Values shown are standardized estimates of path coefficients. Significant paths are represented by solid lines. Nonsignificant paths are represented by dashed lines. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

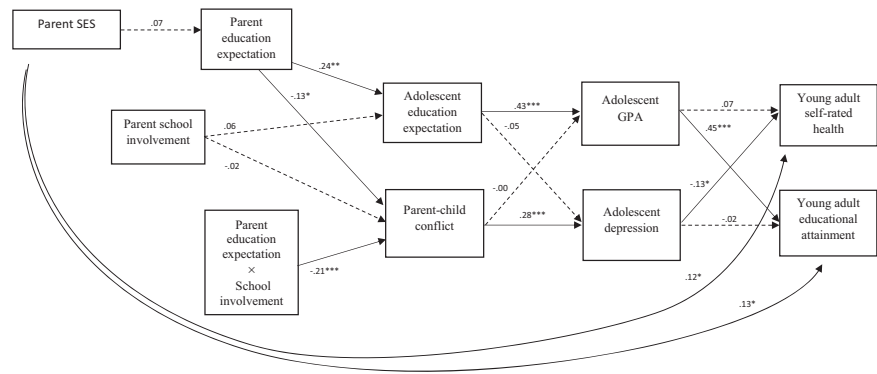
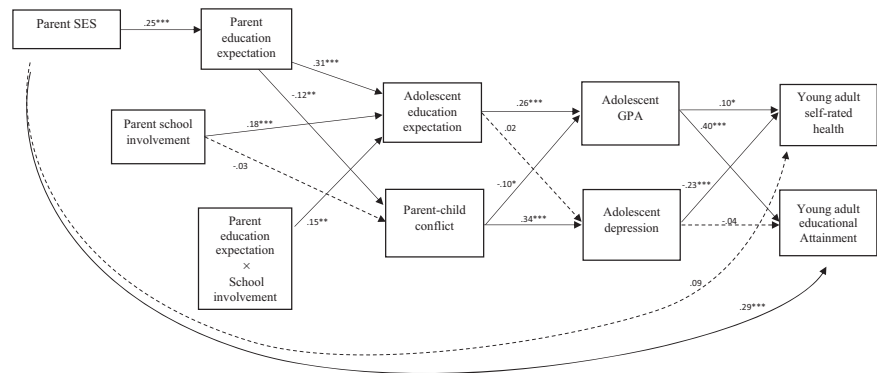


Fig. 3 Results of parameter estimates of Latinos. Values shown are standardized estimates of path coefficients. Significant paths are represented by solid lines. Nonsignificant paths are represented by dashed lines. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$



involvement, respectively. We used two standard deviations below the mean because no significant associations were detected at one standard deviation below the mean. The results showed that with particularly poor parental school involvement (i.e., two standard deviations below the mean), higher levels of parental educational expectations were significantly associated with higher levels of parent-child conflict ($\beta = 0.29$, $p < 0.01$). In contrast, with relatively good parental school involvement (i.e., one standard deviation above the mean), higher levels of parental educational expectations were significantly associated with lower levels of parent-child conflict ($\beta = -0.35$, $p < 0.001$).

Among Latino youth, contrary to Asian-CKF youth, parental school involvement significantly moderated the association between parental educational expectations and child educational expectations ($\beta = 0.15$, $p < 0.01$), but not the association between parental educational expectations and parent-child conflict. That is, the association between parental and child educational expectations was contingent on the levels of parental school involvement. Nonsignificant interactions were not retained in the final model (see Fig. 3). The significant interaction effect was probed for the association between parental and child educational expectations at different levels of parental school involvement. The results showed that with relatively good parental school involvement (i.e., one standard deviation above the mean), higher levels of parental educational expectation were

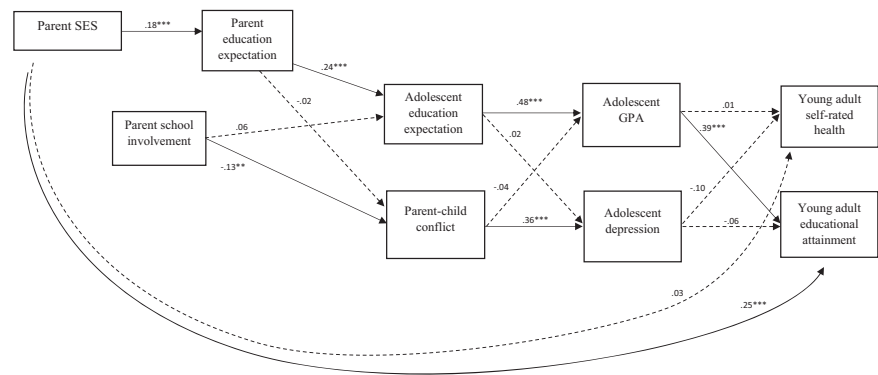
significantly associated with higher levels of child educational expectation ($\beta = 0.41$, $p < 0.001$). In contrast, with very poor (i.e., two standard deviations below the mean) parental school involvement, parental and child educational expectations were not significantly associated with each other ($\beta = -0.17$, $p = 0.15$).

In contrast to the moderation results found for Asian-CKF and Latino immigrant youth, results found for Southeast Asian youth indicated that parental school involvement did not significantly moderate either the association between parental and child educational expectations ($\beta = 0.05$, $p = 0.273$), or the association between parental educational expectations and parent-child conflict ($\beta = 0.01$, $p = 0.874$). The nonsignificant interaction terms were not retained in the final model (see Fig. 4).

Mediation and Moderated Mediation Effects

We further examined mediation and moderated mediation effects. In Asian-CKF youth, given the association between parental SES and parental educational expectations was not significant, none of the indirect paths from parental SES to adjustment outcomes in adolescence (i.e., GPA and depressive symptoms) or in early adulthood (i.e., educational attainment and self-rated health) were significant. One important finding of Asian-CKF youth was that parental school involvement interacted with parental

Fig. 4 Results of parameter estimates of Southeast Asians. Values shown are standardized estimates of path coefficients. Significant paths are represented by solid lines. Nonsignificant paths are represented by dashed lines. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$



educational expectations to predict depressive symptoms during adolescence, and the effects extended into self-rated health in young adulthood. Specifically, low parental school involvement in combination with high parental educational expectations was indirectly associated with increased depressive symptoms in adolescence ($\beta = 0.082$, $SE = 0.036$, 95% $CI [0.021, 0.162]$) and decreased self-rated health in young adulthood ($\beta = -0.010$, $SE = 0.007$, 95% $CI [-0.034, -0.001]$) through increased parent-child conflict. In contrast, high parental school involvement combined with high parental educational expectations was indirectly associated with decreased depressive symptoms in adolescence ($\beta = -0.099$, $SE = 0.027$, 95% $CI [-0.160, -0.051]$) and increased self-rated health in young adulthood ($\beta = 0.012$, $SE = 0.007$, 95% $CI [0.003, 0.034]$) through decreased parent-child conflict.

For Latino youth, we found significant mediation as well as moderated mediation effects for the paths from parental SES to GPA in adolescence and to educational attainment in early adulthood. Table 2 presents the significant moderated mediation results from the bootstrapping procedure. The indirect pathway from parental SES to youth's GPA (parental SES \rightarrow parental educational expectations \rightarrow child educational expectations \rightarrow GPA) was significant only among youth with parents who had high levels of parental school involvement ($\beta = 0.027$, $SE = 0.008$, 95% $CI [0.014, 0.045]$). A similar significant moderated mediating path connecting to educational attainment in young adulthood (parental SES \rightarrow parental educational expectations \rightarrow adolescent educational expectations \rightarrow GPA \rightarrow educational attainment) was found only among youth with parents who had high levels of school involvement ($\beta = 0.011$, $SE = 0.004$, 95% $CI [0.005, 0.020]$). No significant moderating effects of parental school involvement were detected for the paths from parental SES to either depressive symptoms or self-rated health. Across different levels of parental school involvement, the indirect pathways from parental SES \rightarrow parental educational expectations \rightarrow conflict \rightarrow depressive symptoms were significant and of the same magnitude ($\beta = -0.011$, $SE = 0.005$, 95% $CI [-0.022, -0.003]$), as well as the pathways from parental SES \rightarrow parental educational

expectations \rightarrow conflict \rightarrow depressive symptoms \rightarrow health ($\beta = 0.002$, $SE = 0.001$, 95% $CI [0.001, 0.006]$).

In contrast to the findings for Asian-CKF and Latino youth, moderation effects of parental school involvement were not significant among Southeast Asians. Table 3 presents the bootstrapping results for the mediation effects only. Regardless of the levels of parental school involvement, the indirect effect from parental SES to GPA (parental SES \rightarrow parental educational expectations \rightarrow child parental educational expectations \rightarrow GPA) in adolescence was significant and of the same magnitude ($\beta = 0.020$, $SE = 0.007$, 95% $CI [0.010, 0.037]$). The indirect effects extended into educational attainment (parental SES \rightarrow parental educational expectations \rightarrow child parental educational expectations \rightarrow GPA \rightarrow educational attainment) in young adulthood ($\beta = 0.008$, $SE = 0.003$, 95% $CI [0.004, 0.016]$).

In summary, parental school involvement interacted with parental educational expectations to affect parent-child conflict in Asians-CKF, which subsequently influenced depressive symptoms in adolescence and self-rated health in early adulthood. Parental school involvement also interacted with parental educational expectations to diversify Latino youth's educational expectations, contributing to variations in GPA during adolescence and educational attainment in young adulthood. However, similar moderated mediation effects of parental school involvement were not observed in Southeast Asian youth. Only non-moderated mediation effects were found for Southeast Asians.

Discussion

The current study examined longitudinally sequential pathways between parental SES and immigrant youth's school performance and depressive symptoms during adolescence, as well as educational attainment and self-rated health upon transitioning into young adulthood, through hypothesized mediation and moderation mechanisms across three immigrant groups. Findings showed that family mechanisms, including parental school involvement, parent-

Table 2 Standardized coefficient estimates for moderated mediation effects for Latino Youth

Indirect paths	β	SE	95% CI (Bootstrap percentile)
One standard deviation above the mean of parental school involvement			
<i>GPA in adolescence</i>			
Parent SES → parent edu → adolescent edu → GPA	0.027	0.008	0.014, 0.045
Parent SES → parent edu → conflict → GPA	0.003	0.002	0.000, 0.009
<i>Educational attainment in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → educational attainment	0.000	0.000	−0.001, 0.000
Parent SES → parent edu → conflict → depressive symptoms → educational attainment	0.000	0.001	0.000, 0.002
Parent SES → parent edu → adolescent edu → GPA → educational attainment	0.011	0.004	0.005, 0.020
Parent SES → parent edu → conflict → GPA → educational attainment	0.001	0.001	0.000, 0.004
<i>Depressive symptoms in adolescence</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms	0.002	0.005	−0.006, 0.013
Parent SES → parent edu → conflict → depressive symptoms	−0.011	0.005	−0.022, −0.003
<i>Self-rated health in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → health	0.000	0.001	−0.003, 0.001
Parent SES → parent edu → conflict → depressive symptoms → health	0.002	0.001	0.001, 0.006
Parent SES → parent edu → adolescent edu → GPA → health	0.003	0.002	0.000, 0.006
Parent SES → parent edu → conflict → GPA → health	0.000	0.000	0.000, 0.001
Two standard deviations below the mean of parental school involvement			
<i>GPA in adolescence</i>			
Parent SES → parent edu → adolescent edu → GPA	−0.011	0.010	−0.034, 0.006
Parent SES → parent edu → conflict → GPA	0.003	0.002	0.000, 0.009
<i>Educational attainment in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → educational attainment	0.000	0.000	−0.001, 0.000
Parent SES → parent edu → conflict → depressive symptoms → educational attainment	0.000	0.001	0.000, 0.002
Parent SES → parent edu → adolescent edu → GPA → educational attainment	−0.005	0.004	−0.014, 0.002
Parent SES → parent edu → conflict → GPA → educational attainment	0.001	0.001	0.000, 0.004
<i>Depressive symptoms in adolescence</i>			
Parent SES → parent edu → adolescent → depressive symptoms	−0.001	0.003	−0.011, 0.002
Parent SES → parent edu → conflict → depressive symptoms	−0.011	0.005	−0.022, −0.003
<i>Self-rated health in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → health	0.000	0.001	−0.002, 0.001
Parent SES → parent edu → conflict → depressive symptoms → health	0.002	0.001	0.001, 0.006
Parent SES → parent edu → adolescent edu → GPA → health	−0.001	0.001	−0.005, 0.000
Parent SES → parent edu → conflict → GPA → health	0.000	0.000	0.000, 0.001

Note. Boldface numbers indicate statistically significant indirect effects. Parent edu = parent educational expectations; adolescent edu = adolescent educational expectations

child educational expectations, and parent-child conflict, operated differently across immigrant groups and contributed to variations in immigrant youth's adjustment outcomes in both adolescence and young adulthood.

As expected, we found that parental school involvement interacted with parental educational expectations to contribute to variations in adjustment outcomes during both adolescence and young adulthood for Asian-CKF and Latino youth. Specifically, consistent with our first hypothesis, parental school involvement significantly moderated (a) the association between parental educational

expectations and parent-child conflict among Asian-CKF youth, and (b) the association between parental and child educational expectations among Latino youth. Additionally, consistent with our second hypothesis, the interaction between parental school involvement and parental educational expectations was indirectly linked to variations in depressive symptoms and self-rated health through parent-child conflict for Asian-CKF youth. Similarly, the interaction between parental school involvement and parental educational expectations was indirectly linked to variations in GPA and educational attainment through child

Table 3 Standardized coefficient estimates for mediation effects for Southeast Asian Youth

Indirect paths	β	SE	95% CI (Bootstrap percentile)
<i>GPA in adolescence</i>			
Parent SES → parent edu → adolescent edu → GPA	0.020	0.007	0.010, 0.037
Parent SES → parent edu → conflict → GPA	0.000	0.000	0.000, 0.002
<i>Educational attainment in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → educational attainment	0.000	0.000	−0.001, 0.000
Parent SES → parent edu → conflict → depressive symptoms → educational attainment	0.000	0.000	0.000, 0.001
Parent SES → parent edu → adolescent edu → GPA → educational attainment	0.008	0.003	0.004, 0.016
Parent SES → parent edu → conflict → GPA → educational attainment	0.000	0.000	0.000, 0.001
<i>Depressive symptoms in adolescence</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms	0.001	0.002	−0.003, 0.005
Parent SES → parent edu → conflict → depressive symptoms	−0.001	0.003	−0.009, 0.004
<i>Self-rated health in early adulthood</i>			
Parent SES → parent edu → adolescent edu → depressive symptoms → health	0.000	0.000	−0.001, 0.000
Parent SES → parent edu → conflict → depressive symptoms → health	0.000	0.000	0.000, 0.001
Parent SES → parent edu → adolescent edu → GPA → health	0.000	0.001	−0.002, 0.003
Parent SES → parent edu → conflict → GPA → health	0.000	0.000	0.000, 0.000

Note. Boldface numbers indicate statistically significant indirect effects

Parent edu = parent educational expectations; adolescent edu = adolescent educational expectations

educational expectations for Latino youth. These findings suggest that parental educational expectations affect different adjustment outcomes for different immigrant groups, which may be attributed to family dynamics enrooted in different cultures. Research documents that depressive symptoms deriving from intergenerational family conflicts are common in Asian youth (Cheng et al., 2015; Lau, Jernewall et al., 2002; Lee et al., 2000), whereas Latino youth exhibit relatively high levels of positive mental health in general due to Latino familism cultural values that promote loyalty, reciprocity, and solidarity among family members (Stein et al., 2015; Zeiders et al., 2013). A warm and supportive parent-child relationship provides a productive context for parental educational expectations to function in a way that may benefit youth outcomes. Indeed, our findings showed that Latino youth had fewer conflicts with their parents when their parents held higher levels of educational expectations, regardless of the levels of parental school involvement. This positive effect extended into lower levels of depressive symptoms in adolescence and better self-rated health in young adulthood. High parental educational expectations may be perceived as a way to show care and love among Latino youth benefiting from the positive influence of familism. However, high parental educational expectations may not function in the same way for Asian-CKF youth, for whom high parental educational expectations may be considered a burden without corresponding support (i.e., parental school involvement) from parents. This speculation is suggested by our finding, when there were high parental educational expectations but very

low parental school involvement, there were increased levels of parent-child conflict, which were then linked to greater levels of depression in adolescence and worse health in young adulthood. Given that Asian immigrant parents usually hold high educational expectations toward their youth (Glick & White, 2004) and that high parental educational expectations are generally considered positive (Cross et al., 2019), it is critical to ensure that such high expectations occur in contexts where parents are highly involved in youth's school. Our findings suggest that high levels of parental school involvement may be particularly important for the psychological well-being of Asian-CKF youth. We found that when high parental school involvement was present, high parental educational expectations had beneficial implications for youth's emotional health (i.e., reduced depressive symptoms in adolescence) and general health (i.e., self-rated health in young adulthood), and these relational pathways were explained (i.e., mediated) by decreased parent-child conflict.

For Latino youth, the interaction between parental school involvement and parental educational expectations exerted beneficial effects on youth's GPA in adolescence and educational attainment in adulthood. In contrast to Asians-CKF youth who are depicted as "model Asians" because of their high educational attainment on average, Latino youth generally exhibit relatively lower educational attainment (Portes & MacLeod, 1999). Supporting the hypothesis that parental educational expectations would interact with parental school involvement to contribute to variations in youth adjustment outcomes, our finding showed high levels of parental SES

predicted improved GPA and educational attainment through increased intergenerational transmission of educational expectations only among youth having high levels of parental school involvement. This finding supports a sizable body of literature that emphasizes the role of intergenerational transmission of educational expectations in transmitting the effects of parental SES to youth adjustment outcomes (e.g., Gniewosz & Noack, 2012; Wang & Benner, 2014). Extending this literature further, we found that the extent parental SES and intergenerational transmission of educational expectations could positively inform educational outcomes (i.e., GPA and educational attainment) was contingent upon the degree of parents' involvement in their children's schools. Thus, importantly and encouragingly, our findings suggest, although parents may not be able to alter their SES, they may still be able to positively influence their children's educational outcomes – through the potential amelioration effects of parental school involvement.

Contrary to our hypotheses, the moderation effects of parental school involvement and related moderated mediation effects were not detected among Southeast Asian youth. Our finding also showed that parental school involvement did not play a significant role in influencing youth's GPA in adolescence or educational attainment in young adulthood among Southeast Asians. Although the effects of parental school involvement on educational outcomes are emphasized and evidenced among both immigrant and non-immigrant children (Gniewosz & Noack, 2012; Wang & Sheikh-Khalil, 2014; Zhang et al., 2019), our findings suggest that the role of parental school involvement needs to be examined further in different immigrant groups. Indeed, different from Asian-CKF and Latino youth, our correlational analysis showed that parental school involvement did not significantly correlate with parental SES, parental educational expectations, or child educational expectations for Southeast Asian youth. Extant literature suggests that Southeast Asian parents, most of whom came as immigrant refugees, do not usually know or expect parental school involvement to be an integral part of the U. S. education system (Collignon et al., 2001). This lack of expectation about active involvement in children's schools may be internalized by Southeast Asian youth (i.e., youth also do not expect parents to be actively involved in their schooling). As such, parental school involvement may not serve as a leverage point to enhance educational outcomes among Southeast Asian youth as much as it does for other youths. However, our findings showed that high levels of parental school involvement were significantly associated with decreased parent-child conflict among Southeast Asian youth, substantiating that parental school involvement in the form of academic socialization entails emotional support, and could exert a positive influence on family relationships (Hill & Tyson, 2009; Wang & Sheikh-Khalil, 2014).

Limitations of the current study should be considered when interpreting the findings. First, the data were collected from schools in the Miami/Ft. Lauderdale and San Diego metropolitan areas, and the findings may not be generalizable to other geographical areas. Future studies using a nationally representative sample would help increase the generalizability of the study. Second, we focused primarily on family variables in explaining the variation in youth adjustment outcomes; however, due to the constraint of using a secondary data set we were not able to examine many other variables and processes that are important to youth developmental outcomes, such as youth's academic motivation. Third, parental SES is only assessed at time 1, which does not capture potential changes in parents' SES after immigration. Some immigrant families may experience upward economic mobility, whereas others may experience downward mobility after immigration (Roche et al., 2017). Consequently, the effects of parental SES on immigrant youth's adjustment spanning from adolescence to young adulthood are likely to be dynamic, which cannot be examined in the current study due to the limitation of the data. Additionally, mediating variables such as parent-child conflict and adolescent outcomes (e.g., GPA and depressive symptoms) were measured at the same time points, and the temporal order between these variables cannot be established. Although theoretical perspectives and related research generally support that parent-child relationship quality (e.g., cohesion or conflict) precedes child adjustment outcomes (Zhang et al., 2019), these variables could influence each reciprocally. Future studies measuring these variables at different time points are needed to establish causality. Fourth, the present findings could have been biased in unknown ways related to the limited number of items used in the study measures. Specifically, the CILS used a single-item measure for health status in young adulthood, and the parental variables and child depressive symptoms were measured by only very few items. Although this type of measures has been commonly used in population surveys, multi-item measures are more stable, reliable, and precise (Bowling, 2005) and should be employed in future studies. Finally, the data were collected more than a decade ago, and may not reflect the influence of the recent immigration context, which is characterized by increasingly harsh and punitive immigrant policies and practices, such as child separation practices and mass deportations (Van Hook & Glick, 2020). These policies and practices are likely to undermine the adjustment of immigrant families and youth. Researchers point out that a lack of nationally representative data poses challenges to research efforts investigating the influence of the new immigrant context (Van Hook & Glick, 2020).

Despite these limitations, our study is among the first to examine how family mechanisms operate differently across

different immigrant groups to connect parental SES to immigrant youth's adjustment outcomes in adolescence and young adulthood. Our findings highlight not only the respective important roles of parental educational expectations and parental school involvement, but also how these variables may interact to shape different developmental pathways that could result in varied short-term and long-term outcomes among immigrant youth across immigrant groups. Our findings may be particularly useful for informing family-level preventions (e.g., addressing the mediator role of parent-child conflict) and interventions targeting parental school involvement and educational expectations (e.g., informing parents of potential detrimental effects when there are high educational expectations but very low school involvement) as leverage points to strengthen adjustment outcomes of immigrant youth. Furthermore, our group-specific findings across three U.S. ethnic minority youth—specifically, Asian-CKF, Latinos, and Southeast Asians—suggest that fine-tuned services rather than “one size fits all” interventions should be considered in order to promote educational and health equality for immigrant youth from different groups.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Informed Consent Informed consent was not required for the current study due to the analysis of de-identified secondary data.

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