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Journal

Journal of Youth and Adolescence, 49(1)

ISSN

0047-2891

Authors

Aceves, Lorena
Bámaca-Colbert, Mayra Y
Robins, Richard W

Publication Date

2020

DOI

10.1007/s10964-019-01161-5

Peer reviewed



HHS Public Access

Author manuscript

J Youth Adolesc. Author manuscript; available in PMC 2021 January 01.

Published in final edited form as:

J Youth Adolesc. 2020 January ; 49(1): 32–48. doi:10.1007/s10964-019-01161-5.

Longitudinal Linkages among Parents' Educational Expectations, Youth's Educational Expectations, and Competence in Mexican-origin Families

Lorena Aceves¹, Mayra Y. Bámaca-Colbert¹, Richard W. Robins²

¹Department of Human Development and Family Studies, The Pennsylvania State University, 027 Health and Human Development Building, The Pennsylvania State University, University Park, 16801.

²Department of Psychology, University of California Davis, 268H Young Hall 1 Shields Avenue Davis, CA 95616.

Abstract

The contribution that parental educational expectations for youth and youth's perceptions of academic competence can have on youth's own educational expectations across early to late adolescence is not well-understood. In a sample of Mexican-origin families, the current study examined longitudinal (from early to late adolescence) associations among mothers, fathers, and youth's educational expectations, how youth's educational expectations were associated with perceived academic competence, and the potential mediating role of youth's perceived academic competence. Data from two-parent families which included one focal child (7th grade: $N= 469$; youth: $M_{age}=12.31$, 50% female) at three waves (7th, 9th, and 11th grade) were utilized. Structural equation modeling and multi-group analysis were implemented to assess the study's goals. Results

Correspondence concerning this article should be addressed to Lorena Aceves, lqa5151@psu.edu.

Lorena Aceves is an IES pre-doctoral fellow in the Department of Human Development and Family Studies at the Pennsylvania State University. Her major research interests include the contribution of cultural, familial, and individual factors for promoting Latino youth's academic achievement.

Mayra Y. Bámaca-Colbert is an associate professor in Human Development and Family Studies at The Pennsylvania State University. Her research applies a cultural-contextual developmental framework to answer questions about adaptive parenting, cultural influences, and Latino youth development and adaptation.

Richard Robins is a professor in the Department of Psychology at the University of California Davis. His research focuses on the development of personality and its consequences for important life outcomes as well as the development of Mexican-origin youth

Authors' Contributions
LA conceived the study, performed the statistical analysis, and drafted the manuscript; MB helped conceive the study and draft the manuscript; RR participated in the design and coordination of the study and performed the measurement. All authors read and approved the final manuscript.

Data Sharing Declaration

This manuscript's data will not be deposited.

Compliance with Ethical Standards

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional review board (University California Davis IRB; protocol number: 217484–23) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Conflict of Interest

The author's report no conflict of interest.

revealed significant associations among parents' 7th grade educational expectations and youth's 9th and 11th grade educational expectations. The findings also revealed three significant associations among youth's perceived academic competence and educational expectations between 7th and 11th grade. Specifically, youth's 7th grade perceived academic competence predicted youth's 9th grade educational expectations, youth's 7th grade educational expectations predicted youth's 9th grade perceived academic competence, and youth's 9th grade perceived academic competence predicted youth's 11th grade educational expectations. Multigroup analysis did not reveal gender differences for the associations tested. The findings highlight the long-term significance of parents' educational expectations on youth's educational expectations and underscore youth's academic competence, an individual level factor, as critical to consider for understanding educational expectations across adolescence for Mexican-origin youth.

Keywords

educational expectations; longitudinal effects; fathers and mothers; perceived academic competence; Mexican origin

Introduction

Investigating educational expectations across adolescence is necessary because past research has documented a link between educational expectations and academic achievement (Mistry, White, Benner, & Huynh, 2009). Parental educational expectations have been noted as particularly salient for shaping Latino youth's academic outcomes due to the importance that Latino families place on the value of education (Kiyama, 2010). It is also critical to understand the underlying mechanisms promoting Mexican-origin youth's educational expectations during adolescence because educational expectations become more differentiated and solidified during adolescence which has implications for youth's next steps in life (Karlson, 2015). Specifically, as youth get older, they increasingly begin to develop their own person apart from their family and rely more on their own self-perceptions to inform their goals and expectations, which implies that there are potential differences in how familial and individual level factors matter for promoting educational expectations during this developmental period (Steinberg & Silverberg, 1986). Thus, the current study examined the longitudinal associations among mothers and fathers' educational expectations and youth's own educational expectations from early to late adolescence and the potential of perceived academic competence as an individual-level mediator of this association in mid-adolescence.

Theoretical Framework

Expectancy Value Theory underscores the central role of both familial and individual factors for promoting youth's expectancies of success. The family system is integral to Expectancy Value Theory because within this system parents socialize and promote specific educational expectations for their youth, which over time are adopted by youth (Wigfield & Eccles, 2000). Specifically, Expectancy Value Theory describes how socializers' (i.e. parents) expectations promote youth's self-concept and, in turn, youth's expectancy for success (Wigfield & Eccles, 2000). Furthermore, it is also important to consider how parents

promote each other's educational expectations for their youth which, in turn, could shape youth's educational expectations. Parents are influenced by the broader cultural expectations of educational achievement, which also shapes their role as socializers within the family context (Riinna & McHale, 2014). Thus, the expectations each parent has for their children can influence each other's educational expectations of their children, and ultimately, their youth's own educational expectations. Therefore, using Expectancy Value Theory, parents can have higher levels of educational expectations and this can result in youth's higher competence and expectations for educational goals but parents can also promote each other's educational expectations for their youth which may promote youth's long-term educational expectations.

On the individual side, Expectancy Value Theory proposes that youth's general self-schemata are critical for shaping youth's expectancies. This study focuses on youth's perceived academic competence as the self-schemata construct critical for shaping youth's educational expectations (Wigfield & Eccles, 2000). Research specifically documents that self-related constructs of believing in one's abilities are integral for shaping youth's expectations for success (Walsh, & Robinson Kurpius, 2016). Thus, guided by Expectancy Value Theory, the current study proposes that perceived academic competence is essential for shaping youth's educational expectations. In line with the developmental nature of the current study, Expectancy Value Theory highlights the applicability of these theoretical processes across time because educational expectations become more stable as youth go through adolescence (Perez-Brena et al., 2017). That is, youth gain a greater sense of their own identity as they go through adolescence, which in turn informs and solidifies their long-term educational goals. The current study's focus on the time period between early to late adolescence allows for the exploration of possible developmental changes in the associations among parental educational expectations, youth perceived academic competence, and youth's educational expectations.

Parental Educational Expectations Promoting Youth Educational Expectations

Parental educational expectations are important for shaping youth's educational expectations because parents are the first source from which youth learn the importance of education. As a result, parental educational expectations can be considered the starting point from which youth begin to internalize their own educational expectations (Kirk, Lewis-Moss, Nilsen, & Colvin, 2011). In line with this ideas, recent cross-sectional studies revealed that parents' goals and values around education directly influenced youth's own academic values and goals in adolescence (Hayes et al., 2015). Several cross-sectional studies support this association (Benner & Mistry, 2007; Chavira et al., 2016) but less is known about longitudinal linkages, especially among Mexican-origin samples. Although educational expectations from parents can have a lasting impact because youth adopt the expectations their parents have for them (Andrew & Hauser, 2011), this association may either strengthen or weaken across adolescence due to youth's greater self-awareness of their own competencies as well as experiences and interactions with broader contexts beyond the family. Specifically, for Mexican-origin youth, it is important to understand how youth's educational expectations are shaped in relation to parental educational expectations at a time

when the development of autonomy occurs alongside Latino families' strong value of family centrality (Stein et al., 2014).

Parents not only play an important role in directly helping youth shape their educational expectations and perceived academic competence (Froiland & Davison, 2014), but fathers and mothers can also influence each other's educational expectations for their youth. Research documents that parents inform each other's parenting values and behaviors through their interactions with the broader societal culture and more directly with each other within their family systems (Cox & Paley, 1997). Past research and theory suggest that family members model for each other the values and behaviors that are important for the function of the family (Bush & Petersen, 2013). Further, past findings demonstrate that how fathers and mothers engage with each other influences how their independent parenting behaviors contributes to adolescents' adjustment (Rinna & McHale, 2014). Research on the linkages between fathers and mothers' educational expectations across time is limited but bidirectional influences of parent to parent educational expectations may be critical for Mexican-origin families due to the enhanced value placed on family among Latinos (Stein et al., 2014). Examining these family dynamics among parent to parent in two parent households carries important implications for shaping educational expectations and youth's educational futures.

Youth's Perceived Academic Competence

External factors such as the family can directly influence youth's educational expectancies but often times their contribution is indirect, mediated by individual level factors (Yamamoto & Holloway, 2010). Perceived academic competence, an individual level factor, promotes youth's academic achievement and educational expectations (Froiland & Oros, 2014). Specifically, perceived academic competence is important for the formulation of youth's educational expectations because youth's perception of their academic abilities is central in developing and maintaining expectations (Eccles & Wigfield, 2002). Expectancy Value Theory specifically notes the academic competence-expectation link, especially as youth move into adolescence because as youth develop, perceived academic competence solidifies and shapes youth's educational expectations (Wigfield & Eccles, 2000).

Perceived academic competence alongside parental educational expectations promote youth's educational expectations and achievement (e.g., grades) directly and indirectly across time (Froiland & Davison, 2014). According to Expectancy Value Theory and past research, parents' messages about education can influence youth's development of perceived academic competence (Fan & Williams, 2010). Research with White and ethnically diverse samples demonstrated the important contribution of parents' educational expectations for youth's perceived academic competence (Benner & Mistry, 2007; Simpkins, Fredricks, & Eccles, 2012). Thus, parents' educational expectations can indirectly contribute to youth's later educational expectations by directly fostering youth's perceived academic competence. Despite the salience of academic competence, there is surprisingly limited research focused on Latinos that recognizes the role that individual level factors can have for Latino youth's long-term educational expectations. Understanding the role of individual level factors, such as perceived academic competence, is important given the growth in autonomy and identity

that youth experience throughout the adolescence, suggesting that individual level factors may play a significant role (Froiland & Worrell, 2017).

Significance of Focus on Mexican-Origin Sample

Mexican-origin youth lag behind in educational attainment when compared to other Latino sub-groups (Brey et al., 2019). Highlighting this educational disparity is important because Mexican-origin individuals represent the largest proportion of U.S. Latinos and future American workforce (Gándara & Mordechay, 2017; Educational Attainment and Occupation Groups, 2015). Past research documents that Mexican-origin families highly value education and view it as a pathway to better futures for their youth (Kiyama, 2010). Given the gap between Mexican-origin youth's actual educational attainment and research documenting the importance of education among Latino families, it is critical to understand how associations between parent and youth's educational expectations unfold in adolescence to begin to understand potential mechanisms as to why Mexican-origin youth experience these educational attainment disparities. A focus on longitudinal (from early to late adolescence) influences by fathers and mothers and the role that youth play in their own educational expectations via perceived competence can help us identify long-term pathways promoting academic expectations that can ultimately lead to long-term academic attainment among this increasingly sizable proportion of the U.S. population.

Gender Differences

Expectancy Value Theory posits that girls and boys differ in their academic outcomes due to youth's perception of gender role stereotypes and Latino literature suggests that differences exist in how fathers and mothers socialize and interact with their daughters versus sons (Cupito, Stein, & Gonzalez, 2014). Specifically, gender role stereotypes and socialization may lead to variations by youth gender in how mothers and fathers' educational expectations and youth's perceived academic competence promote youth's educational expectations. Further, empirical research points to differences in grades, competence, motivation, and educational goals by youth gender, such that girls typically exhibit higher levels of these factors compared to boys (Piña-Watson et al., 2016; Sánchez, Colón, & Esparza, 2005). Therefore, youth gender differences may emerge in the degree to which specific factors may be associated with youth's educational expectations. Altogether, attention to potential gender differences in Latino research can better inform intervention programs regarding the role of gender in youth educational outcomes, further addressing the gender gap in college attendance that exists among the college-age Mexican-origin population in the U.S. (Saenz & Ponjuan, 2011; Brey et al., 2019).

Covariates: SES and Generational Status

Family socioeconomic status (SES), whether assessed by economic, occupational, and educational constructs, is one of the strongest predictors of youth's educational outcomes such as grades, attainment, and test scores (Conger, Conger, & Martin, 2010). The current study controlled for family's SES as a prior study using the same sample as the current study demonstrated that higher family SES predicted higher academic competence between 5th and 8th grade (Hernández, Robins, Widaman, & Conger, 2016). Although family SES is positively associated with youth's educational expectations (Ibañez et al., 2004), for

Mexican-origin youth, parental academic involvement and human capital can compensate for the influence of family income on youth educational outcomes (Altschul, 2012).

The current study also controlled for youth generational status. Of the total population of Mexican-origin individuals in U.S., it is estimated that 32.9% are first generation (born in Mexico), 34.8% are second generation (at least on parent born in Mexico), and 32.9% are third generation or higher (both parents and youth born in U.S.) (Trevelyan et al., 2016). Generational status is important to consider for research focused on educational factors due to the unique experiences endured by each generation. For instance, the immigrant paradox phenomenon demonstrates that first generation youth place a higher value on school success due to their parents' immigrant expectations (Aretakis, Ceballo, Suarez, & Camacho, 2015). Second generation youth achieve higher GPAs in comparison to their peers with U.S. born parents (Hurtado-Ortiz & Guavain, 2007). This research demonstrates that earlier generations are more likely to report higher educational expectations due to their closer connection to the immigrant experience in seeking better educational and economic opportunities in the U.S.

Current Study

Guided by Expectancy Value Theory and past research on educational expectations, the current study tested a model of youth's educational expectations across early to late adolescence that examined how Mexican-origin youth's educational expectations unfolded alongside fathers' and mothers' educational expectations and youth's perceived academic competence. Taking advantage of the data's longitudinal nature, the current study examined four hypotheses that sought to describe how educational expectations are shaped from early to late adolescence by parents and the adolescents themselves.

To gain a deeper understanding of the mechanism by which the influence of parental educational expectations and academic competence on youth's educational expectations unfolds from early to late adolescence (Froiland & Davison, 2014), it was hypothesized that parental (fathers' and mothers') educational expectations would be associated with youth's educational expectations and that youth's perceived academic competence and youth educational expectations would be associated from early to late adolescence. In line with a family systems perspective about the cyclic nature of family members' influence for shaping each other's values (Riinna & McHale, 2014), the study's second hypothesis proposed that mothers' educational expectations would be associated with fathers' educational expectations and that fathers' educational expectations would be associated with mothers' educational expectations from early to late adolescence. Due to youth's growth in autonomy and reliance on their self-perceptions in adolescence (Steinberg & Silverberg, 1986), the study's third hypothesis predicted that 9th grade perceived academic competence would serve as mediator between parents' 7th grade educational expectations and youth's 11th grade educational expectations. Finally, given the documented importance of gender socialization for Latino youth and the salient role of what gender means for youth's educational expectations (Cupito, Stein, & Gonzalez, 2014), the current study generally explored whether youth gender moderated the strength of associations tested in the model.

Methods

Participants

Data were drawn from a longitudinal study of Mexican-origin families that begun during the fifth grade of the target child. At wave 1, 674 families from single and two-parent households participated. For the present study, only families in two-parent households ($N = 543$; 81% of total sample) were included given the focus on mother and father influences. Families were randomly drawn from rosters of two school districts that serve high percentages of low-income families in two Northern California cities (see blind citation for description of larger project). Families were recruited by telephone or by a home visit. Eligibility criteria included: families of Mexican origin as determined by ancestry or self-identification and focal youth had to be living with biological mother. In two parent households, participant fathers had to be the biological father. Single mothers were eligible to participate if no other adult was living in the household. Of the eligible families, 72.5% provided informed consent participate in the study. Of participating families, there was not an instance in which mother agreed to participate and youth did not.

At baseline (5th grade), youth (50% female) were 10.86 years of age and most (70%) were born in the United States. Parents ranged between 27–65 years of age (fathers: $M = 39.4$, $SD = 6.09$; mothers: $M = 36.7$, $SD = 5.72$). Most fathers (86.8%) and mothers (89.3%) were born in Mexico. Both fathers (9.2 years) and mothers (9.3 years) had 9 years of education on average. Interviews were conducted with the focal child, mother, and father (if present). For the current study, all biological mothers and 80% ($N = 438$) of fathers participated.

Procedure

Native Spanish speakers translated all materials (e.g. surveys, consent forms), and then an independent group of bilingual staff members back translated the measures from Spanish to English. Trained research staff interviewed study participants in their homes using laptop computers. Interviewers were bilingual and most were of Mexican heritage. Interviews and surveys were conducted in participants' preferred language (i.e., Spanish or English). Overall, 78% of mothers, 80% of fathers, and 15% of youth completed the interviews in Spanish.

Measures

Educational expectations.—The educational expectations measure assesses what level of education parents and youth *hope* (aspirations) and *expect* (expectations) their youth and themselves will achieve. For the current study the aspirations item was excluded and only the expectations item was utilized (Melby & Conger, 1996). In 7th, 9th, and 11th grade, mothers, fathers, and youth reported how far they *expected* the youth would go in school using the 8-point scale version (1= 8th grade or less and 8=Ph.D. or professional education).

Perceived academic competence.—The general school subscale (4 items) from the self-description questionnaire was used to examine youth's perception of their academic skills and abilities in general school subjects in 7th, 9th, and 11th grades (Marsh et al., 2005). Sample items included “You get bad grades in most school subjects” and “You do well in

tests in most school subjects.” A 4-point Likert scale (1=not all true, 4= very true) was used and Cronbach alphas of .73 in 7th grade, .76 in 9th grade, and .75 in 11th grade were achieved for the current sample.

Family SES.—For, family socioeconomic status (SES) a composite score was calculated using mother and father reports of annual family income and highest level of education attained. First, all these reports were z-scored. Next, a composite mean score was computed from the z-scores of these reports. Finally, the reliability of the composite score was examined to ensure an acceptable alpha. A Cronbach alpha of .71 was reached for the combination of these reports, deeming it acceptable to create a composite score of family SES using these reports.

Gender.—In 5th grade, youth reported their gender as either female (1) or male (2).

Generation status.—Generation status was calculated as a cumulative score based on using mothers’ reports on country of birth for self, child, child’s father, maternal grandparents, and paternal grandparents. The summation of birthplace of extended family members is a more sensitive measure of adolescents’ generation in the United States. The following outlines the generation status make-up of the sample: a) First generation: youth, parents, grandparents were born in Mexico (21.7% of participants); b) second generation: youth was born in the U.S. with at least one parent and grandparent born in Mexico (62.5% of participants); and c) third plus generation: youth and both parents and grandparents were born in the U.S. (15.8% of participants).

Attrition and Missing Data

The current study’s sample demonstrated low rates of attrition . Of the study’s full sample ($N= 543$; at 5th grade a time point not included in the current study), 86.6% of the families ($n = 470$) were retained in 7th grade; 90.2% of the families ($n = 490$) were retained in 9th grade; and 89 .7% of the families ($n = 487$) were retained in 11th grade. In terms of family composition, 91% of families remained two-parent households in 11th grade, indicating low rates of changes in family structure. The Missing Completely at Random test (Little, 1988) was implemented to determine if the study’s data were missing completely at random The results of the test indicated that the missing completely at random assumption was violated ($\chi^2(456) = 582.39, p=.00$). Families that participated through 11th grade reported lower education expectations (see Table 1 for more information). Youth that participated through 11th grade also reported lower levels of perceived academic competence across 7th and 11th grade ($M = 3.16$ S.D. = 0.58 versus $M = 2.91$ S.D. = 0.55). These differences across grades are expected due to the changes that come with youth’s transition from middle school and high school which occurs in the years at which the study’s associations are examined (Muenks, Wigfield, & Eccles, 2018); thus, the data can still be considered to be Missing at Random (MAR) (Hox, Moerbeek, & de Schoot, 2017). The most common method to account for MAR data is full information maximum likelihood estimation (FIML), which was utilized to fit the models to the raw data. When compared to other methods of handling missing data such as list wise or pairwise, FIML produces less biased and more reliable results (Schafer & Graham, 2002).

Plan of Analysis

Preliminary analysis included data examination and correlations of variables of interest. Next, structural equation modeling (SEM) in Mplus 7.4 (Muthén & Muthén, 1998–2012) was implemented to test associations outlined in the model (see Figure 1). To test for the hypothesized mediational pathways, the current study used direct and indirect effects modeling and bias-corrected bootstrapped confidence intervals in Mplus (MacKinnon, Lockwood, & Williams, 2004). Ninth grade perceived academic competence was examined as a mediator in the association between parents' 7th grade educational expectations and youth's 11th grade educational expectations. To assess model fit, the current study implemented the chi-square test (χ^2), the confirmatory fit index (CFI; Bentler, 1990), the Tucker–Lewis Index (TLI; Tucker & Lewis, 1973), and the root mean square error of approximation (RMSEA; Brown & Cudeck, 1993). For studies with large sample sizes like this study, slight changes from a perfect model can result in a significant χ^2 . Thus, the current study relied on interpreting CFI and TLI values of 0.95 or greater (Hu & Bentler, 1995) and an RMSEA less than 0.06 (Brown & Cudeck, 1993) for assessing model fit.

Finally, multi-group analyses were conducted to test whether associations in the full model differed by youth gender. To determine if there were any group differences in the model, the χ^2 difference test was applied. No significant change in the χ^2 indicated that the constrained (i.e., more parsimonious) model was a better fit to the data. A significant change in χ^2 suggested that the unconstrained model was a better fit and the paths cannot be constrained to be equal across groups. If a significant change was revealed, the paths hypothesized to differ across groups were set to be equal one by one and compared to the fully constrained model. The χ^2 difference test was used then to compare the fit between the partially constrained model and the fully unconstrained model.

Results

Preliminary Analysis

Preliminary results demonstrated that most variables included in this study were normally distributed, except for parents' educational expectations. On average, parents' educational expectations indicated that they hoped their youth would achieve at least a masters' degree. For mothers' educational expectations there were significant differences among 7th and 9th grade expectations, 7th and 11th grade expectations, and 9th and 11th grade expectations. For fathers' educational expectations there were significant differences between 7th and 9th grade expectations, 7th and 11th grade expectations, but not among 9th grade and 11th grade expectations. Finally, for youth's educational expectations there were no significant differences between 7th and 9th grade expectations or 7th and 11th grade expectations, but differences emerged between 9th and 11th grade expectations. See Table 1 for full information on the mean differences among educational expectations. Overall, expectations appear to slightly decrease across waves for mothers (7th $M = 7.00$, 9th $M = 6.84$, 11th $M = 6.68$), fathers (7th $M = 7.09$, 9th $M = 6.75$, 11th $M = 6.65$). For youth, educational expectations stayed similar between 7th and 9th grade, but declined by 11th grade (7th $M = 6.09$, 9th $M = 6.13$, 11th $M = 5.92$).

Correlations indicated that mothers, fathers, and youth's educational expectations across 7th to 11th grade were significantly correlated with each other. Mother's educational expectations were associated with generational status such that earlier generational status was associated with mothers' greater educational expectations. Mothers' educational expectations were also significantly correlated with family SES such that higher family income and parental education level were associated with mothers' higher educational expectations. Youth's educational expectations were significantly related to family SES in 7th, 9th, and 11th grade. Seventh grade and 9th grade perceived academic competence were significantly associated with family SES such that higher family income and parent education level were associated with perceived academic competence. Finally, perceived academic competence also was significantly and positively correlated with mothers, fathers, and youth's educational expectations indicating that higher perceived academic competence was associated with higher educational expectations. Table 2 displays detailed information on the correlations, means, and standard deviations for all variables.

SEM Model Results

The full model controlled for family SES, youth gender, and generational status for paths where control variables were associated with study variables at the bivariate level. Fit indices (CFI=.99, TLI= .99; RMSEA= .01; $\chi^2(8) = 8.83, p=.36$) indicated that the full model was a good fit to the data (see Figure 2 and Appendix A). In support of the study's first hypothesis that parents' educational expectations would be associated with youth's educational expectations across adolescence, the findings revealed that mothers' 7th grade educational expectations were associated with youth's 9th grade educational expectations ($\beta = .09$; S.E. = .05; $p=.03$) and that fathers' 7th grade educational expectations were associated with youth's 11th grade educational expectations (direct effects: $\beta = .12$; S.E. = .06; $p=.04$). Also, in support of the study's first hypothesis, findings revealed youth's 7th grade perceived academic competence ($\beta = .52$; S.E. = .11; $p=.00$) was associated youth's 9th grade educational expectations and youth's 7th grade educational expectations ($\beta = .04$; S.E. = .04; $p=.01$) were associated with youth's 9th grade perceived academic competence (cross-lagged); and youth's 9th grade perceived academic competence was associated with youth's 11th grade educational expectations ($\beta = .23$; S.E. = .12; $p=.04$). Finally, youth's 7th grade perceived academic competence had significant direct effects on youth's 11th grade educational expectations ($\beta = .29$; S.E. = .12; $p=.01$). For the second hypothesis, mothers' 7th grade educational expectations were associated with fathers' 9th grade educational expectations ($\beta = .14$; S.E. = .06; $p=.02$) and fathers' 9th grade educational expectations were associated with mothers' 11th grade educational expectations ($\beta = .14$; S.E. = .06; $p=.02$).

Based on the current study's third hypothesis testing the mediational role of perceived academic competence, the full model tested the role of 9th grade perceived academic competence as a mediator between parents' 7th grade educational expectations and youth's 11th grade educational expectations. Findings revealed that fathers' 7th grade educational expectations were associated with youth's 9th grade perceived academic competence ($\beta = .05$; S.E. = .02; $p=.03$) and youth's 9th grade perceived academic competence was associated with youth's 11th grade educational expectations ($\beta = .23$; S.E. = .12; $p=.04$). Due to the emergence of these associations, percentile bootstrapping confidence intervals were

implemented to confirm if a mediation was present (MacKinnon, Lockwood & Williams, 2004). The results of this test indicated that 9th grade perceived academic competence did not mediate this association, but the mediation approached significance (indirect effect: $\beta = .05$, S.E. = .03, $p = .07$, 95% CI = .01, .23). Lastly, in terms of variance, the current model explained 11% of the variance in mother's 9th grade educational expectations, 16% of the variance in fathers' 9th grade educational expectations, 27% of the variance in youth's 9th grade educational expectations, 24% of the variance in youth's 9th grade perceived academic competence, 27% of the variance in mother's 11th grade educational expectations, 34% of the variance in fathers' 11th grade educational expectations, 24% of the variance in youth's 11th grade educational expectations, and 29% of the variance in youth's 11th grade perceived academic competence.

Multi-group Analyses by Youth Gender

Multi-group SEM analyses were conducted to explore the study's final hypothesis about whether the associations tested in the full model differed by youth's gender. The χ^2 difference test revealed that the fully unconstrained model (CFI=1.00, TLI= 1.00; RMSEA= .00; $\chi^2(8) = 4.47$, $p = .81$) did not have a better fit to the data when compared to the fully constrained model (CFI=.99, TLI= .97; RMSEA= .03; $\chi^2(68) = 79.89$, $p = .15$), $\chi^2(60) = 75.43$, $p = .08$). These results suggest that the associations tested in the full model did not differ by youth gender, thus we did not move forward to test for specific association differences by youth gender.

Sensitivity Analysis

Sensitivity analyses were conducted to check the robustness of the study's finding by including two auxiliary variables. The selected auxiliary variables, which were not part of the overall analysis, were utilized as an additional check on the FIML approach implemented for the current study's analyses. By including auxiliary variables, the precision of the study's model can be examined because these variables do not compromise the model of interest (Graham, 2003). The auxiliary variables used for the sensitivity analysis include adolescent 7th grade reports of family values (6 item-Family Value measure derived from Keefe, 1984) and school performance (1 item assessing adolescent self-reports of GPA from Conger & Elder, 1994). All substantive findings from the overall model held indicating that the inclusion of family values and self-reported GPA as auxiliary variables did not impact model associations.

Discussion

Research examining Latino families' educational expectations for their youth has revealed that Latino parents hold high educational expectations (Chavira et al., 2016; Kirk, Lewis-Moss, Nilsen, & Colvin, 2011). Although, ample research is available on the importance of Latino parents' educational expectations for youth's educational expectations, this area of research has not examined concurrently the separate effects of fathers' and mothers' educational expectations, the role of youth's individual level factors in these associations, and longitudinal patterns of associations. Given all the cognitive, social, and physical changes occurring between early to late adolescence, examining educational expectations in

this manner provides new insights for how Mexican origin youth's educational expectations are shaped by parents and individual factors across time. Specifically, the current study examined associations among fathers' and mothers' educational expectations, youth's perceived academic competence, and youth's educational expectations from early to late adolescence; and the potential mediating role of youth's perceived academic competence in mid-adolescence. Overall, findings revealed that mothers' and fathers' educational expectations contribute to youth's educational expectations in unique ways and that perceived academic competence is a critical individual level factor that also shapes youth's educational expectations between early to late adolescence. The study's findings contribute to existing research on Mexican -origin youth's educational expectations by outlining a mechanism through which youth's educational expectations are formed from early to late adolescence and pathways by which youth prepare to make the transition to post-high school educational plans (Hossler, Schmit, & Vesper, 1999; Tierney, Colvar, & Corwin, 2003).

Partially supporting the study's first hypothesis, findings revealed a significant direct longitudinal association between mothers' educational expectations in early adolescence with youth's educational expectations in mid-adolescence and between fathers' educational expectations in early adolescence and youth's educational expectations in late adolescence. These findings are in line with past cross-sectional studies that note a significant association between parents' and youth's educational expectations (Behnke, Piercy, & Divers i, 2004; Kirk, Lewis-Moss, Nilsen, & Colvin, 2012), although past work failed to examine the separate contribution of mothers and fathers. After accounting for mothers' educational expectations, the current findings suggest that fathers have a longer-term significance (compared to mothers) for their youth's educational expectations across adolescence, which can be partly due to changes in parent-youth relationships (Shanahan, McHale, Crouter, & Osgood, 2007). Past research notes that fathers' interactions with adolescent youth are more focused on achievement and performance issues (Alvarez, 2008), which suggest that fathers may play a more direct long-lasting role in shaping youth's educational expectations long-term. There was also a significant association between mothers' and youth educational expectations that emerged earlier in adolescence. These differences between mother-youth versus father-youth associations may be due to the fact that in early adolescence youth spend more of their time interacting with their mothers, whereas in late adolescence their interactions with their fathers become more central in shaping educational expectations given youth's development (Ceballo, Maurizi Suarez, & Aretakis, 2014).

More specific to the Latino parent experience, these distinct findings may have emerged due to the leadership role that Latino fathers generally hold as head of household and the evolving fatherhood experience of US Latino fathers in which they are increasingly more involved with their children (Cabrera & Bradley, 2012; Taylor & Behnke, 2005). Fathers' educational expectations may have a greater impact (than mothers) in shaping youth's own educational expectations long term due to the importance behind the father leadership role. Another plausible explanation is that Latino mothers and fathers are involved with their youth in distinct ways. Past research highlights how mothers are more involved in youth's personal domains, whereas fathers are more involved in promoting youth's socially accepted behaviors (Alvarez, 2008). Thus, fathers' educational expectations may have a longer effect on youth because what fathers expect for their youth's future educational attainment

communicates to youth the level of education that is socially accepted and important to the family. Altogether, this finding underscores the importance of additional research examining the role of fathers in the educational trajectories of Latino youth and for interventions to recruit fathers to participate in academic interventions with Latino youth.

Examining the associations among Mexican-origin youth's perceived academic competence and their academic competence can have varied significance at different points in adolescence. Additional support of the study's first hypothesis emerged by the findings of bi-directional associations from early to mid-adolescence such that youth's perceived academic competence in early adolescence was associated with youth's educational expectations in mid-adolescence and youth's educational expectations in early adolescence was associated with youth's perceived academic competence in mid-adolescence; however, from mid-to late adolescence, only perceived academic competence predicted youth's educational expectations in late adolescence.

Based on Expectancy Value Theory and past research, not only do youth's self-perceptions of academic competence promote their educational expectations but youth's expectations also feedback to promote their perceived competence (Olivier, Archambault, De Clercq, & Galand, 2019). In essence, the mechanism that Expectancy Value Theory suggests is that as youth academically achieve throughout their educational trajectories, their educational expectations are strengthened, which in turn feeds back to promote youth's perceived academic competence (Wigfield & Cambria, 2010). However, important to note is that for this sample the bidirectional associations between perceived academic competence and educational expectations appear to be present only in early-middle adolescence because from mid-to late-adolescence only youth's perceived academic competence predicted later educational expectations. This can be in part due to the process through which educational expectations solidify throughout adolescence and the importance of youth's perceived academic competence for shaping late adolescence educational expectations. According to the college choice model (Hossler, Schmit, & Vesper, 1999), in early to mid-adolescence, youth undergo the search process in which their main goal is to begin to solidify their educational goals, suggesting that during this time the bidirectional associations between perceived academic competence and educational expectations are especially critical, but in mid-late adolescence, youth's perception of academic competence appear to be most critical for fostering youth's future educational expectations.

The later findings can be interpreted in light of the focus on a Latino sample. Between early to mid-adolescence, Latino youth may still be hopeful about their future in education, therefore, resulting in bidirectional associations between perceived academic competence and educational expectations. However, as Latino youth move into high school, they may become aware of barriers that could prevent them from pursuing a higher education, which can cause their perceived academic competence to take on a more salient role for shaping their future educational expectations than past educational expectations can. This switch can occur because Latino youth may have to believe in their current academic competence in order to achieve and commit to future educational expectations. Some examples of barriers that can contribute to the increasing salience of perceived academic competence for future academic expectations (rather than past academic expectations) include financial issues,

undocumented status, and lack of access to resources for pursuing a higher education (McWhirter, Torres, Salgado, & Valdez, 2007). Future research must continue to examine bidirectional longitudinal associations across contextual and individual domains that can have long-term implications for Latino youth's long-term educational expectations, educational attainment, and overall well-being.

Overall, the current study's results examining the bi-directional associations between youth's perceived academic competence and educational expectations are important for understanding adolescent development in relation to education for the following reasons. First, youth experience transitions in academic contexts from middle school to high school, which has implications for youth's commitment to their educational expectations. Second, as youth go through various adolescent developmental milestones such as puberty, cognitive growth, and identity exploration, individual level factors and perceptions may matter more for formulating educational expectations across time. Therefore, through understanding the salience of these factors, schools can implement adequate protocols for disseminating resources to youth about pursuing higher education and provide youth access to guidance counselors at an appropriate time to aid in the commitment to long-term educational goals.

For the second hypothesis, the study's findings revealed that mothers' educational expectations in early adolescence were associated with fathers' educational expectations in mid-adolescence and that fathers' educational expectations throughout adolescence were associated with mothers' educational expectations in late adolescence. These findings support the cyclic nature of a family system in which parents can influence each other's expectations for their youth (Cox & Paley, 1997). Research on Latino youth and families has focused on the unidirectional association between parent-child dyads (Kirk, Lewis-Moss, Nilsen, & Colvin, 2012) but should expand to understand how parents' interactions with each other function to promote youth's academic outcomes. Taking an integrative family systems approach to understanding the development of educational expectations among Latino youth can help us better understand the unique and combined influence of multiple family members (including siblings, grandparents) on the educational expectations of youth across adolescence, and gain a clearer assessment of the time points in adolescence that educational interventions focused on family processes could be most effective for promoting Latino youth's long-term attainment.

The current study also examined the potential mediational role of perceived academic competence in the link between parents' and youth's educational expectations. In the overall model, fathers' educational expectations in early adolescence were associated with mid adolescence perceived academic competence and adolescents' mid adolescence perceived academic competence was associated with late adolescence youth's educational expectations. In line with Expectancy Value Theory, these findings supports the notion that parental socialization behaviors (such as parental educational expectations) can promote youth's perceived academic competence, and that youth's perceived academic competence in turn promotes educational expectations (Eccles & Wigfield, 2002). However, in testing this potential mediating role statistically, results did not support the expected mediational pathway. The lack of statistical mediation by perceived academic competence points to the

direct salience that parents have for youth's educational expectations throughout adolescence.

In sum, the overall findings from the full model provide two important recommendations. First, the importance of examining youth's perceived academic competence and educational expectations across early to late adolescence as a mechanism for promoting youth's long-term educational attainment. The time frame in early to mid-adolescence is critical because youth begin to solidify their future education plans and then begin to focus on pursuing these goals (Hossler, Schmit, & Vesper, 1999); thus it would be important for schools to have policies in place about disseminating resources in these grades to help youth formulate their long-term educational goals. Second, findings revealed that in a model that includes both parental and individual constructs, individual level factors matter for promoting youth's educational expectations. Research focused on Mexican-origin youth and academic expectations has rarely explored individual level factors, but Expectancy Value Theory notes these factors are critical in developing youth's achievement related choices. Future research should continue to explore individual-level constructs because youth develop their educational expectations with the help of their parents, but also based on their own emerging social identities and perceptions of competence in those identities (Roeser, 2006). Findings also have implications for how academic interventions are designed and suggest that programs that address family and individual factors will likely be more effective in increasing Latino youth's expectations towards education.

Guided by past scholarship, the current study also examined potential differences between boys and girls in the degree to which parental educational expectations shaped youth's perceived academic competence and educational expectations, as well as how perceived academic competence and educational expectations were associated longitudinally. Findings revealed that the model did not significantly differ by youth gender. This is surprising because previous findings suggest that youth's gender would be an important factor that could shape the mechanisms tested in the current study. For instance, past research suggests that mothers are typically more involved with their daughters and, therefore, have a greater influence on their daughters than sons (Updegraff, Delgado, & Wheeler, 2009). In addition, mothers tend to play a more critical role for girls (than boys) due to the higher levels of familial affiliation that is promoted by Latino families among daughters (Cupito et al., 2014; Stein et al., 2015). Despite the null findings, it is critical that future work continues to explore the potential role of gender in developmental models among Latino samples. By further understanding the implications of gender for youth's educational expectations, research can reveal where in the developmental trajectory of youth's educational experiences do predictors' differences by gender begin to emerge, which can inform school policies focused on improving the learning experiences of youth throughout different stages of the educational pipeline.

Despite its important contributions, the current study is not without limitations. First, the study focused on Mexican-origin youth in California where Mexican-origin families tend to be a sizable presence. Findings may not generalize to Mexican-origin youth who reside in areas with a less prominent Mexican-origin population. Discrepancies in the tested associations can exist for Mexican-origin youth residing in areas where they are a "true"

minority. Related, the study's findings cannot be generalized to other Latino sub-groups due to the sole focus on Mexican-origin youth in the current study. The study's model would need to be tested with other Latino sub-groups in order to further understand the generalizability of findings for all Latino youth.

Another limitation is the study's variables. Educational expectations is a measure with a single item for both parents and youth and does not tap into whether these expectations are communicated between parent and youth. An alternative is to use a longer measure that asks more than one question, encompasses both parental and youth educational expectations, the communication about these expectations between parents and youth, and includes goal/educational orientated items that tap into the formulation of educational expectations. The current data set was also limited in that additional associations could be potentially at work, but these constructs were not available. For instance, intrinsic and extrinsic motivation may be mediating factors for the longitudinal associations between parents' and youth's educational expectations and youth's academic competence and educational expectations tested in the study's model, but these variables were not available.

Despite the aforementioned limitations, the study findings provide critical directions to push forward Latino research focused on education within a developmental framework. Two important takeaways from the current study are for future studies to consider individual level factors such as perceived academic competence and the differential role of mothers and fathers in the promotion of youth's educational expectations. Further, due to current higher education trends among Latinos that show that women are achieving higher levels of education in comparison to men, it is important to continue exploring potential differences in underlying mechanisms of influence on Latino youth's educational trajectories by parental and youth gender (Saenz & Ponjuan, 2011).

Conclusion

Educational expectations are one of the factors through which youth begin to shape their future educational plans. The unfolding of educational expectations in adolescence is important because as youth begin to rely more on their own self-perceptions, the factors that are important in the promotion of educational expectations can shift. Due to the heightened importance of self-perceptions in adolescence, understanding how parents' role in shaping educational expectations changes or remains prominent is important to determine if youth's familial level factors still carry the same level of influence across time. The current study shed light on how Mexican -origin mothers' and fathers' educational expectations shaped youth's educational expectations from early to late adolescence; and also, how youth's perceived academic competence and educational expectations associate with each other uniquely at different points in adolescence. The findings from this study suggest that the promotion of Mexican-origin youth's educational expectations should involve support from both parents (when present) and positive perceptions of youth's academic competence from early to late adolescence. Future research needs to continue to explore familial and individual level factors implicated in the formulation of youth's future education plans across adolescence to determine the potentially critical time for the success of academic interventions.

Acknowledgements

We would like to acknowledge all the families that participated in the California Families Project. The authors are also grateful for the staff and research assistants who assisted in this study.

Funding

This study was funded by a grant from the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism (DA017902) to the third author. In addition, funding was also received by the first author from Institute of Education Sciences, U.S. Department of Education, through grant R305B090007 to The Pennsylvania State University. The opinions expressed are those of the authors and do not represent the views of the Institute or the U.S. Department of Education. The authors are grateful for the participating families, staff and research assistants who took part in this study.

Appendix

Appendix A:

Unstandardized Parameter Estimates for Full Model on Youth's Educational Expectations

Parameter Estimates	Beta-weights (S.E.)
7 th Grade Academic Competence → 9 th Grade Academic Competence	.39(.04) ***
7 th Grade Academic Competence → 9 th Grade Youth Educational Expectations	.52(.11) ***
7 th Grade Academic Competence → 9 th Grade Mother Educational Expectations	.06(.12)
7 th Grade Academic Competence → 9 th Grade Father Educational Expectations	.16(.13)
7 th Grade Youth Educational Expectations → 9 th Grade Academic Competence	.04(.02) *
7 th Grade Youth Educational Expectations → 9 th Grade Youth Educational Expectations	.29(.04) ***
7 th Grade Youth Educational Expectations → 9 th Grade Mother Educational Expectations	.05(.05)
7 th Grade Youth Educational Expectations → 9 th Grade Father Educational Expectations	.05(.05)
7 th Grade Mother Educational Expectations → 9 th Grade Academic Competence	.02(.02)
7 th Grade Mother Educational Expectations → 9 th Grade Youth Educational Expectations	.10(.05) *
7 th Grade Mother Educational Expectations → 9 th Grade Mother Educational Expectations	.28(.05) ***
7 th Grade Mother Educational Expectations → 9 th Grade Father Educational Expectations	.14(.06) *
7 th Grade Father Educational Expectations → 9 th Grade Academic Competence	.05(.02) *
7 th Grade Father Educational Expectations → 9 th Grade Youth Educational Expectations	.09(.05)
7 th Grade Father Educational Expectations → 9 th Grade Mother Educational Expectations	.08(.06)
7 th Grade Father Educational Expectations → 9 th Grade Father Educational Expectations	.33(.06) ***
7 th Grade Academic Competence → 11 th Grade Academic Competence	.18(.05) ***
7 th Grade Academic Competence → 11 th Grade Youth Educational Expectations	.03(.12)
7 th Grade Academic Competence → 11 th Grade Mother Educational Expectations	-.04(.13)
7 th Grade Academic Competence → 11 th Grade Father Educational Expectations	-.02(.13)
7 th Grade Youth Educational Expectations → 11 th Grade Academic Competence	-.01(.02)
7 th Grade Youth Educational Expectations → 11 th Grade Youth Educational Expectations	.09(.04) *
7 th Grade Youth Educational Expectations → 11 th Grade Mother Educational Expectations	-.03(.05)
7 th Grade Youth Educational Expectations → 11 th Grade Father Educational Expectations	-.05(.05)
7 th Grade Mother Educational Expectations → 11 th Grade Academic Competence	.003(.02)
7 th Grade Mother Educational Expectations → 11 th Grade Youth Educational Expectations	-.02(.05)
7 th Grade Mother Educational Expectations → 11 th Grade Mother Educational Expectations	.26(.05) ***

Parameter Estimates	Beta-weights (S.E.)
7 th Grade Mother Educational Expectations → 11 th Grade Father Educational Expectations	.08(.05)
7 th Grade Father Educational Expectations → 11 th Grade Academic Competence	.003(.02)
7 th Grade Father Educational Expectations → 11 th Grade Youth Educational Expectations	.07(.06)
7 th Grade Father Educational Expectations → 11 th Grade Mother Educational Expectations	-.02(.07)
7 th Grade Father Educational Expectations → 11 th Grade Father Educational Expectations	.27(.06) ***
9 th Grade Academic Competence → 11 th Grade Academic Competence	.43(.05) ***
9 th Grade Academic Competence → 11 th Grade Youth Educational Expectations	.23(.12) *
9 th Grade Academic Competence → 11 th Grade Mother Educational Expectations	.22(.13)
9 th Grade Academic Competence → 11 th Grade Father Educational Expectations	.22(.14)
9 th Grade Youth Educational Expectations → 11 th Grade Academic Competence	.01(.02)
9 th Grade Youth Educational Expectations → 11 th Grade Youth Educational Expectations	.30(.05) ***
9 th Grade Youth Educational Expectations → 11 th Grade Mother Educational Expectations	.05(.06)
9 th Grade Youth Educational Expectations → 11 th Grade Father Educational Expectations	.09(.06)
9 th Grade Mother Educational Expectations → 11 th Grade Academic Competence	-.02(.02)
9 th Grade Mother Educational Expectations → 11 th Grade Youth Educational Expectations	.07(.05)
9 th Grade Mother Educational Expectations → 11 th Grade Mother Educational Expectations	.26(.05) ***
9 th Grade Mother Educational Expectations → 11 th Grade Father Educational Expectations	.04(.05)
9 th Grade Father Educational Expectations → 11 th Grade Academic Competence	-.02(.02)
9 th Grade Father Educational Expectations → 11 th Grade Youth Educational Expectations	.03(.05)
9 th Grade Father Educational Expectations → 11 th Grade Mother Educational Expectations	.19(.06) **
9 th Grade Father Educational Expectations → 11 th Grade Father Educational Expectations	.33(.05) ***
Covariates	
Gender → 9 th Grade Academic Competence	.06(.05)
Family SES → 9 th Grade Academic Competence	.03(.03)
Gender → 9 th Grade Youth Educational Expectations	-.18(.11)
Family SES → 9 th Grade Youth Educational Expectations	.16(.07) *
Generational Status → 9 th Mother Educational Expectations	.04(.02)
Family SES → 9 th Mother Educational Expectations	-.02(.08)
Generational Status → 9 th Father Educational Expectations	-.04(.03)
Family SES → 9 th Father Educational Expectations	.17(.08) *
Gender → 11 th Grade Academic Competence	-.02(.04)
Family SES → 11 th Grade Academic Competence	.00(.03)
Gender → 11 th Grade Youth Educational Expectations	-.14(.11)
Family SES → 11 th Grade Youth Educational Expectations	.10(.08)
Generational Status → 11 th Mother Educational Expectations	.06(.02) **
Family SES → 11 th Mother Educational Expectations	.06(.08)
Generational Status → 11 th Father Educational Expectations	.06(.03) *
Family SES → 11 th Father Educational Expectations	-.10(.08)

Note. Statistically significant associations are bolded.

* $p < .05$,

**
 $p < .01$,

 $p < .001$.

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7th grade

9th grade

11th grade

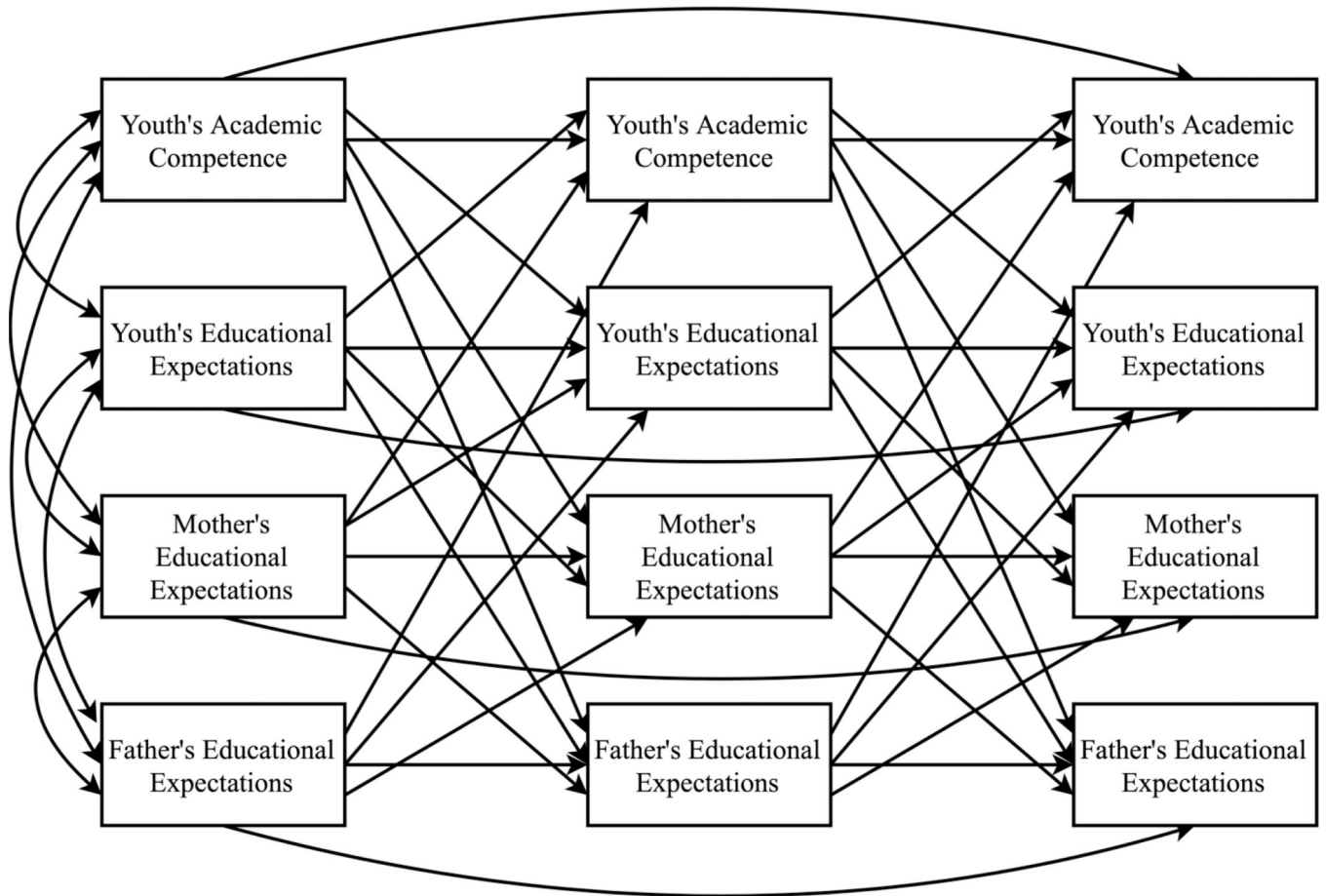


Figure 1.
Note. Conceptual model for the study.

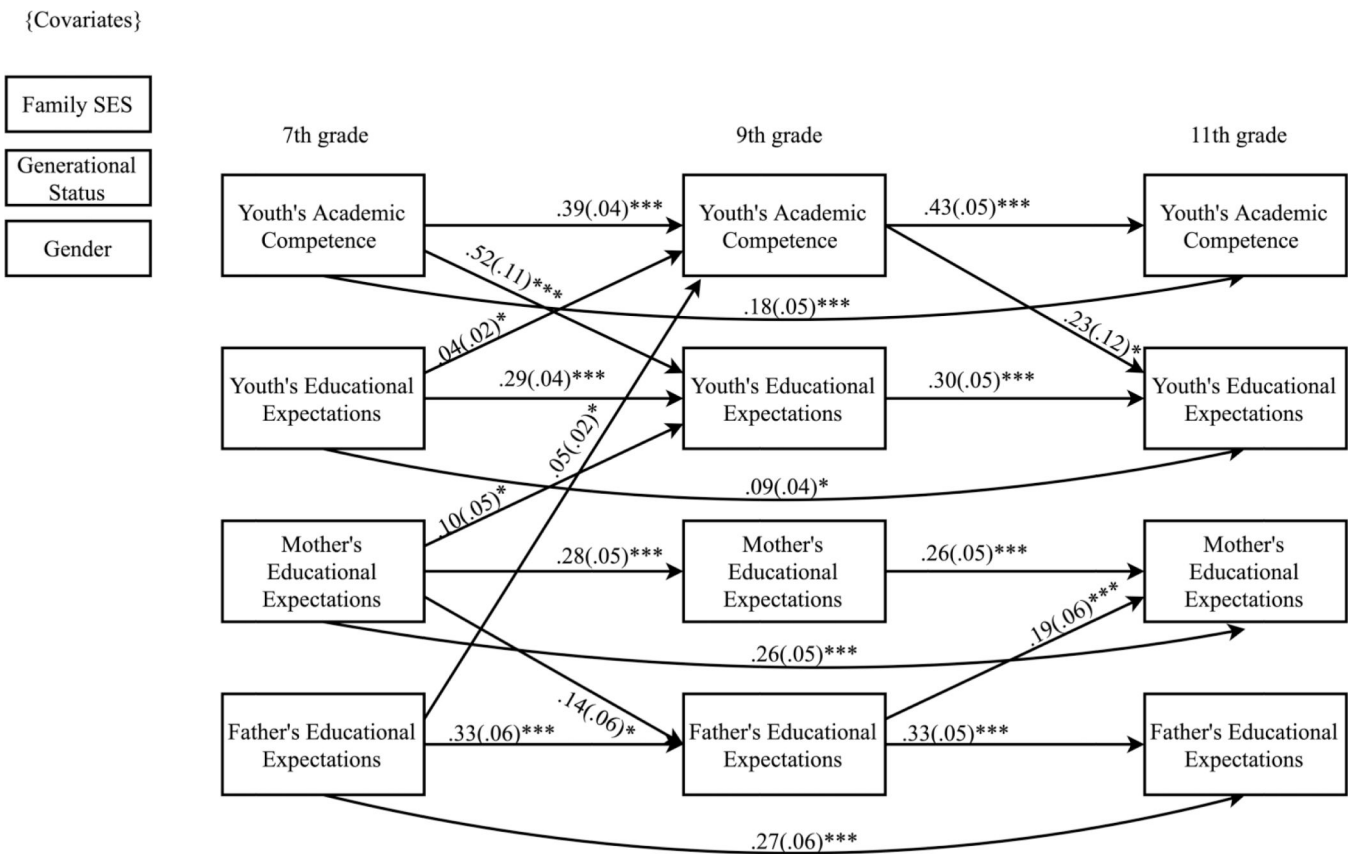


Figure 2. Note. Model Fit: CFI= 0.99, TLI= 0.99, RMSEA= 0.01; ($\chi^2(8)=8.84, p=.36$). Presentation of values: Beta-weight(S.E.). Family SES and youth gender and generation status are included as covariates. Only significant paths are included as solid lines and correlations within predictors are omitted (please see Appendix A for full information). * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.

Mean differences of mother, father, and youth educational expectations

	7 th			9 th			11 th			11 th								
	M	S.D.	t	M	S.D.	t	M	S.D.	t	M	S.D.	t	p					
Mothers' Educational Expectations	7.02	1.29	6.87	1.34	1.94	.05	7.03	1.26	6.69	1.49	4.42	.00	6.84	1.37	6.67	1.51	2.26	.02
Fathers' Educational Expectations	7.08	1.27	6.79	1.37	3.48	.001	7.06	1.25	6.70	1.40	4.43	.00	6.73	1.43	6.66	1.44	.85	.39
Youth's Educational Expectations	6.10	1.53	6.14	1.39	-.51	.61	6.08	1.54	5.94	1.40	1.66	.10	6.12	1.39	5.93	1.39	2.72	.007

Note. 1= 8th grade, 2= 9th–11th grade, 3= High School Graduate, 4= Vocational, Technical, Trade, or Business School, 5= Junior College Degree, 6= 4-year College Degree, 7=Master's Degree, 8= Ph.D. or professional degree.

Table 2.

Means (M), Standard Deviations (SD) Correlations, Skewness, Kurtosis, and R square values for Full Sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SES	----														
2. Generational Status	-.10	----													
3. Youth Gender	-.01	.03	----												
4. 7 th Grade Academic Competence	.12*	-.02	-.11*	----											
5. 9 th Grade Academic Competence	.10*	.07	.01	.37**	----										
6. 11 th Grade Academic Competence	.05	-.01	-.02	.36**	.50**	----									
7. 7 th Youth Educational Expectations	.14*	.06	-.03	.17**	.29**	.26**	----								
8. 9 th Youth Educational Expectations	.16**	.08	-.10*	.21**	.34**	.42**	.22**	----							
9. 11 th Youth Educational Expectations	.14**	.05	-.10*	.23**	.28**	.36**	.31**	.43**	----						
10. 7 th Mother Educational Expectations	.10*	.18**	.03	.12**	.12**	.12**	.07	.23**	.18**	----					
11. 9 th Mother Educational Expectations	.03	.14**	-.06	.14**	.06	.13**	.06	.12**	.21**	.39**	----				
12. 11 th Mother Educational Expectations	.07	.18**	-.06	.08	.18**	.16**	.10*	.20**	.33**	.34**	.38**	----			
13. 7 th Father Educational Expectations	.08	-.01	.01	.19**	.18**	.20**	.10	.26**	.20**	.20**	.13*	.14**	----		
14. 9 th Father Educational Expectations	.15**	-.06	-.02	.19**	.14**	.15**	.02	.17**	.29**	.19**	.18**	.24**	.36**	----	
15. 11 th Father Educational Expectations	.02	.12*	.04	.14*	.24*	.18**	.23**	.23**	.31**	.22**	.19**	.38**	.41**	.45**	----
<i>M</i>	-0.03	11.55	1.50	3.17	3.03	2.91	6.09	6.13	5.92	7.00	6.84	6.68	7.09	6.75	6.65
<i>SD</i>	0.76	2.76	.50	.56	.56	.55	1.56	1.39	1.39	1.31	1.39	1.54	1.24	1.41	1.44
<i>Skewness</i>	0.64	-1.06	-.02	-.21	-.31	-.15	-.64	-.65	-.50	-1.29	-1.26	-1.07	-1.50	-1.09	-.90
<i>Kurtosis</i>	0.63	-.36	-2.01	-.47	-.15	-.20	.25	.01	.22	1.34	1.37	.37	2.39	.85	.14
<i>R square</i>	----	----	----	----	.24	.29	----	.26	.23	----	.11	.27	----	.15	.34

Note. Statistically significant associations are bolded.

* $p < .05$,

**

$p < .01$,

*** $p < .001$.