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Familism, Family Ethnic Socialization, and Mexican-Origin Adolescent Mothers' Educational Adjustment

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Abstract

The current longitudinal study examined how familism values and family ethnic socialization impacted Mexican-origin adolescent mothers' ($N = 205$) educational adjustment (i.e., educational expectations, educational utility), and whether these associations were moderated by adolescent mothers' ethnic centrality. Findings indicated that adolescent mothers' reports of familism values and family ethnic socialization were positively associated with their beliefs about educational utility, but not educational expectations. Ethnic centrality moderated the association between adolescent mothers' familism values and educational utility, such that adolescent mothers' endorsement of familism values during pregnancy were associated with significant increases in educational utility after their transition to parenthood, but only when adolescents reported high levels of ethnic centrality. Moreover, ethnic centrality was positively associated with adolescent mothers' educational expectations. Results highlight the importance of familism, ethnic socialization, and ethnic centrality for promoting Mexican-origin adolescent mothers' educational outcomes. Findings are discussed with respect to understanding adolescent mothers' educational adjustment in the context of family and culture.

Keywords

familism; family ethnic socialization; centrality

Latino youth have received increased attention in scholarly literature as a result of the rapid population growth in the U.S., in combination with concerns about academic success and teen pregnancy. In Arizona, where Latinos account for 30% of the population and Mexican-origin individuals comprise 92% of the Latino population, teen birth rates are 25% greater than the national rate, with Latinas accounting for 55% of all teen pregnancies (Arizona Bureau of Vital Statistics, 2011). In fact, Mexican-origin adolescent females have the highest national birthrate of all racial and ethnic groups in the United States (CDC, 2011). Additionally, Mexican-origin teens are at risk for educational underachievement due to low rates of high school completion (Motel & Patten, 2012). Given these statistics, prior work has predominantly viewed adolescent mothers' educational behaviors through a deficit perspective (Pillow, 2004, 2006; SmithBattle, 2007). However, it is important to understand factors that promote educational adjustment for Mexican-origin adolescent mothers.

Generally, scholars studying ethnic minority youth have emphasized the importance of identifying culturally relevant factors that promote positive adjustment (Gonzales et al., 2008; Huynh & Fuligni, 2008; Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006; Umaña-Taylor & Fine, 2004). Specifically, scholars have called attention to understanding meaningful interactions between ethnicity/culture and contextual factors in an effort to promote Latino youths' adjustment (Contreras, Narang, Ikhlas, & Teichman, 2002). The current study focused on how indices of culture and family relations (i.e., familism values, family ethnic socialization), which have emerged as correlates of positive behavioral (e.g., academic motivation, academic persistence; Huynh & Fuligni, 2008) and psychosocial outcomes (e.g., ethnic affirmation; Supple et al., 2006), contributed positively to Mexican-origin adolescent mothers' educational adjustment. Guided by ecological theory (Bronfenbrenner, 1989) and Contreras and colleagues' (2002) conceptual model of Latina adolescent mothers' parenting competencies, which emphasizes the role of family and cultural resources in relation to adolescent mothers' adaptation, we examined the role of the family context in predicting two indicators of educational adjustment (i.e., educational utility, educational expectations).

Adolescent Mothers and Educational Adjustment

Teen mothers are at high risk for poor developmental outcomes, such as low educational attainment, compared to their nonparenting peers (Sullivan et al., 2011). Adverse outcomes typically associated with teen pregnancy include increased rates of high school dropouts, lower rates of college enrollment, lower employment achievement outcomes, and greater dependency on government assistance programs due to reduced prospects for upward mobility (Dog an-Ates & Carrión-Basham, 2007; Hofferth, Reid, & Mott, 2001). Within the United States, reports estimate that only 40% of adolescent mothers graduate from high school, with an even smaller percentage actually enrolling in college (Hoffman, 2006). In an effort to understand these trends, adolescent mothers' educational adjustment has traditionally been studied by examining factors that inform underachievement (Pillow, 2006), and only more recently have researchers begun to focus attention on factors that may promote teen mothers' educational achievement (Smith-Battle, 2007; Sullivan et al., 2011). For Mexican-origin adolescent mothers, this shift in focus seems particularly important given disproportionately low rates of educational attainment among adolescent mothers

(Berry, Shillington, Peak, & Homan, 2000) and Mexican-origin youth, in general (Motel & Patten, 2012).

In terms of educational-related factors that may promote achievement, scholars suggest that adolescents' positive views about the value of education (i.e., educational utility) and high expectations regarding how much education they will attain (i.e., educational expectations) are predictive of achievement-oriented behaviors (Wigfield & Eccles, 2000; Eccles, Vida, & Barber, 2004). Because adolescent mothers are more likely to drop out of school as a result of their pregnancy or as they transition into parenthood, due to limited resources (e.g., the necessity to work; Hofferth et al., 2001; Hoffman, 2006), it is useful to focus attention on constructs that predict educational and occupational achievement (i.e., educational expectations, educational utility). Specifically, understanding the factors that predict higher educational expectations and greater educational utility among adolescent mothers may help to identify targets for intervention and, in turn, promote adolescent mothers' educational adjustment.

Educational utility has long been documented as key for positive developmental outcomes (Eccles & Wigfield, 2000). Studies have found that adolescents' positive educational values predict increased achievement-related behaviors, such as high school course-taking decisions, higher GPA, and plans to attend college (Eccles & Wigfield, 2000; Eccles et al., 2004). Scholars theorize that educational utility beliefs provide individuals with incentives, or motivation for engaging in achievement-related activities, as they relate to current and future goals (Eccles & Wigfield, 2000).

For teen mothers, research findings indicate that, although the priority placed on educational achievement may have been lower before pregnancy, teen mothers commonly describe educational achievement as an opportunity for better outcomes for themselves and their child (SmithBattle, 2007). In a qualitative study with Black and White teen mothers, SmithBattle (2007) found that the experience of mothering appeared to lead some teen mothers to reevaluate the meaning and importance of education as a means to achieve economic security. Pregnancy contributed to teens' recommitment to their education, such that teens who held positive values toward education during pregnancy were also more likely to commit themselves to completing high school, showed improved academic performance over time, and were more likely to aspire to attend college. Few empirical studies, however, have examined the factors that promote adolescent mothers' beliefs about the usefulness of education, especially among Mexican-origin adolescent mothers.

In a similar vein, adolescents' educational expectations, or beliefs about the highest level of education that they will attain, have been related to positive educational adjustment (i.e., academic motivation, school engagement) and, specifically, actual educational attainment (Eccles & Wigfield, 2002). In a study with ethnic minority youth, adolescents who reported higher expectations for educational attainment were also more likely to graduate from high school (Ensminger & Slusarcick, 1992). In another study, Latina adolescents who reported higher educational expectations also reported higher GPAs, compared to their peers with lower educational expectations (Sánchez, Cólón, & Esparza, 2005). Among Mexican American adolescents, specifically, findings indicated that lower educational goals were

associated with lower occupational achievement (Harris & Franklin, 2003). Specific to adolescent mothers, high educational expectations have been posited as a promotive factor for academic achievement (White & Cummings, 1995), as researchers have established positive links between teen mothers' (i.e., Hispanic, non-Hispanic White, nonHispanic Black) educational expectations and their academic achievement (Leadbeater & Way, 2001).

Some empirical work with adolescent mothers suggests that nonmarital child rearing is associated with lower expectations for educational attainment (Beutel, 2000; Barr & Simons, 2012). Such findings are consistent with role theory, which holds that adolescence is a time when future goals for occupational and educational attainment are formed (Clausen, 1986). Because adolescent mothers encounter divergent goals as both an adult (e.g., parenting demands) and an adolescent (e.g., school achievement), such a division between goals may lead to role conflict, a stressor that can hinder the completion of parental or adolescent goals (Contreras et al., 2002). This stress may contribute to barriers encountered by adolescent mothers regarding school completion (Leadbeater & Way, 2001; SmithBattle, 2007). Thus, it is critical to examine factors that enhance adolescent mothers' educational adjustment. Given scholars' attention to the protective and promotive role of culture and family for Latina adolescent mothers (Contreras et al., 2002), it is possible that these sources of support may positively influence Mexican-origin adolescent mothers' educational adjustment.

Family and Cultural Factors That Promote Educational Adjustment

To date, few studies have investigated factors that promote positive educational adjustment among teen mothers (Brosh, Weigel, & Evans, 2007; Harris & Franklin, 2003; Kalil, 2002). According to ecological theory, individuals adapt to their environment through various influences across different domains, including family, peer, and environmental factors, which then impact their development (Bronfenbrenner, 1979). Family and cultural orientations have been recognized as significant adaptive resources and developmental influences for Latina adolescent mothers (Contreras et al., 2002). Furthermore, for Mexican-origin adolescents, culturally informed values and expectations, such as familism values (Fuligni, Tseng, & Lam, 1999) and experiences with family ethnic socialization (Supple et al., 2006; Umaña-Taylor & Fine, 2004), have been identified as promotive resources, particularly in relation to educational adjustment (Gonzales et al., 2008; Huynh & Fuligni, 2008).

Despite empirical findings that indicate a strong influence of parents, teachers, and peers on youths' educational utility values and educational expectations (Wigfield & Eccles, 2000), and a separate body of work noting adolescent mothers' dependency on their families during the course of pregnancy and parenting (Kalil & Danziger, 2000), limited research has investigated the process by which families promote positive educational adjustment for adolescent mothers. Thus, the current study examined the degree to which family ethnic socialization and familism values informed Mexican-origin adolescent mothers' perceptions of educational utility and educational expectations.

Family ethnic socialization practices are believed to play a significant role in the development of ethnic minority adolescents (Umaña-Taylor & Fine, 2004). Family ethnic

socialization practices include efforts to expose children to culturally relevant experiences, such as narrative storytelling, speaking the native language, representations of ethnicity and cultural background in the home, and traditional holiday celebrations (Umaña-Taylor, Alfaro, Bámaca, & Guimond, 2009). Theorists pose familial socialization efforts as processes that prepare children to adapt to environmental settings, with respect to expected values and behaviors, which may influence educational pursuits (Harrison, Wilson, Pine, Chan, & Buriel, 1990; Parke & Buriel, 1998). Scholars propose that ethnicracial socialization practices provide youth with a basis for resilience by developing a psychologically adaptive concept of race (Lesane-Brown, 2006). Accordingly, ethnic minority youths' development is enhanced by increased self-concept (e.g., selfesteem, self-worth) when faced with challenging situations (Harris-Britt et al., 2007). Indeed, scholars have argued that ethnicracial socialization practices can help explain why ethnic minority youth, who have traditionally faced various forms of racial/ethnic oppression (e.g., discrimination and racism; Banerjee, Harrell, & Johnson, 2011; Murry, Berkel, Brody, Miller, & Chen, 2009), are able to achieve academically despite contextual barriers. Earlier studies have positively linked parental ethnic-racial socialization efforts to educational aspirations among African American youth (Bowman & Howard, 1985). Similarly, among Mexican- and Chinese-origin adolescents, findings indicated that adolescents who reported higher levels of ethnic-racial socialization also reported greater utility values of school and greater academic motivation (Huynh & Fuligni, 2008). Although the positive impact of ethnic-racial socialization practices has been documented in diverse samples of ethnic minority youth, the promotive influence of ethnic-racial socialization on adolescent mothers' educational adjustment has not been examined, to our knowledge. Given the considerable barriers adolescent mothers face with respect to educational adjustment (SmithBattle, 2007; Pillow, 2004), understanding if ethnic-racial socialization is similarly promotive of educational adjustment among adolescent mothers is an important research goal.

In addition to family ethnic socialization as a promotive factor, we examined the extent to which adolescent mothers' endorsement of familism values promoted their educational adjustment. As noted above, the cultural value of familism (e.g., family orientation, obligations) represents a core asset for the Latino culture (Garcia-Preto, 1996) and for Mexican-origin families (Cauce & Domenech-Rodríguez, 2002). Sabogal and colleagues define familism as involving values regarding familial commitment, perceived support, emotional closeness, and viewing family as a referent (Sabogal, Marín, Otero-Sabogal, Marín & Perez-Stable, 1987). Although some work suggests that familism values may impede Latina mothers' efforts to continue education due to an overemphasis on familial obligation (Wildsmith, 2004), others suggest that Mexican-origin adolescents' orientation toward the family, or familism values, may promote academic adjustment through familial expectations, which generally emphasize educational pursuits (Fuligni et al., 1999). Indeed, researchers pose that Latino familism values may motivate youths' academic achievement through perceived connections between educational attainment and economic stability, which may facilitate efforts to support the family (Suárez-Orozco & Suárez-Orozco, 1995). Consistent with the latter perspective, findings suggest that stronger endorsement of familism values can impact Latino adolescents' educational adjustment through positive associations with academic motivation (Fuligni et al., 1999), increased academic

engagement (Gonzales et al., 2008), and increased academic grades (Valenzuela & Dornbusch, 1994). Indeed, studies with diverse samples (i.e., Asian, Latin American, European backgrounds) found that adolescents who reported greater familial obligation tended to report higher educational expectations (Fuligni et al., 1999), and greater beliefs about the importance and utility of education (Fuligni, 2001). Similarly, qualitative findings suggest that family values may drive adolescent mothers' motivation to achieve academically, as education was viewed as a tool for a secure future for themselves and their offspring (SmithBattle, 2007). Adolescent mothers described their role as a mother as one that included responsibilities to their family, especially their off-spring. Indeed, findings indicated that adolescent mothers' transition into parenthood increased their focus on their own well-being and academic achievement. Together, these findings support the notion that Latina adolescent mothers' endorsement of familism may promote educational adjustment.

Ethnic Centrality as a Moderator

A final context to consider involves adolescent mothers' perceptions of how central their cultural background is to defining themselves. The degree to which ethnicity plays a primary role in an individual's self-concept is referred to as *centrality* (Sellers, Smith, Shelton, Rowley, & Chavous, 1998). Scholars theorize that when a particular social identity (e.g., racial group membership, ethnic group membership, gender) is central to an individual, their attitudes and beliefs about the group that is determining that identity will shape their outcomes (Sellers, Morgan, & Brown, 2001; Sellers, Chavous, & Cooke, 1998). Specifically, when a social identity is a central part of an individual's self-concept, an individual's tendency to define themselves in terms of ethnicity/ race is thought to influence their construal of a given situation and impact their behavioral response to the event.

Empirical findings from studies with African American youth indicated that ethnic-racial centrality significantly moderated the association between different facets of racial identification (e.g., racial ideologies, positive feelings about one's group) and various indicators of youths' adjustment, such as educational involvement (Chavous, 2000), self-esteem (Rowley, Sellers, Chavous, & Smith, 1998), and academic achievement (Sellers et al., 1998). Specifically, findings indicated that when ethnic-racial centrality was high, positive feelings about and identification with one's group were linked with better adjustment, including academic adjustment. Researchers suggest that African American youth may be motivated to achieve academically when they have strong group identification due to perceptions of social inequalities directed at their group (Chavous et al., 2003); ethnic-racial centrality may provide African American youth with implicit social support and motivation for educational achievement through notions of unity in identifying with a disenfranchised ethnic-racial group. Similar to findings with African American youth, Mexican-origin adolescent mothers' ethnic centrality may prompt feelings of closeness to their ethnic group, which also has experienced stereotypes and barriers to educational achievement (e.g., discrimination; Harrison et al., 1990); thus, high centrality may likewise inspire greater motivation to achieve academically among Mexican-origin adolescent mothers when coupled with relatively strong endorsement of traditional familism values and family ethnic socialization. Moreover, for adolescent mothers, who primarily receive formal (e.g., alternative school programs, community agencies) and informal support (e.g., parents,

peers, partner) emphasizing their roles as parents (Brosh et al., 2007), it is possible that identifying with their Mexican ethnicity may provide an additional avenue of support and reinforcement focused on cultural goals related to educational achievement, embedded specifically in family values and practices. With respect to the research questions of interest in the current study, it is possible that Mexican-origin adolescent mothers for whom Mexican ethnicity is a more central part of their self-concept may be relatively more influenced by the promotive effects of family ethnic socialization and familism values on their educational adjustment, relative to their counterparts for whom Mexican ethnicity is less central to their identity.

The Current Study

In line with scholars' recommendations to understand how culture informs development (Garcia Coll, Akerman, & Cicchetti, 2000), the current study was designed to examine the association between indices of culture (i.e., family ethnic socialization, familism values) and Mexican-origin adolescent mothers' educational adjustment (i.e., educational utility, educational expectations). Guided by conceptual work suggesting that the centrality of one's ethnicity may modify the association between cultural resources and youth adjustment (Sellers et al., 2001), ethnic centrality was examined as a moderator of these associations. Analyses controlled for previous reports of educational adjustment (i.e., educational utility, educational expectations), allowing us to examine the associations with a more rigorous, prospective, longitudinal design. In accordance with prior work indicating variability in Mexican-origin adolescents' educational outcomes by nativity status, where foreign-born youth tend to report greater beliefs about the importance and utility of education (Fuligni et al., 1999) and hold lower expectations about educational attainment, compared to their U.S.-born peers (Bohon, Johnson, & Gorman, 2006), the current study controlled for adolescents' nativity. Additionally, given researchers' suggestions that family and cultural resources impact Latina adolescent mothers differently depending on financial status, mother–daughter relationship quality, and mother–daughter coresidence (Contreras et al., 2002), analyses controlled for family income, adolescent–mother conflict, and whether adolescents resided with their mothers. Next, because adolescents' values are subject to change while transitioning into adulthood (Nurmi, Poole, & Kalakoski, 1994), and educational expectations tend to increase with numbers of years in school (Kalil, 2002), analyses also controlled for adolescents' years in school. Further-more, given prior work noting that Mexican-origin mothers' educational attainment was positively correlated with their children's educational outcomes (Ojeda & Flores, 2008), analyses also controlled for mothers' educational attainment. Finally, because adolescents' educational values and expectations for educational attainment are indicative of educational and occupational achievement, despite enrollment status or level of educational attainment (Eccles et al., 2004; Eccles & Wigfield, 2000, 2002), adolescents who had graduated or had dropped out of school were included in analyses.

Method

Participants

Data were from the first and second wave of an ongoing longitudinal study of 205 Mexican-origin adolescent mothers, their infants, and their mother figures (Umaña-Taylor, Guimond, Updegraff, & Jahromi, 2013). At Wave 1 (W1), participants were an average of 16.24 ($SD = .99$) years old and over half (58.5%) were enrolled in school, 4.9% had graduated from high school or earned a GED, and 36.6% had dropped out. At Wave 2 (W2), 38.0% of participants were enrolled in school, 17.4% had graduated from high school or earned a GED, 40.5% had dropped out of school, and 4.9% had missing data. A majority (64.4%) of participants were born in the United States. Those born in Mexico had lived in the U.S. from less than 1 year to 18 years ($M = 7.79$, $SD = 4.60$). Eighty-seven percent of participants lived with their mothers at W1. At W1, participants who reported being financially supported by their parents reported a mean household income of approximately \$27,857 ($SD = \$20,723$; range = \$94–\$114,000). For participants who reported that they were not being financially supported by their parents, their mean hourly wage at W1 was \$7.29 ($SD = 1.47$; range = \$5.25–\$10).

Procedure

Pregnant adolescents were recruited from high schools, health centers, and community agencies in a Southwestern metropolitan area. To be eligible for participation, participants had to be of Mexican origin, pregnant, between the ages of 15 and 18 years, and not legally married. Additionally, participants had to have a mother figure who was also willing to participate in the study. Parental consent and youth assent were obtained for participants younger than 18 years, and informed consent was obtained for those who were 18 years and older, in compliance with the Human Subjects Institutional Review Board. Of the 205 adolescents who participated at W1, 196 participated at W2, reflecting a retention rate of 96%.

W1 interviews took place when adolescent mothers were in their third trimester of pregnancy, and W2 took place approximately 10 months after the infant's birth. Infants were assessed near the end of their first year (i.e., 10 months) to capture the most variability in their developmental functioning, as previous studies have shown that children of adolescent mothers begin to show signs of difficulties near the end of the first year and a further decline thereafter (Borkowski et al., 2002; Furstenberg, Brooks-Gunn, & Morgan, 1987; Whitman, Borkowski, Keogh, & Weed, 2001). Adolescent mothers participated in face-to-face interviews (averaging 2.5 hours in length), in which questions were read out loud to them. Adolescents received \$25 for participation at W1 and \$30 at W2. Interviews were conducted in participant's language of preference (e.g., English or Spanish), with 61.5% of adolescents completing their interviews in English.

Measures

Familial ethnic socialization (W1)—At W1, the 12-item Familial Ethnic Socialization Measure (FES; Umaña-Taylor, 2001) was used to assess the degree to which participants perceived that their families socialized them with respect to their native culture (e.g., “My

family teaches me about our family's ethnic/cultural background"). Respondents were asked to think about the past year and respond on a 5-point Likert-type scale with responses ranging from 1 (*not at all*) to 5 (*very much*), where higher scores indicated higher levels of FES. The FES measure has demonstrated acceptable reliability with Latino adolescents, with a Cronbach's alpha of .94 (Umaña-Taylor et al., 2009). Cronbach's alphas in the current study for adolescents' reports in English and Spanish were .89 and .90, respectively.

Familism (W1)—Adolescents' endorsement of familism values was measured with a 16-item subscale of the Mexican American Cultural Values Scale (Knight et al., 2010). The items assessed adolescents' feelings of closeness in the family, obligations to the family, and perceptions of their family as referent. Adolescents rated their agreement with each statement (e.g., "Parents should teach their children that the family always comes first") on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicated greater endorsement of familism values. This measure has demonstrated satisfactory internal consistency with Mexican American adolescents ($\alpha = .89$; Knight et al., 2010). In the current study, alpha coefficients at W1 were .88 (English) and .82 (Spanish).

Ethnic centrality (W1)—At W1, the degree to which adolescent mothers perceived their ethnicity to be a central part of their self-concept was assessed using an adapted version of the centrality subscale of the Multidimensional Inventory of Black Identity (Sellers, Rowley, Chavous, Shelton, & Smith, 1997). The measure was initially adapted by modifying the language to make it applicable to multiple ethnic groups (i.e., Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006); we further adapted it by rewording two of the negatively worded items to eliminate double negatives, which are particularly difficult to understand when translated into Spanish. The five items (e.g., "In general, being a member of my ethnic group is an important part of my self-image") were rated on a 5-point Likert scale, with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicated higher levels of ethnic centrality. The original adapted 5-item subscale (Kiang et al., 2006) obtained an alpha of .64 with Mexican-origin adolescents. For the current study, Cronbach's alphas were .70 (English) and .51 (Spanish).

Educational utility (W1, W2)—Adolescent mothers' educational utility was measured with a scale developed by Fuligni, Witkow, and García (2005). This scale assesses adolescents' beliefs that education is essential for success. Adolescents rated items (e.g., "Doing well in school is the best way to get ahead in life") on a 5-point scale ranging from 1 (*not at all true*) to 5 (*almost always true*). Higher values indicated that adolescents more strongly believed in the value of getting an education. The scale has demonstrated adequate internal consistency, with an alpha of .82 with Mexican-origin adolescents (Fuligni et al., 2005). Cronbach's alphas in the current study at W1 were .76 (English) and .71 (Spanish), and at W2 were .81 (English) and .74 (Spanish).

Educational expectations (W1, W2)—Adolescents were asked about their educational expectations with the following question: "How far do you really think you will go in school?" Responses were coded to reflect the number of years of schooling (e.g., 10 = 10th grade; 16 = bachelor's degree; 20 = doctorate or professional degree).

Adolescent–mother conflict (W1)—Adolescent mothers' relationship quality with their own mother was assessed with a modified version of Smetana's (1988) measure of parent–adolescent conflict. The 16 items assessed frequency of conflicts between adolescents and their mothers across several domains (e.g., physical appearance, friends, romantic relationships) and the measure was revised to include a question about conflict relative to pregnancy. Adolescents reported on the frequency of conflict using a 6-point Likert scale ranging from 1 (*not at all*) to 6 (*several times a day*), with higher values indicating greater frequency of conflict. The scale has demonstrated adequate internal consistency with Mexican American mothers with an alpha of .84 (Updegraff, Delgado, & Wheeler, 2009). Cronbach's alphas in the current study at W1 were .82 (English) and .86 (Spanish).

Demographic controls—Demographic controls included maternal educational attainment (W1), nativity (W1), family income (W1), and coresidence with mother (W1). Mothers reported on their highest level of education completed, and responses were coded as described above for educational expectations. Adolescents' nativity was coded as 0 (born in Mexico) or 1 (born in the U.S.), based on adolescents' reports. Family income was calculated by creating a sum of mothers' salary, the total amount of public assistance the family received (including support from the nutritional assistance program), and any external monetary contributions to the family in the past year. Finally, to assess coresidence with mother, adolescents were asked if they were currently living with their mother and responses were coded as 0 = No and 1 = Yes.

Analytic Strategy

Path analysis within a structural equation modeling framework was used to examine how adolescent mothers' reports of familism values, family ethnic socialization, and ethnic centrality at W1 informed changes in adolescent mothers' reports of educational utility and educational expectations from W1 to W2 (see Figure 1). Control variables included adolescents' reports of conflict with their mother, nativity status (i.e., U.S.-born, Mexico-born), and years in school; their mothers' educational attainment; family income; coresidency with their mother; and adolescents' reports of educational expectations and educational utility at W1. All exogenous variables were allowed to covary (Muthén & Muthén, 2010). To account for missing data, we used the full information maximum likelihood (FIML) method, which uses all available information from observed data to provide likelihood estimates of missing data. All descriptive statistics and bivariate correlations among study variables were conducted using data estimated via FIML (see Table 1). Means and standard deviations for centered variables were calculated by rerunning analyses in Mplus with uncentered variables. Good (acceptable) model fit was determined based on fit indices with a value of greater than or equal to 0.95 (greater than or equal to 0.90) for the comparative fit index (CFI), and less than 0.05 (less than 0.08) for the standardized root-mean-square residual (SRMR; Hu & Bentler, 1999; Kline, 2005).

To test the interactions, adolescent mothers' reports of familism values, family ethnic socialization, and ethnic centrality at W1 were centered at the mean, and their main effects and cross products (e.g., familism values $\times$ ethnic centrality; family ethnic socialization $\times$ ethnic centrality) were included in the model predicting educational utility and educational

expectations at W2. Significant interactions were followed up with an analysis of simple slopes to probe the effect of the independent variable on the dependent variable at 1 *SD* above and below the mean on adolescent mothers' centrality (Aiken & West, 1991).

Results

The hypothesized model (see Figure 1) tested the association between familism values and family ethnic socialization with Mexican-origin adolescent mothers' educational outcomes (i.e., educational expectations, educational utility). Additionally, ethnic centrality was hypothesized to modify the link between indices of culture (i.e., familism values, family ethnic socialization) and educational outcomes. Fit indices of the tested model were $\chi^2(2) = 6.63$, $p = .04$, CFI = 0.96, and SRMR = .01, which met our criteria for good model fit (see Figure 1). Measures of effect size were calculated from the standardized beta coefficients and presented below as f^2 statistics (e.g., the ratio of explained and error variance) using Cohen's (1992) conventions for representations of small (.02), medium (.15), and large (.35) effect sizes.

As expected, adolescent mothers' endorsement of familism values and family ethnic socialization at W1 were significantly and positively associated with changes in adolescents' educational utility at W2 ($\beta = .03$ and $.002$, respectively), which represented small effects. In contrast to our hypotheses, adolescent mothers' endorsement of familism values and family ethnic socialization at W1 were not significantly associated with adolescents' educational expectations at W2. Adolescent mothers' ethnic centrality at W1, however, was positively associated with changes in their educational expectations at W2 ($f^2 = .03$), which was a small effect; this finding indicated that as adolescent mothers reported that their Mexican heritage was an important part of how they defined themselves at W1, they also tended to report greater expectations for their educational attainment at W2.

In support of one of our primary hypotheses, adolescents' ethnic centrality at W1 moderated the relation between adolescents' familism values at W1 and their educational utility at W2 ($f^2 = .04$), which represented a small effect. Probing of this interaction indicated that, as hypothesized, adolescents' endorsement of familism values at W1 were associated with significant increases in educational utility at W2, but only when adolescents reported high levels of ethnic centrality, $b = .27$ ($p = .004$); this association was not significant when adolescents reported low levels of ethnic centrality, $b = .02$, $p = .78$ (see Figure 2). No moderation was found when educational expectations were examined as the outcome.

Discussion

Adolescent mothers face numerous challenges related to early childbearing and educational adjustment (i.e., high dropout rates, low educational attainment, poor economic outcomes; Hofferth et al., 2001; Sullivan et al., 2011). Given that Mexican-origin adolescent mothers are at high risk for academic underachievement (Aud, Fox, & KewalRamani, 2010; Berry et al., 2000), it is critical to identify factors that promote educational outcomes for these adolescent mothers. The current study set out to examine the links between familism, family ethnic socialization, ethnic centrality, and educational outcomes (i.e., educational utility,

educational expectations) in a sample of Mexican-origin adolescent mothers. Findings uncovered how several indices of culture were associated with adolescent mothers' educational expectations and beliefs about the importance of education, which have been identified as key predictors of youths' educational achievement (Eccles & Wigfield, 2000; Sánchez et al., 2005). It is interesting to note that educational expectations and educational utility values were not significantly associated with one another during adolescent mothers' pregnancy; however, after the transition to motherhood, they were significantly and positively correlated. This pattern may reflect that after adolescent mothers transition into motherhood, their beliefs about the value of education and desire for educational attainment simultaneously increase as their needs to become better providers for their children become more salient (SmithBattle, 2007). Taken together, the findings of the current study provide important information regarding adolescent mothers' educational adjustment, and particularly the promotive effects of cultural resources on educational adjustment; this is especially informative given the limited work on promotive factors for adolescent mothers' educational attitudes and behaviors (SmithBattle, 2007; Pillow, 2004, 2006).

Familism Values and Mexican-Origin Adolescent Mothers' Educational Outcomes

In examining how familism values were linked to educational outcomes, we found partial support for our hypotheses, such that as adolescent mothers more strongly endorsed familism values, their beliefs about the importance of education became more positive as they transitioned to parenthood (i.e., W1 to W2 in the current study). Furthermore, adolescent mothers' ethnic centrality appeared to enhance this positive association. This finding may help to clarify the conflicting findings that have emerged with respect to familism and educational outcomes, such that some studies document it as a promotive factor (Fuligni et al., 1999; Gonzales et al., 2008) but others do not find it to promote achievement (Niemann, Romero, & Arbona, 2000; Wildsmith, 2004). It may be that during this transition to parenthood, identifying with their ethnicity provided Mexican-origin adolescent mothers with additional support for their academic beliefs and attitudes associated with familism values. High educational utility beliefs, which have been shown to facilitate positive academic outcomes (Fuligni, 2001), may be especially important for Latina adolescent mothers' educational adjustment, given conceptual models that highlight the stress associated with role conflict (e.g., adolescent vs. adult) and family values and expectations, leading to difficulties with goal completion (e.g., parenting, educational achievement; Contreras et al., 2002). By identifying with their Mexican ethnicity, adolescent mothers' stress over role conflict may be lessened by falling back on educational beliefs tied to family values, which have been described as characteristic of Mexican-origin families (Suárez-Orozco & Suárez-Orozco, 1995). Furthermore, holding their Mexican ethnicity as central to their self-concept may reinforce the positive connection that familism values has with beliefs about the value of education.

Contrary to our hypothesis, however, we found no significant association between familism values and adolescent mothers' educational expectations. Perhaps for Mexican-origin adolescent mothers, educational expectations about how far they will go in school are in conflict with concerns regarding family expectations for traditional maternal roles (Contreras et al., 2002; Brosh et al., 2007). Thus, despite adolescents' beliefs that education

is important, which were positively associated with familism values in the current study, Mexican-origin adolescent mothers may need additional support and guidance to increase their expectations for their own educational pursuits. Additionally, findings may reflect the impact of constraints in the lives of Mexican-origin adolescent mothers. When reporting how far they realistically believe they will go in school, adolescent mothers may consider barriers such as the necessity to work or obtain childcare (SmithBattle, 2007). These findings may indicate that family values may have less of a direct impact on educational expectations when adolescents experience barriers that make continuing education difficult.

Our findings may shed light on mixed results regarding the impact of familism values on Mexican-origin adolescents' educational adjustment (Fuligni et al., 1999; Valenzuela & Dornbusch, 1994). Fuligni and colleagues (1999), for example, found that adolescents who reported the greatest family obligations (i.e., respect, current assistance, future support to the family) were just as likely to obtain grades as low, and sometimes lower, than those who reported lower levels of family obligation. It is only recently that researchers have begun to discern the complexities associated with familism values and adolescents' adjustment (Rodriguez, Mira, Paez, & Myers, 2007). It may be that familism values inform some indicators of educational achievement, but not others. Although researchers have found that adolescents' endorsement of familism values are positively linked with their beliefs about the value and utility of education (Fuligni et al., 1999; Fuligni, 2001), this association may have different implications for teen mothers. According to Suárez-Orozco and Suárez-Orozco (1995), Latinos' sense of familism values operate by motivating individuals to succeed in school because of the positive implications for obtaining stability and supporting the family. For adolescent mothers, however, supporting the family may be less clearly associated with immediate goals regarding obtaining more education. For instance, Mexican-origin adolescent mothers' familism values may increase adolescents' vulnerability to cultural expectations regarding placing motherhood duties as a higher priority than completing goals of educational attainment (Contreras et al., 2002). Therefore, Mexican-origin adolescent mothers' endorsement of familism values may drive them to place a greater emphasis on educational utility beliefs, as education has been viewed as key to providing for the well-being of their child (SmithBattle, 2007), rather than forming personal educational goals, as those may be difficult to envision or pursue during this early transition to motherhood (Barr & Simons, 2012).

Family Ethnic Socialization and Adolescent Mothers' Educational Values

Family ethnic socialization practices have been identified as relevant to youths' developmental experiences and educational outcomes (Harrison et al., 1990; Parke & Buriel, 1998). Scholars pose that ethnic socialization efforts influence Mexican-origin adolescents' education-related behaviors by instilling familial expectations and values related to school performance (Huynh & Fuligni, 2008). For Mexican American youth, parents' socialization efforts have been identified as key for promoting youths' positive outcomes through the proliferation of ethnic pride and positive regard for their cultural group affiliation (Kiang et al., 2006; Umaña-Taylor et al., 2009). In the current study, similar to findings for familism, family ethnic socialization experiences positively and significantly predicted adolescents' educational utility beliefs, but not their educational expectations. Murry and colleagues

(2009) suggest that ethnic socialization practices may act as buffers for ethnic minority adolescents by encouraging education as an outlet for success. For Mexican-origin adolescent mothers, family ethnic socialization practices may provide cultural feedback about the relative importance of education; however, there remains a disconnect between socialization messages and adolescent mothers' beliefs about possibilities for their own educational attainment. Like familism values, family ethnic socialization may have less of an impact on adolescent mothers' expectations for educational attainment, compared to the daily constraints that impede adolescents' ability to continue their education. It is possible that for Mexican-origin adolescent mothers, socialization messages may project a different self-image, perhaps one that is more closely related to cultural pride regarding motherhood. This particular self-image may make it difficult for adolescent mothers to form educational expectations related to their own personal goals and educational interests. Overall, these findings indicate that family ethnic socialization practices positively contribute to at least one indicator of Mexican-origin adolescent mothers' educational adjustment. Further investigation will be needed, however, to determine possible mechanisms through which family ethnic socialization practices influence other aspects of adolescent mothers' educational adjustment.

Adolescent Mothers' Educational Adjustment and Ethnic Centrality

Another important contribution of the current study was the finding that ethnic centrality promoted Mexican-origin adolescent mothers' educational adjustment in two ways: As a moderator of the association between familism values and adolescents' beliefs about educational utility (discussed above) and as a direct predictor of adolescents' educational expectations. With respect to the direct association between ethnic centrality and educational expectations, it may be that when Mexican-origin adolescent mothers' ethnicity is central to how they define themselves, they may hold greater expectations for their own educational endeavors in an effort to contribute to positive perceptions of their ethnic group. This notion reflects findings from previous work that explored racial-ethnic centrality among adolescents from diverse backgrounds (i.e., Black, Latino, Asian, Multiracial) and found that adolescents' reports about their ethnic centrality reflected themes of internal pride and external pride, particularly among Latino adolescents (Charmaraman & Grossman, 2010). Specifically, adolescents who identified their ethnicity as being central to their identity also described positive feelings about their culture (i.e., internal pride) and the desire to represent their background positively (i.e., ethnic pride). Thus, the direct association evidenced in the current study may reflect a positive group interest among Mexican-origin adolescents, such that Mexican-origin adolescent mothers, whose ethnicity is a central part of their identity, may infer notions of pride, which encourage positive expectations regarding their own capabilities for educational success.

In addition, scholars suggest that when group membership is central to individuals' self-concept, these feelings impact how adolescents perceive situations where their ethnicity may be relevant (Rowley et al., 1998; Shelton & Sellers, 2000). Furthermore, the centrality of a particular identity may make individuals more aware of how society views their group, which may then elicit a related response (Sellers et al., 1998). Such responses may be in the form of coping mechanisms used to promote changes to perceived negative identities

(Shinnar, 2008). With respect to the population in the current study, research indicates that Latino adolescents are indeed aware of negative academic and occupational stereotypes about their ethnic group (Rivadeneyra, 2006). Further, Kao (2000) found that Hispanic adolescents structured their goals for academic achievement around the avoidance of negative stereotypes; specifically, because stereotypes emphasized occupational underachievement (e.g., prevalence in manual labor), Latino adolescents in the study formed their expectations for educational success in anticipation of attaining more prestigious occupational outcomes. A similar process may be occurring with Mexican-origin adolescent mothers and their educational expectations. For the adolescent mothers in our study, perhaps holding Mexican ethnicity as central to their self-concept may act as a motivating pathway, leading these young women to frame their educational goals in a manner that eradicates negative societal expectations. These ideas are speculative and future work would benefit greatly from more in-depth qualitative examination of these ideas.

Limitations and Future Directions

The current study provides important new information for an understudied population, but there are limitations to consider as well. First, all data were self-reported and gathered via survey methods, which introduced shared-reporter and method bias. Although adolescents are arguably the best reporters of certain types of data about themselves, such as their endorsement of familism values and beliefs about educational utility, future research would benefit by including other sources of data, such as teachers, who could provide additional perspectives on adolescents' educational adjustment. Additionally, educational utility and educational expectations were examined as indicators of adolescent mothers' educational adjustment, as they have been linked to positive academic behaviors and outcomes (Eccles et al., 2004; Eccles & Wigfield, 2000; Fuligni, 2001); however, future studies should examine other indicators of educational adjustment (e.g., grades, test scores) to examine if similar patterns emerge.

Second, although the purpose of this study was to examine the association between cultural factors and Mexican-origin adolescent mothers' educational outcomes, caution should be exercised in generalizing the results beyond the parameters of the sample. It may be that the aspects of culture examined in this research (familism, family ethnic socialization, centrality) are particularly salient to this ethnic group given the strong emphasis on family interdependence within Mexican culture (Sabogal et al., 1987; Suárez-Orozco & Suárez-Orozco, 2001). However, given that Mexican-origin teens are at particularly greater risk for academic underachievement (Aud et al., 2010), focusing on this specific population has significant implications for intervention efforts.

Finally, the relatively small sample size in the current study limited our ability to examine moderation as a function of adolescent nativity. We controlled for this demographic characteristic; however, future studies should examine whether nativity modifies the associations of interest, given that length of exposure to family ethnic socialization practices, along with different cultural experiences and values related to nativity status could inform the link between indices of culture and Mexican-origin adolescent mothers' educational adjustment. For example, it is possible that familism values are more salient for recent U.S.

immigrants, given findings suggesting that first-generation young adults in ethnically diverse samples (e.g., Asian, Latin American, European) are more likely to emphasize family obligations, compared to second-generation young adults (Fuligni & Pedersen, 2002).

Conclusion and Implications

Despite the noted limitations, the current study has several strengths and the findings contribute to an increased understanding of how cultural characteristics may inform Mexican-origin adolescent mothers' educational adjustment. Adolescence has been identified as a complex developmental period where youth experience shifts in their emotional, social, physical, and cognitive development (DeHart, Sroufe, & Cooper, 2004). Because adolescent mothers encounter additional and unique barriers during this developmental period, and are vulnerable to educational under-achievement (Pillow, 2004, 2006), it is especially important to emphasize the process by which family behaviors and values function as promotive resources and positively impact developmental outcomes during the transition to parenthood (Contreras et al., 2002). In the current study, familism values and family ethnic socialization practices were directly linked to Mexican-origin adolescent mothers' educational utility values, indicating that the role of family is important to maintaining positive beliefs about the value of education. These findings have implications for intervention efforts that seek to highlight the value of education for adolescent mothers and their infants, which can in turn promote greater academic achievement (SmithBattle, 2007).

Finally, scholars note that adolescent mothers' educational adjustment will likely provide them with resources to ensure a healthy and productive environment (Sullivan et al., 2011); this study provides evidence that cultural factors may play a significant and beneficial role in this regard among this largely understudied population. Specifically, our findings suggest that culturally relevant value systems are promotive of Mexican-origin adolescent mothers' educational adjustment, and that exploring other cultural resources may be worthwhile in an effort to further understand adolescent mothers' educational pursuits and accomplishments.

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Figure 1.

Fit indices: $\chi^2(2) = 6.63$, $p = .04$, CFI = .96, SRMR = 0.01. Final path model with standardized coefficients presented. Dashed lines indicate nonsignificant paths. ($N = 205$). FES = family ethnic socialization; EC = ethnic centrality; Adol = adolescent mother; W1 = Wave 1; W2 = Wave 2. Control variables are presented in gray dashed boxes. Covariances among all independent variables were estimated but excluded from the figure for ease of presentation. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 2.

Adolescents' ethnic centrality moderating the relation between adolescents' reports of familism values at Wave 1 and educational utility at Wave 2. * Denotes significant slope at $p < .05$. High and low ethnic centrality defined as scores that were 1 *SD* above or below the mean, respectively.

Table 1
Means, Standard Deviations, and Correlations Among Study Variables (N = 205)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Familism values W1	—												
2. FES W1	.26***	—											
3. Ethnic centrality W1	.21***	.40***	—										
4. Nativity W1 ^a	-.01	-.01	.00	—									
5. Years in school W1	-.05	.07	-.03	.11	—								
6. Mothers' education attainment W1	-.00	-.03	-.08	.22**	.14*	—							
7. Adolescent-mother conflict W1	-.00	.19**	.13*	.09	-.15*	.00	—						
8. Family income W1	-.08	-.09	-.04	.15*	.15*	.37***	.03	—					
9. Coresidency with mother W1 ^b	.05	-.01	-.04	-.04	.01	-.11	-.01	.02	—				
10. Educational expectations W1	-.01	-.02	-.09	.15*	.27***	.13*	-.01	.22***	.13*	—			
11. Educational expectations W2	.02	.03	.10	.16*	.27***	.15*	.04	.23***	-.11	.46***	—		
12. Educational utility W1	.30***	.05	.10	-.07	-.05	-.02	-.03	-.08	-.01	.11	.12*	—	
13. Educational utility W2	.28***	.30***	.18**	-.01	-.00	-.10	.05	-.05	.05	.14*	.17**	.44***	—
Mean	4.40	3.42	3.59	0.64	9.65	8.97	2.01	27.857	0.87	13.42	14.00	4.46	4.53
Standard deviation	.43	.78	.69	.48	1.24	3.32	.71	20.723	.34	2.23	2.23	.52	.51

^a0 = Born in Mexico, 1 = Born in United States

^b0 = No, 1 = Yes. W1 = Wave 1; W2 = Wave 2. FES = family ethnic socialization. Missing data were handled using full information maximum likelihood estimation in Mplus.

* $p < .05$,

**

$p < .01$.

*** $p < .001$.