



HHS Public Access

Author manuscript

J Youth Adolesc. Author manuscript; available in PMC 2017 May 01.

Published in final edited form as:

J Youth Adolesc. 2016 May ; 45(5): 887–899. doi:10.1007/s10964-015-0387-9.

The Sociocultural Context of Mexican-origin Pregnant Adolescents' Attitudes toward Teen Pregnancy and Links to Future Outcomes

Sarah E. Killoren,

Department of Human Development and Family Science, University of Missouri, 314 Gentry Hall, Columbia, MO 65211.

Katharine H. Zeiders,

Department of Human Development and Family Science, University of Missouri, 314 Gentry Hall, Columbia, MO 65211. zeidersk@missouri.edu

Kimberly A. Updegraff, and

T. Denny Sanford School of Social and Family Dynamics, Arizona State University, PO Box 873701 Tempe, AZ 85287-3701, Kimberly.updegraff@asu.edu

Adriana J. Umaña-Taylor

T. Denny Sanford School of Social and Family Dynamics, Arizona State University, PO Box 873701 Tempe, AZ 85287-3701, Umana-Taylor aut@asu.edu

Abstract

Given the negative developmental risks associated with adolescent motherhood, it is important to examine the sociocultural context of adolescent mothers' lives to identify those most at risk for poor outcomes. Our goals were to identify profiles of Mexican-origin pregnant adolescents' cultural orientations and their attitudes toward teen pregnancy, and to investigate how these profiles were linked to adolescents' pregnancy intentions, family resources, and short-term family, educational, and parenting outcomes. With a sample of 205 Mexican-origin adolescent mothers, we identified three profiles based on cultural orientations and attitudes toward teen pregnancy: Bicultural-Moderate Attitudes, Acculturated-Moderate Attitudes, and *Enculturated-Low Attitudes*. The results indicated that enculturated pregnant adolescents had the least favorable attitudes toward teen pregnancy, and the lowest levels of family income, pregnancy intentions, pregnancy support, and educational expectations compared to acculturated and bicultural pregnant adolescents; acculturated adolescents (with the highest family income and high levels of pregnancy support) had the highest levels of parenting efficacy 10 months postpartum. Our

Correspondence should be addressed to Sarah E. Killoren, Department of Human Development and Family Science, 314 Gentry Hall, University of Missouri, Columbia, MO 65211. Telephone: 573-882-7528. killorens@missouri.edu..

Author Contributions

SK participated in the study's conception, interpreted the data, and drafted the manuscript. KZ participated in the study's conception, performed the analyses, interpreted the data, and helped draft the manuscript. KU participated in the study's conception, design and coordination, and provided feedback on the manuscript. AU participated in the study's conception, design and coordination, and provided feedback on the manuscript. All authors have read and approved the final manuscript.

Conflicts of Interest

The authors report no conflict of interests.

findings suggest that enculturated adolescent mothers (with less positive attitudes toward teen pregnancy) may benefit from educational support programs and enculturated and bicultural adolescent mothers (with moderately positive attitudes toward teen pregnancy) may benefit from programs to increase parenting efficacy. Such targeted interventions may, in turn, reduce the likelihood of adolescent mothers experiencing negative educational and parenting outcomes.

Keywords

adolescence; cultural context; Mexican American; teen pregnancy

Introduction

Adolescent pregnancy is a salient public health and policy issue in the U.S., given its associations with low educational attainment for adolescent mothers, low birth weight and developmental problems for their children, and high costs to U.S. taxpayers (Coyne & D'Onofrio, 2012). As compared to all other ethnic groups in the U.S., teen birth rates are highest for Latina adolescents of Mexican origin (National Vital Statistics Report, 2011), the largest and youngest ethnic minority group in the U.S. (U.S. Census Bureau, 2014). In addition to high rates of teen births, Latina adolescents have more favorable attitudes toward teen pregnancy (Driscoll, Biggs, Brindis, & Yankah, 2001; Lau, Lin, & Flores, 2014; Unger, Molina, & Teran, 2000) compared to girls from other ethnic groups. Such evidence has prompted scholars to suggest that traditional Latino cultural orientations may normalize teenage pregnancy, which could partially explain the high teenage birth rates in this population (Unger et al.). As scholars have pointed out, however, there is considerable variability within the Latino population in cultural orientations (Knight, Roosa, & Umaña-Taylor, 2009), and understanding the cultural context of adolescent mothers' lives is significant for the development of culturally sensitive intervention programs (Ruedinger & Cox, 2012).

The goals of this study were threefold. Guided by models of cultural adaptation (Berry, 2003; Knight, Jacobson, Gonzales, Roosa, & Saenz, 2009), the first goal was to explore the cultural context of Mexican-origin adolescents' teen pregnancy attitudes by identifying different profiles of Mexican-origin pregnant adolescents as represented by attitudes toward teen pregnancy and multiple indicators of cultural orientations during the third trimester of pregnancy. Drawing on a cultural-ecological model (García Coll et al., 1996), our second goal was to describe profile differences in adolescents' pregnancy intentions and family resources. Finally, our third goal was to investigate profile differences in family, educational, and parenting outcomes at 10 months postpartum to address the potential implications of these profiles for adolescent mothers' adjustment during the transition to parenthood.

A life-course perspective underscores the developmental timing of transitions—such as on-time or off-time (Cohler & Musick, 1996)—as having implications for adolescents' developmental trajectories into adulthood (Johnson, Crosnoe, & Elder, J., 2011; Oxford et al., 2005). Empirical work supports the premise that becoming a mother during adolescence, considered an off-time transition, is associated with parenting teens' lower rates of high

school completion and college attendance (Coyne & D'Onofrio, 2012), lower job earnings (Gibb, Fergusson, Horwood, & Boden, 2014), and higher rates of physical health issues and developmental problems for their children (Coyne & D'Onofrio, 2012) compared to nonparenting teens. From a life-course perspective, it is important to identify mothers at risk for these negative outcomes in order to set them on a positive developmental trajectory into adulthood. Because there is variability in adolescent mothers' trajectories into adulthood (Oxford et al., 2005), finding ways to identify and focus intervention efforts on adolescent mothers who are at risk for these negative outcomes is crucial. One potential way to identify at-risk parenting teens prior to childbirth is by examining the sociocultural context (i.e., cultural orientations, attitudes toward teen pregnancy, individual and family characteristics) of pregnant adolescents' lives and how this context is associated with adolescent mothers' future family, parenting, and educational outcomes.

Pregnant Adolescents' Cultural Orientations and Attitudes toward Teen Pregnancy

Our first goal was to identify different patterns or subgroups of adolescents based on their attitudes toward teen pregnancy and multiple indicators of their cultural orientations using a person-oriented approach (Bergman, 2001; Bergman & Magnusson, 1997). Models of cultural adaptation guided our selection of indicators of adolescents' cultural orientations. Latino adolescents, including pregnant Latina adolescents, experience the process of dual-cultural adaptation (Knight et al., 2009), which includes acculturation (i.e., adaptation to the mainstream U.S. culture) and enculturation (i.e., retention of the culture of origin; Gonzales, Fabrett, & Knight, 2009). Individuals' cultural orientations are based on acculturative and enculturative beliefs, values, and involvement (e.g., behaviors). In the current study, we focused on pregnant adolescents' cultural orientations during the third trimester of pregnancy, examining how Anglo and Mexican cultural involvement, familism values, and traditional gender role attitudes *co-occur* with pregnant adolescents' attitudes toward teen pregnancy.

Studies suggest that there is considerable within-group variability in Latino adolescents' cultural orientations (Coatsworth et al., 2005; Updegraff & Umaña-Taylor, 2010). For instance, Coatsworth and colleagues (2005) examined behavioral aspects of Latino adolescents' cultural orientations (English and Spanish usage, enjoyment of Latino vs. American music and television programs) and identified different subgroups of adolescents using cluster analysis, with the largest group being bicultural; that is, bicultural adolescents exhibited behaviors associated with both Latino and American culture. In one of the few studies examining variability in cultural values, Knight and colleagues (2013) examined trajectories of value endorsement and found different trajectories based on adolescents' endorsement of Mexican (e.g., familism) and mainstream (e.g., material success) values. These findings highlight the diversity that exists in the endorsement of behaviors and values *within* this cultural context, and underscore the importance of examining multiple behaviors and values when describing Latino adolescents' cultural orientations.

Unlike research examining multiple dimensions of adolescents' cultural orientations simultaneously, studies linking pregnancy attitudes to cultural orientations typically focus on one indicator in isolation from others. For instance, more acculturated Latinas, as defined by

English language preference, are at greater risk for becoming pregnant in adolescence as compared to less acculturated Latinas (Kaplan, Erikson, & Juarez-Reyes, 2002). When examining attitudes toward teen pregnancy, however, previous work reveals that foreign-born Latinas who were not currently pregnant perceived more positive consequences of teenage childbearing and reported greater pregnancy wantedness compared to U.S.-born Latinas (Martinez-Garcia, Carter-Pokras, Atkinson, Portnoy, & Lee, 2014; Unger et al., 2000).

In terms of cultural values, researchers speculate that Latina teens' high birth rates may be due to their traditional cultural values (Unger et al., 2000). Guided by scholars' emphasis on the importance of familism values and traditional gender role attitudes in studies of adolescent sexuality (Afaible-Munsuz & Brindis, 2006), we measured these cultural values in this study. It is possible that familism values may be associated with less positive attitudes given that adolescents want to protect their families' reputations by not becoming pregnant as teenagers (Raffaelli & Ontai, 2001). Along similar lines, more traditional gender role attitudes (compared to less traditional attitudes) may be associated with less positive pregnancy attitudes because of the importance of marianismo (i.e., remaining a virgin until marriage; Cauce & Domenech-Rodríguez, 2002). Alternatively, pregnant adolescents with high familism values and more traditional gender role attitudes may place a strong emphasis on the importance of motherhood and report more positive attitudes than those with lower familism values and less traditional gender role attitudes (Flores, Eyre, & Millstein, 1998).

Together, prior research provides some insights about how different measures of cultural orientations are linked to pregnancy attitudes when studied in isolation from one another. Most often the focus is on proxy measures and behavioral indicators (e.g., nativity, language fluency). Yet, scholars who study Latino adolescents' cultural adaptation argue that it is important to examine multiple dimensions of cultural orientations simultaneously to gain a more comprehensive understanding (Coatsworth et al., 2005; Knight et al., 2013; Updegraff & Umaña-Taylor, 2010). We extend these ideas to include attitudes about teen pregnancy in combination with multiple indicators of cultural orientations to increase our understanding of the cultural context of Mexican-origin adolescent mothers' pregnancy and early parenting experiences. Three possible patterns of cultural orientations were anticipated based on prior work: Enculturated (i.e., high levels of Mexican involvement and endorsement of familism values and traditional gender role attitudes, low levels of Anglo involvement); acculturated (e.g., high levels of Anglo involvement, and low levels of familism values, traditional gender role attitudes, and Mexican involvement); and bicultural (i.e., high levels of Mexican and Anglo involvement, familism values, and traditional gender role attitudes). These patterns were expected to vary in pregnancy attitudes such that we expected acculturated pregnant adolescents to report more positive attitudes toward pregnancy than bicultural and enculturated pregnant adolescents.

Individual and Family Correlates

Our second goal was to examine individual and family correlates of our profiles of pregnant adolescents' teen pregnancy attitudes and cultural orientations. Based on a cultural-ecological framework suggesting the importance of investigating how these profiles of

attitudes and cultural orientations are situated within the larger context of adolescents' lives (Garcia Coll et al., 1996), we examined pregnant adolescents' intentions to become pregnant (as measured by birth control use at time of pregnancy), family income, and pregnancy support from adolescents' own mothers/mother figures. These variables are important characteristics to examine among Latina adolescent mothers (e.g., Contreras, Narang, Ikhlas, & Teichman, 2002). Beginning with pregnancy intentions (i.e., reports of using birth control at time of conception), previous work shows that adolescents reporting no intentions to become pregnant also report less positive attitudes toward pregnancy than those reporting intentions to become pregnant (Rosengard, Phipps, Adler, & Ellen, 2004). Unger (2000) found that less acculturated Latinas were more likely to report that they could use contraceptives consistently, received social support for contraceptive use, and had greater frequency of contraceptive use compared to more acculturated Latinas. Taken together, we expected that adolescents with a lower likelihood of intended pregnancy (i.e., were using birth control when they became pregnant) were more likely to be enculturated and would have less positive attitudes toward teen pregnancy than those with a higher likelihood of intended pregnancy.

Additionally, family resources available to pregnant adolescents are important correlates to consider when examining attitudes toward teen pregnancy and cultural orientations. Many pregnant Latina adolescents lack financial resources, limiting their future goals and opportunities (Mollborn, 2007). Because enculturated pregnant adolescents may have fewer financial resources compared to their bicultural and acculturated counterparts (Glick, 1999), they may have less positive teen pregnancy attitudes. Further, support during pregnancy is associated with positive outcomes (Contreras et al., 2002); for pregnant adolescents who are unmarried and live with their families, support from their own mothers or mother figures is common (Brooks-Gunn & Chase-Lansdale, 1995). Mothers of pregnant adolescents from immigrant families may be limited in their ability to provide tangible support (e.g., helping daughter with chores and errands), as these mothers have more economic constraints (Glick, 1999). Additionally, they may provide less emotional/informational support (e.g., receiving advice and information) because of employment-related time constraints (Bacallao & Smokowski, 2007). These contextual correlates may help to explain distinctions among profiles.

Given these research findings, we had two hypotheses. First, we hypothesized that acculturated pregnant adolescents with more positive attitudes toward pregnancy would report a higher likelihood of intended pregnancy, more financial resources, and more pregnancy support than adolescents in the enculturated profile. Second, we expected that enculturated pregnant adolescents with less positive attitudes toward pregnancy would have a lower likelihood of intended pregnancy, fewer financial resources, and less pregnancy support than acculturated adolescents. We did not hypothesize relations between individual and family correlates for adolescents with bicultural orientations.

Family, Education, and Parenting Outcomes

Our third goal was to understand how profiles of pregnant Mexican-origin adolescents' cultural orientations and teen pregnancy attitudes were related to family, educational, and

parenting outcomes, given that adolescent mothers' rapid repeat pregnancy prevention, educational attainment, and parenting have been identified as significant for adolescent mothers' and their children's successful development (Ruedinger & Cox, 2012). Specifically, we examined how these profiles predicted adolescent mothers' repeat pregnancies, educational expectations, and parenting efficacy 10 months postpartum. Beginning with family outcomes, we assessed the likelihood of adolescent mothers' pregnancy within 10 months after childbirth. Previous work has found that adolescent mothers with repeat teen births were likely to experience preterm delivery, receive welfare, and have children with emotional and behavioral problems compared to adolescent mothers who do not have repeat teen births (Manlove, 2011). Given these negative implications, it is important to examine correlates, such as cultural orientations and attitudes toward teen pregnancy, of repeat pregnancy. Stevens-Simon and colleagues (1996) found that pregnant adolescents' positive attitudes toward childbearing were associated with a greater likelihood of rapid repeat pregnancy. Given that we expected acculturated adolescents with more positive teen pregnancy attitudes to have greater financial resources, support from their mothers, and an increased likelihood of pregnancy intentions, we also expected that they would be more likely to experience a repeat pregnancy as compared to enculturated adolescents with less positive attitudes and fewer resources and support.

Educational outcomes also are significant to study because teen mothers who continue their education are less likely to experience negative consequences associated with teen pregnancy than those who do not remain in school (Manlove, 2011). We assessed adolescent mothers' educational expectations, that is, how much education they expected to complete. Although teen mothers typically complete less education than non-teen mothers, teen mothers can attain high levels of education when they have sufficient material resources (Mollborn, 2007). Finally, we investigated adolescent mothers' parenting efficacy, defined as how competent they feel in their parenting role, and how well they can influence their children's development (Coleman & Karraker, 2000). Parents with higher self-efficacy generally have higher family incomes, greater social support, and more caregiving experience (Coleman & Karraker, 2000). We expected that pregnant adolescents who were more acculturated and had more positive attitudes toward teen pregnancy, would report higher educational expectations and greater parenting efficacy than enculturated adolescents with less positive teen pregnancy attitudes.

Hypotheses

Based on a cultural adaptation model (Berry, 2003; Knight et al., 2009), we expected three possible patterns of cultural orientations based on prior work (*Goal 1*): Enculturated (i.e., high levels of Mexican involvement and endorsement of familism values and traditional gender role attitudes, low levels of Anglo involvement); acculturated (e.g., high levels of Anglo involvement, and low levels of familism values, traditional gender role attitudes, and Mexican involvement); and bicultural (i.e., high levels of Mexican and Anglo involvement, familism values, and traditional gender role attitudes). Additionally, we expected acculturated pregnant adolescents to report more positive attitudes toward pregnancy and bicultural and enculturated pregnant adolescents to report less positive attitudes. Addressing *Goal 2* and using a cultural-ecological perspective (Garcia Coll et al., 1996), we

hypothesized that acculturated pregnant adolescents with more positive attitudes toward pregnancy would be less likely to report using birth control at time of pregnancy (i.e., higher likelihood of intended pregnancy), and report more financial resources and more pregnancy support than adolescents in the enculturated profile. Further, we expected that enculturated pregnant adolescents with less positive attitudes toward pregnancy would be more likely to report using birth control at time of pregnancy (i.e., lower likelihood of intended pregnancy) and report fewer financial resources and less pregnancy support than acculturated adolescents. We did not make specific hypotheses for adolescents with bicultural orientations. Finally, for *Goal 3*, given that we expected acculturated adolescents with positive pregnancy attitudes to have greater financial resources, support from their mothers, and a lower likelihood of using birth control at time of pregnancy, we also expected that this group of adolescents would be more likely experience a repeat pregnancy, and would report higher educational expectations and greater parenting efficacy than enculturated adolescents with less positive teen pregnancy attitudes.

Method

Participants

The data came from the first (W1) and second (W2) waves of a larger longitudinal study of Mexican-origin adolescent mothers. Participants ($N = 205$) were recruited from high schools and community agencies in a Southwestern metropolitan area. Eligibility requirements were as follows: (a) be pregnant and between the ages of 15 and 18 at recruitment; (b) be of Mexican-origin; (c) be unmarried, and (d) have a female family member who was willing to participate. W1 interviews were conducted during adolescents' third trimester of pregnancy ($M_{weeks} = 30.87$, $SD = 4.51$) when adolescent mothers averaged 16.24 ($SD = .99$) years of age. W2 interviews occurred approximately 1 year after W1, when adolescent mothers were 17.76 ($SD = .99$) years of age and their infants were 10.14 ($SD = .26$) months old. At W1, the majority of adolescents reported being enrolled in high-school (58.5%), and most completed the interview in English (61.4%). Sixty-four percent of adolescents were born in the U.S.; Mexico-born adolescents had been living in the U.S. for an average of 7.79 years ($SD = 4.60$ years). Ninety-three percent of adolescents were in a romantic relationship with the baby's father when they became pregnant (W1). At W2, 56% of adolescents were in a romantic relationship with the baby's father and 9% were in a romantic relationship with someone else. Parents' mean education level was 9.11 (i.e., 9th grade education, $SD = 3.20$), and the average level of family income was \$27,314 ($SD = \$19,843$). Overall, 22% of adolescents had a sibling who was a teen parent and 63% of adolescents had a mother who was a teen parent. Across W1 and W2, 96.5% of the sample was retained ($n = 196$). We handled missing data using listwise deletion of cases, given that only 9 participants were not retained.

Procedures

Brochures (in English and Spanish) describing the study were distributed at community centers, social service agencies, and high schools serving the targeted population. Adolescents returned a contact card and follow-up calls were made by bilingual research assistants to determine eligibility. Contact cards were received from 321 adolescent mothers.

We were able to contact and assess eligibility and interest for 305 adolescent mothers (95% of contact cards received) and were unable to contact or re-contact the remaining 5% due to disconnected phone numbers. Eighty-five percent of those we contacted and screened were eligible ($n = 260$ out of 305) and 80% of the eligible adolescent mothers ($n = 207$ out of 260) agreed to participate. The 20% of eligible adolescents who did not participate included those who declined participation ($n = 39$) and those who we were unable to reach for scheduling or were not home for repeated interview attempts ($n = 14$). Note that two participants were no longer part of the study at W2 because participating family members passed away after W1, so the original reported sample is 205. Data were collected through in-home interviews lasting an average of two and a half hours at each wave. All interviewers were female and each received approximately 30 hours of training. Adolescents received \$25 for their participation at W1 and \$30 at W2. All procedures were approved by the Human Subjects Review Board.

Measures

All measures were translated into Spanish and back translated into English by two separate individuals. Final translations were reviewed by an individual of Mexican origin to ensure cultural validity and any discrepancies were resolved by the research team (Knight et al., 2009). Correlations and descriptive statistics are presented in Table 1.

Latent profile analysis variables (W1)—Attitudes toward teen pregnancy were assessed at W1 using an adapted version of a scale developed by East and Jacobson (2001) that measures the importance of teenage childbearing and the status gained by teenage childbearing. The original scale included six items (e.g., “In my neighborhood and community when a teenager has a child of her own it makes her an important person”) and three additional items were added in the present study to capture the personal importance that may be associated with teenage childbearing (i.e., “I believe that having a child of my own makes me an important person” “I believe that having a child of my own will give me the respect of others” and “I believe that people will admire or look up to me because I have a child”). Participants rated their attitudes on a 5-point scale (1 = *disagree* to 5 = *agree*). Items were summed and higher scores indicated more positive attitudes toward teen pregnancy. Cronbach's alpha was .91.

Adolescents rated their involvement in Anglo and Mexican culture at W1 using the Acculturation Rating Scale for Mexican Americans (ARSMA)-II (Cuéllar, Arnold, & Maldonado, 1995). Participants responded to items using a 5-point scale (1 = *not at all* to 5 = *extremely often or almost always*). The Anglo subscale includes 13 items (e.g., “I enjoy watching movies in English”) and the Mexican subscale includes 17 items (e.g., “I associate with Mexicans and/or Mexican Americans”). Items were averaged for each subscale with higher scores representing greater involvement. Cronbach's alpha was .87 for both Anglo and Mexican cultural involvement.

Familism values were assessed at W1 using a 16-item subscale of the Mexican American Cultural Values Scale (e.g., “It is important to have close relationships with aunts/uncles, grandparents and cousins”; Knight et al., 2010) and rated items using a 1 (*strongly disagree*)

to 5 (*strongly agree*) scale. Higher scores reflected higher familism values. Cronbach's alpha was .87. Adolescents reported on their traditional gender role attitudes (e.g., "Education is important for both sons and daughters, but it is most important for a son") using a 10-item adapted version of a scale developed by Hoffman and Kloska (1995). Participants reported on a 1 (*strongly disagree*) to 4 (*strongly agree*) scale. Items were averaged and higher scores indicated more traditional attitudes. Cronbach's alpha was .89.

Nativity status and individual and family correlates (W1)—For descriptive purposes, we examined profile differences in nativity status. We also investigated profile differences in birth control use when adolescents became pregnant (i.e., pregnancy intentions), family income, and family support. For nativity, pregnant adolescents reported on their place of birth (0 = Mexico-born, 1 = U.S.-born). For birth control use, pregnant adolescents were asked "Were you using birth control when you got pregnant?" Responses were coded No = 0 or Yes = 1. Familial support was assessed using the Global Support from Mother Figure during Pregnancy scale (GSMF-P; Umaña-Taylor et al., 2011). Using 6 items (e.g., "I get advice from my mother about problems related to my pregnancy"), pregnant adolescents reported on pregnancy support from mother figures using a 1 (*not at all*) to 5 (*very much*) rating scale. Items were averaged and higher scores indicated greater pregnancy support. Cronbach's alpha was .92.

Family, education, and parenting outcomes (W1, W2)—We assessed whether or not adolescents reported being pregnant at W2 (0 = No, 1 = Yes). Further, we examined differences on W2 educational expectations and parenting efficacy, taking into account W1 educational expectations and parenting efficacy. In both W1 and W2, adolescents responded to a question about their educational expectations (i.e., "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). We assessed adolescents' prenatal expectations of parental efficacy at W1 and adolescents' perceived parenting efficacy at W2 using the prenatal and postnatal versions of the 25-item Parent Expectations Survey (Reece, 1992; Reece & Harkless, 1998). This measure assesses the degree to which adolescents believe they will be able to manage the tasks prenatally (W1; e.g., "I will be able to manage the feeding of my baby") and how they are managing the tasks postpartum (W2; e.g., "I can manage the feeding of my baby"). The measure is scored on a 5-point Likert scale ranging from 1 (*not at all sure*) to 5 (*very sure*). Items were averaged and higher scores indicated higher levels of perceived parenting efficacy by adolescents. Cronbach's alphas were .93 at W1 and .92 at W2.

Results

To address our first goal of evaluating how pregnant adolescents' attitudes about teen pregnancy co-occur with their cultural orientations (see Table 1 for descriptive statistics), we used latent profile analysis (LPA) in MPLUS, Version 7.2 (Muthén & Muthén, 1998-2010). LPA is an analytic technique used to distinguish between identifiable subgroups of individuals that share similar patterns on a set number of indicators (e.g., attitudes, involvement, and values; Pastor, Barron, Miller, & Davis, 2007). Within each identified group, individuals show similar response patterns across indicators, whereas between

identified groups, different patterns across indicators are observed (Pastor et al., 2007). LPA models proceed in a series of steps starting with a one-profile model solution and increasing in the number of profiles. In line with recommendations (Tein, Coxe, & Cham, 2013; Tofghi & Enders, 2006), the best-fitting solution was determined by examining the Bayesian information criteria (BIC), adjusted Bayesian information criteria (ABIC), Lo-Mendell-Rubin (LMR) test, and by evaluating each solution from a substantive viewpoint.

Table 2 presents LPA fit indices and statistics for a one- to four-profile solution. Based on information criterion, LMR test, and evaluation of substantive meaning, the 3-profile solution was selected as the best fitting model. The means of each group in the 3-profile solution and statistical tests of mean differences on the specific indicators by group membership are shown in Table 3. In Figure 1, we present the means of each group visually. Groups differed on all variables, except familism values, which were strongly endorsed by all three groups. Additionally, all profiles had low levels of traditional gender role attitudes, but one profile had significantly less traditional gender role attitudes than the other profiles. Turning our attention to each profile's pattern, the first profile ($n = 118$; 58%) was characterized by moderate levels of positive attitudes toward teen pregnancy, moderate to high levels of Mexican and Anglo involvement, and low levels of traditional gender role attitudes. Thus, this profile was termed the *Bicultural-Moderate Attitudes* group. The second profile ($n = 58$; 28%) was characterized by moderate levels of positive attitudes toward teen pregnancy, low levels of Mexican involvement, high levels of Anglo involvement, and the lowest levels of traditional gender role attitudes. This profile was termed the *Acculturated-Moderate Attitudes* group. Finally, the third profile ($n = 29$; 14%) had the lowest levels of positive attitudes toward teen pregnancy, the highest levels of Mexican involvement, the lowest levels of Anglo involvement, and low levels of traditional gender role attitudes and was termed the *Enculturated-Low Attitudes* group.

Next, we examined how each profile differed based on nativity status, W1 correlates (i.e., pregnancy intentions, family income, pregnancy support from mother), and W2 outcomes (i.e., subsequent pregnancy, educational expectations, parenting efficacy; see Table 3). This was done by outputting LPA class membership (obtained in the step above) so that each adolescent mother had a value that corresponded with her profile membership. This approach is considered acceptable when, as in the present case, the entropy of the LPA model is above .80 (Clark & Muthén, 2010). First, we examined differences in pregnant adolescents' nativity status and pregnancy intentions (i.e., percentage using birth control when they became pregnant) based on profile membership using chi-square analyses. Results revealed significant differences in nativity statuses across all three groups. Specifically, pregnant adolescents in the *Enculturated-Low Attitudes* profile were more likely to be born in Mexico (79.3%) compared to pregnant adolescents in the *Bicultural-Moderate Attitudes* profile (40.7%) and those in the *Acculturated-Moderate Attitudes* profile (3.4%). Similarly, adolescents in the *Bicultural-Moderate Attitudes* profile were more likely to be born in Mexico compared to adolescents in the *Acculturated-Moderate Attitudes* profile. For pregnancy intentions at W1, pregnant adolescents in the *Enculturated-Low Attitudes* profile were more likely to report using birth control at time of conception (24.1%) than adolescents who were in the *Bicultural-Moderate Attitudes* profile (7.6%). An analysis of variance (ANOVA) revealed significant differences in W1 family income. Specifically,

adolescents in the *Acculturated-Moderate Attitudes* group had a higher family income compared to adolescents in the *Bicultural-Moderate Attitudes* profile and the *Enculturated-Low Attitudes* profile. As for pregnant adolescents' W1 feelings of pregnancy support, an ANOVA revealed that pregnant adolescents in the *Enculturated-Low Attitudes* group reported lower levels of W1 support than pregnant adolescents in the other two profiles.

Turning to W2 outcomes, a chi-square analysis revealed no group differences in the percentage of adolescents who reported pregnancy at W2; however, the pattern suggested that adolescent mothers in the *Enculturated-Low Attitudes* group had the lowest percentage of subsequent pregnancy. For W2 educational expectations and parenting efficacy, an analysis of covariance (ANCOVA) was conducted, allowing us to look at group differences in W2 outcomes, while controlling for W1 levels of the variable (e.g., W2 educational expectations controlling for W1 educational expectations). Marginal means are reported in Table 3. Results indicated significant group differences in W2 educational expectations and parenting efficacy. Specifically, adolescent mothers in the *Enculturated-Low Attitudes* profile reported lower W2 educational expectations than adolescent mothers in the other profiles, after accounting for W1 educational expectations. For W2 parenting efficacy, adolescent mothers in the *Acculturated-Moderate Attitudes* profile reported greater efficacy than adolescent mothers in the other profiles, controlling for W1 parenting efficacy.

Discussion

Researchers have suggested that favorable attitudes toward teen pregnancy and high birth rates among Latina adolescents, especially those of Mexican descent (National Vital Statistics Report, 2011), may be partly due to adolescents' endorsement of traditional Latino cultural values. Our study, conducted with pregnant Mexican-origin adolescents, contributes to this area of research by showing a more nuanced story that emphasizes *variability* in the patterns across Mexican-origin pregnant adolescents' teen pregnancy attitudes and cultural orientations. A strength of our study was the multidimensional conceptualization of culture, including indicators of acculturation and enculturation, and cultural involvement and values, simultaneously. Such an approach provides a more holistic picture of the sociocultural context of adolescent pregnancy for Mexican-origin females. Further, understanding how this context is associated with adolescent mothers' and their children's outcomes can aid practitioners in identifying Mexican-origin adolescent mothers who are at risk for negative outcomes (e.g., low job earnings, low educational attainment, and poor adjustment for their children).

The results of this study provide insight into some of the inconsistent findings linking cultural orientations to teen pregnancy attitudes. When indicators of adolescents' cultural orientations are considered in isolation, there is evidence that aspects of acculturation (e.g., English language preference; Kaplan et al., 2002) and enculturation (e.g., immigrant-status; Unger et al., 2000) are associated with more positive perceived consequences of adolescent pregnancy. Our findings are consistent with Kaplan et al. in that the two profiles characterized by more positive pregnancy attitudes included adolescents who reported high levels of involvement in American culture. It is important to note, though, that one of these two profiles included adolescents who were high on their involvement in both American *and*

Mexican culture (i.e., bicultural orientations). It is possible that prior work linking enculturation to positive pregnancy attitudes (Unger et al., 2000) emerged because adolescents had strong ties to both cultures, but indicators of enculturation and acculturation were not included in the study. As such, examining multiple indicators of cultural orientations provides a more complete picture of how pregnancy attitudes are embedded within the sociocultural context of Mexican-origin adolescents' lives.

Another important contribution of our study was the examination of both cultural involvement *and* values and how they co-occur with teen pregnancy attitudes. Traditional gender role attitudes, in combination with cultural involvement, played a salient role in describing variability among profiles. Although all three profiles reported relatively low levels of traditional gender role attitudes (i.e., below the midpoint on the scale), adolescents in the enculturated and bicultural profiles reported more traditional gender role attitudes than adolescents in the acculturated profile. Traditional gender role attitudes, in combination with high Mexican cultural involvement and strong familism values, were associated with more positive teen pregnancy attitudes *only* when adolescents also reported high levels of involvement in Anglo culture (*Bicultural-Moderate Attitudes* versus *Enculturated-Low Attitudes*). The relations among traditional gender role attitudes, cultural involvement, and attitudes toward teen pregnancy are complex and cannot be understood in isolation from one another, highlighting the importance of pattern-analytic approaches to study the sociocultural context of teen pregnancy.

Whereas the roles of cultural involvement (Anglo and Mexican cultural behaviors) and gender role attitudes were prominent in explaining diversity in Mexican-origin pregnant adolescents' attitudes toward teen pregnancy, familism values emerged as less salient. Researchers have hypothesized that adolescents' emphasis on the family may lead to more positive attitudes toward pregnancy (Unger et al., 2000); however, our findings, based on already pregnant Latinas, revealed that the three profiles were similarly high in their endorsement of familism values. It is possible that the limited variability in these values made it difficult to detect profile differences. Additionally, we do not know if familism values increased after adolescents became pregnant. It is possible that becoming pregnant may lead Mexican-origin adolescents to place more importance on family and make adolescents realize the value of family support.

To further explain our profiles, we examined pregnancy intentions (i.e., use of birth control at time of conception) and family resources as contextual correlates of the profiles. In line with a cultural-ecological perspective (Garcia Coll et al., 1996), these contextual factors helped to clarify why adolescents with different levels of cultural involvement, but similar endorsement of cultural values (particularly for enculturated and bicultural adolescents), may differ in their pregnancy attitudes. Adolescents in the *Enculturated-Low Attitudes* group reported lower levels of family income and lower levels of pregnancy support compared to pregnant adolescents in the other groups and a lower likelihood of intended pregnancy compared to adolescents in the *Bicultural-Moderate Attitudes* group. Enculturative orientations, as well as a lower likelihood of intended pregnancy, lower family income, and lower levels of pregnancy support may contribute to less favorable attitudes toward teen pregnancy for pregnant adolescents in the *Enculturated-Low Attitudes* group compared to

pregnant adolescents in the other groups. Examining the larger cultural context and recognizing the diversity of adolescents' teen pregnancy attitudes revealed that many factors, including cultural orientations, pregnancy intentions, financial resources, and pregnancy support, were associated with Mexican-origin pregnant adolescents' attitudes toward teen pregnancy.

Preventing repeat pregnancies, attaining high levels of education, and experiencing higher levels of parenting efficacy are related to better outcomes for adolescent mothers and their children (Jones & Prinz, 2005; Ruedinger & Cox, 2012). Thus, understanding how profiles of pregnant adolescents' attitudes toward teen pregnancy and cultural orientations are associated with their family, educational, and parenting outcomes is crucial. Focusing on repeat pregnancy, although the pattern suggested that adolescents with strong ties to Mexican culture and less positive teen pregnancy attitudes were less likely to experience a repeat pregnancy than other adolescents, the findings were not significant. This suggests that other factors, such as postpartum use of birth control (Raneri & Wiemann, 2007) and romantic relationship involvement (Pfitzner, Hoff, & McElligot, 2003), may be important to include in future work when examining associations among cultural orientations, teen pregnancy attitudes, and repeat pregnancies.

Additionally, enculturated adolescents with the least positive attitudes toward teen pregnancy had the lowest educational expectations at 10 months postpartum compared to other adolescents, after accounting for educational expectations during pregnancy (i.e., one year earlier). It appears that having stronger ties to Mexican culture and more negative attitudes toward teen pregnancy, combined with fewer family resources (e.g., limited economic resources and family support) increased their likelihood of low educational expectations. Other work suggests that many adolescent mothers noted the changes in life goals that occurred following the birth of their children (Rosengard, Pollock, Weitzen, Meers, & Phipps, 2006); possibly adolescent mothers in this profile realized that they did not have access to the resources they needed to achieve previous educational goals, resulting in low expectations in the year following child birth. These findings provide important insights about individual, family, and cultural factors that may underlie variability in the educational outcomes of Mexican-origin adolescent mothers.

Further, acculturated adolescents with moderately positive attitudes toward teen pregnancy reported the highest levels of parenting efficacy (accounting for their prenatal parenting expectations) as compared to adolescents in the other profiles. Acculturated adolescents also had the highest family income (relative to adolescents in the other profiles) and high levels of pregnancy support compared to those in other profiles. Our findings suggest the importance of having multiple resources (e.g., economic, social) during pregnancy for adolescent mothers (Mollborn, 2007; Letourneau, Stewart, & Barnfather, 2004). Taken together, we found variability in Mexican-origin pregnant adolescents' teen pregnancy attitudes, cultural orientations, and individual and family resources, and when examined in combination, they were linked to differential future outcomes in the domains of education and parenting efficacy.

Implications

The variability that has been documented in adolescent mothers' developmental trajectories (Oxford et al., 2005), with some mothers faring better than others following an off-time and early transition to motherhood (Cohler & Musick, 1996), suggests that it is important to identify adolescent mothers at greatest risk for negative educational and parenting outcomes. Our study examined the sociocultural context of pregnant adolescents' lives in combination with their attitudes toward teenage pregnancy and their individual and family resources to identify subgroups of adolescent mothers who were at risk for low educational attainment and poor parenting outcomes. Our findings offer insights that may be used in practice and policy. In terms of educational expectations, enculturated adolescent mothers with less positive attitudes toward teen pregnancy had the lowest levels of expectations, compared to the other subgroups of mothers we identified. It is possible that their relatively limited economic and family resources resulted in more perceived barriers to their future educational goals. Improving enculturated adolescent mothers' knowledge of and access to educational and child care resources may increase adolescent mothers' educational attainment and, in turn, improve their own and their children's outcomes (for a review, see Letourneau et al., 2004). Also, because parenting efficacy was lowest for bicultural and enculturated adolescents (compared to acculturated adolescents), it is important for practitioners to focus on pregnant adolescents with strong ties to Mexican culture and engage them in parenting programs to increase their parenting efficacy, as parenting efficacy is positively associated with effective parenting practices and child wellbeing (Jones & Prinz, 2005), including among Latina adolescent mothers (75% of Mexican descent; East & Felice, 1996).

Limitations and Future Directions

The limitations of our study provide directions for future research. As noted, our sample included Mexican-origin adolescent girls who were already pregnant. Future work should extend the study of contextual factors associated with teen pregnancy attitudes to adolescents who are not expecting, as the knowledge of being pregnant may influence one's attitudes. Additionally, we assessed pregnant adolescents' cultural orientations and pregnancy attitudes at a particular time point, that is, their third trimester of pregnancy. Longitudinal work is needed to examine pregnant adolescents' process of dual-cultural adaptation alongside attitudes toward teenage pregnancy; this would provide information on how orientations and attitudes change and inform one another over time. Relatedly, only Mexican cultural values were measured in our study. Pregnant adolescents who were bicultural or acculturated had the most positive attitudes toward pregnancy and examining associations among mainstream or American cultural values and adolescents' attitudes toward teen pregnancy is an important next step. Finally, it is important to note that we examined attitudes among adolescent mothers who gave birth to and kept their children; thus, the generalizability of our findings does not extend to all pregnant Mexican-origin adolescents, as those who terminated their pregnancies or whose children were placed for adoption were not included in the sampling frame.

Conclusion

A better understanding of the broader sociocultural context of Mexican-origin adolescent mothers is critical from a public health and policy perspective, given the high rates of teenage pregnancy in this subgroup of U.S. adolescents (National Vital Statistics Report, 2011), and the size and growth of Mexican-origin youth in the U.S. population (U.S. Census Bureau, 2014). Further, identifying subgroups of at-risk mothers—those who are more versus less successful in negotiating an early and off-time life transition (Cohler & Musick, 1996)—contributes to our understanding of adolescent development and informs prevention and intervention programming. We identified that enculturated pregnant adolescents had the least favorable attitudes toward teen pregnancy, and the lowest levels of family income, pregnancy intentions, pregnancy support, and educational expectations; whereas acculturated adolescents had high levels of pregnancy support, the highest family income, and the highest levels of parenting efficacy 10 months postpartum (compared to enculturated and bicultural pregnant adolescents). Overall, our findings point to the role of young mothers' attitudes and cultural orientations, as well as to their individual and family resources in identifying subgroups at risk for lower educational expectations (i.e., enculturated adolescents with less positive teen pregnancy attitudes) and less efficacious parenting (i.e., enculturated and bicultural adolescents with moderately positive attitudes toward teen pregnancy), both of which have potentially important implications for mothers' and their young children's future adjustment (East & Felice, 1996; Jones & Prinz, 2005; Letourneau et al., 2004).

Acknowledgment

This research was supported by funds from the National Institute of Child Health and Human Development (R01HD061376; PI: Umaña-Taylor), the Department of Health and Human Services (APRPA006011; PI: Umaña-Taylor), and the Cowden Fund and Challenged Child Project of the T. Denny Sanford School of Social and Family Dynamics at Arizona State University. We thank the adolescents and female family members who participated in this study. We also thank Edna Alfaro, Mayra Bámaca-Colbert, Emily Cansler, Melinda Gonzales-Backen, Melissa Herzog, Ethelyn Lara, Jacqueline Pflieger, and the undergraduate research assistants of the Supporting MAMI project for their contributions to the larger study.

Biography

Sarah E. Killoren is an Assistant Professor of Human Development and Family Science at the University of Missouri. Her research interests include the cultural and family contexts of Latino youth development.

Katharine H. Zeiders is an Assistant Professor of Human Development and Family Science at the University of Missouri. Her research focuses on identifying environmental and physiological correlates of mental health disorders in Latino adolescents.

Kimberly A. Updegraff is a Professor of Family and Human Development in the T. Denny Sanford School of Social and Family Dynamics at Arizona State University. Her research focuses on gender and cultural socialization in adolescents' family and peer relationships.

Adriana J. Umaña-Taylor is a Professor of Family and Human Development in the T. Denny Sanford School of Social and Family Dynamics at Arizona State University. Her research

interests include ethnic identity formation during adolescence and resiliency among Latino adolescents and their families.

References

- Afable-Munsuz A, Brindis CD. Acculturation and the sexual and reproductive health of Latino youth in the United States: A literature review. *Perspectives on Sexual and Reproductive Health*. 2006; 38:208–219. doi: 10.1363/3820806. [PubMed: 17162313]
- Bacallao ML, Smokowski PR. The costs of getting ahead: Mexican family system changes after immigration. *Family Relations*. 2007; 56:52–66. doi: 10.1111/j.1741-3729.2007.00439.x.
- Bergman L. A person approach to adolescence: Some methodological challenges. *Journal of Adolescent Research*. 2001; 16:28–53. doi: 10.1177/0743558401161004.
- Bergman LR, Magnusson D. A person-oriented approach in research on developmental psychopathology. *Development and Psychopathology*. 1997; 9:291–319. doi: 10.1017/S095457949700206x. [PubMed: 9201446]
- Berry, JW. Conceptual approaches to acculturation.. In: Chun, K.; Balls Organista, P.; Marín, G., editors. *Acculturation: Advances in theory, measurement, and applied research*. APA; Washington DC: 2003. p. 17-37.
- Brooks-Gunn, J.; Chase-Lansdale, PL. Adolescent parenthood.. In: Bornstein, MH., editor. *Handbook of parenting: Vol. 3. Status and social conditions of parenting*. Lawrence Erlbaum; Mahwah, NJ: 1995. p. 113-149.
- Cauce, AM.; Domenech-Rodríguez, M. Latino families: Myths and realities.. In: Contreras, JM.; Kerns, KA.; Neal-Barnett, AM., editors. *Latino Children and Families in the United States: Current Research and Future Directions*. Praeger; Westport, CT: 2002. p. 3-26.
- Clark, SL.; Muthén, B. Relating latent class analysis results to variables not included in the analysis. 2010. Available at <http://statmodel2.com/download/relatinglca.pdf>
- Coatsworth JD, Maldonado-Molina M, Pantin H, Szapocznik J. A person-centered and ecological investigation of acculturation strategies in Hispanic immigrant youth. *Journal of Community Psychology*. 2005; 33:157–174. doi: 10.1002/jcop.20046. [PubMed: 16799699]
- Cohler, B.; Musick, J. Adolescent parenthood and the transition to adulthood.. In: Graber, JA.; Brooks-Gunn, J.; Peterson, AC., editors. *Transitions through adolescence: Interpersonal domains and context*. Lawrence Erlbaum; Mahwah, NJ: 1996. p. 201-231.
- Coleman PK, Karraker KH. Parenting self-efficacy among mothers of school-age children: Conceptualization, measurement, and correlates. *Family Relations*. 2000; 49:13–24. doi: 10.1111/j.1741-3729.2000.00013.x.
- Contreras, JM.; Narang, D.; Ikhlas, M.; Teichman, J. A conceptual model of the determinants of parenting among Latina adolescent mothers.. In: Contreras, JM.; Kerns, KA.; Neal-Barnett, AM., editors. *Latino children and families in the United States*. Praeger; Westport, CT: 2002. p. 155-177.
- Coyne CA, D'Onofrio BM. Some (but not much) progress toward understanding teenage childbearing: A review of research from the past decade. *Advances in Child Development and Behavior*. 2012; 42:113–152. doi: 10.1016/B978-0-12-394388-0.00004-6. [PubMed: 22675905]
- Cuéllar I, Arnold B, Maldonado R. Acculturation rating scale for Mexican Americans -II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences*. 1995; 17:275–304. doi: 10.1177/07399863950173001.
- Driscoll AK, Biggs MA, Brindis CD, Yankah E. Adolescent Latino reproductive health: A review of the literature. *Hispanic Journal of Behavioral Sciences*. 2001; 23:255–326. doi: 10.1177/0739986901233001.
- East, PL.; Felice, ME. Adolescent pregnancy and parenting: Findings from a racially diverse sample. Lawrence Erlbaum Associates, Inc.; Hillsdale, NJ: 1996.
- East PL, Jacobson LJ. The younger siblings of teenage mothers: A follow-up of their pregnancy risk. *Developmental Psychology*. 2001; 37:254–264. doi: 10.1037/0012-1649.37.2.254. [PubMed: 11269393]

- Flores E, Eyre S, Millstein SG. Sociocultural beliefs related to sex among Mexican American adolescents. *Hispanic Journal of Behavioral Sciences*. 1998; 20:60–82. doi: 10.1177/07399863980201004.
- Garcia Coll CG, Crnic K, Lamberty G, Wasik BH, Jenkins R, Garcia HV, McAdoo HP. An integrative model for the study of developmental competencies in minority children. *Child Development*. 1996; 67:1891–1914. doi: 10.1111/1467-8624.ep9706060144. [PubMed: 9022222]
- Gibb SJ, Fergusson DM, Horwood LJ, Boden JM. Early motherhood and long-term economic outcomes: Findings from a 30-year longitudinal study. *Journal of Research on Adolescence*. 2014; 25:163–172. doi: 10.1111/jora.12122.
- Glick JE. Economic support from and to extended kin: A comparison of Mexican Americans and Mexican immigrants. *International Migration Review*. 1999; 33:745–765. doi: 10.2307/2547533.
- Gonzales, NA.; Fabrett, FC.; Knight, GP. Acculturation, enculturation, and the psychosocial adaptation of Latino youth.. In: Villarruel, FA.; Carlo, G.; Grau, JM.; Azmitia, M.; Cabrera, NJ.; Chahin, TJ., editors. *Handbook of U.S. Latino Psychology*. Sage; Thousand Oaks, CA: 2009. p. 115-134.
- Hoffman LW, Kloska DD. Parents gender-based attitudes toward marital roles and child rearing: Development and validation of new measures. *Sex Roles*. 1995; 32:273–295. doi 10.1007/BF01544598.
- Johnson MK, Crosnoe R, Elder GH Jr. Insights on adolescence from a life course perspective. *Journal of Research on Adolescence*. 2011; 21:273–280. doi: 11.1111/j.1532-7795.2010.00728.x. [PubMed: 21483644]
- Jones TL, Prinz RJ. Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical Psychology Review*. 2005; 25:341–363. doi: 10.1016/j.cpr.2004.12.004. [PubMed: 15792853]
- Kaplan CP, Erickson PI, Juarez-Reyes M. Acculturation, gender role orientation, and reproductive risk-taking behavior among Latina adolescent family planning clients. *Journal of Adolescent Research*. 2002; 17:103–121. doi: 10.1177/0743558402172001.
- Knight GP, Gonzales NA, Saenz DS, Bonds DD, Germán M, Deardorff J, Roosa MW, Updegraff KA. The Mexican American cultural values scale for adolescents and adults. *The Journal of Early Adolescence*. 2010; 30:444–481. doi: 10.1177/0272431609338178. [PubMed: 20644653]
- Knight GP, Basilio CD, Cham H, Gonzales NA, Liu Y, Umaña-Taylor AJ. Trajectories of Mexican American and mainstream cultural values among Mexican American adolescents. *Journal of Youth and Adolescence*. 2013 Advance online publication. doi: 10.1007/s10964-013-9983-8.
- Knight, GP.; Jacobson, RP.; Gonzales, NA.; Roosa, MW.; Saenz, DS. An evaluation of the psychological research on acculturation and enculturation processes among recently immigrating populations.. In: Dalla, RL.; Defrain, J.; Johnson, JM.; Abbot, DA., editors. *Strengths and Challenges of New Immigrant Families: Implications for Research, Education, Policy, and Service*. Lexington Books; Lanham, MD: 2009. p. 9-31.
- Knight, GP.; Roosa, MW.; Umaña-Taylor, AJ. Studying ethnic minority and economically disadvantaged populations: Methodological challenges and best practices. APA; Washington, DC: 2009.
- Lau M, Lin H, Flores G. Pleased to be pregnant? Positive pregnancy attitudes among sexually active adolescent females in the United States. *Journal of Pediatric and Adolescent Gynecology*. 2014; 27:210–215. doi: 10.1016/j.jpjg.2013.10.005. [PubMed: 24656702]
- Letourneau NL, Stewart MJ, Barnfather AK. Adolescent mothers: Support needs, resources, and support-education interventions. *Journal of Adolescent Health*. 2004; 35:509–525. doi: 10.1016/j.jadohealth.2004.01.007. [PubMed: 15581532]
- Manlove, J. Teen pregnancy and repeat pregnancy: Data and key determinants. 2011. Retrieved from <http://www.childtrends.org/?publications=teen-pregnancy-and-repeat-teen-pregnancy-data-and-key-determinants>
- Martinez-Garcia G, Carter-Pokras O, Atkinson N, Portnoy B, Lee S. Do Latino youth really want to get pregnant?: Assessing pregnancy wantedness. *American Journal of Sexuality Education*. 2014; 9:329–346. doi: 10.1080/15546128.2014.944735.

- Mollborn S. Making the best of a bad situation: Material resources and teenage parenthood. *Journal of Marriage and Family*. 2007; 69:92–104. doi: 10.1111/j.1741-3737.2006.00347.x. [PubMed: 21921967]
- Muthén, LK.; Muthén, BO. *Mplus User's Guide*. Seventh Edition. Muthén & Muthén; Los Angeles, CA: 1998-2012.
- National Vital Statistics Report. Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2006–2010. National Center for Health Statistics; 2011. National Survey of Family Growth..
- Oxford ML, Gilchrist LD, Lohr MJ, Gillmore MR, Morrison DM, Spieker SJ. Life course heterogeneity in the transition from adolescence to adulthood among adolescent mothers. *Journal of Research on Adolescence*. 2005; 15:479–504. doi: 10.1111/j.1532-7795.2005.00108.x.
- Pastor DA, Barron KE, Miller BJ, Davis SL. A latent profile analysis of college students' achievement goal orientation. *Contemporary Educational Psychology*. 2007; 32:8–47. doi: 10.1016/j.cedpsych.2006.10.003.
- Pfizzer MA, Hoff C, McElligott K. Predictors of repeat pregnancy in a program for pregnant teens. *Journal of Pediatric and Adolescent Gynecology*. 2003; 16:77–81. doi: 10.1016/S1083-3188(03)00011-1. [PubMed: 12742140]
- Raffaelli M, Ontai LL. 'She's 16 years old and there's boys calling over to the house': An exploratory study of sexual socialization in Latino families. *Culture, Health, & Sexuality*. 2001; 3:295–310. doi:10.1080/13691050152484722.
- Raneri LG, Wiemann CM. Social ecological predictors of repeat adolescent pregnancy. *Perspectives on Sexual and Reproductive Health*. 2007; 39:39–47. doi: 10.1363/3903907. [PubMed: 17355380]
- Reece SM. The Parent Expectations Survey: A measure of perceived self-efficacy. *Clinical Nursing Research*. 1992; 1:336–346. [PubMed: 1483137]
- Reece SM, Harkless G. Self-efficacy, stress, and parental adaptation: Applications to the care of childbearing families. *Journal of Family Nursing*. 1998; 4:198–215.
- Rosengard C, Phipps MG, Adler NE, Ellen JM. Adolescent pregnancy intentions and pregnancy outcomes: A longitudinal examination. *Journal of Adolescent Health*. 2004; 53:453–461. doi: 10.1016/j.jadohealth.2004.02.018. [PubMed: 15581524]
- Rosengard C, Pollock L, Weitzen S, Meers A, Phipps MG. Concepts of the advantages and disadvantages of teenage childbearing among pregnant adolescents: A qualitative analysis. *Pediatrics*. 2006; 118:503–510. doi: 10.1541/peds.2005-3058. [PubMed: 16882801]
- Ruedinger E, Cox JE. Adolescent childbearing: Consequences and interventions. *Current Opinion in Pediatrics*. 2012; 24:446–452. doi: 10.1097/MOP.0b013e3283557b89. [PubMed: 22790098]
- Stevens-Simon C, Kelly L, Singer D. Absence of negative attitudes toward childbearing among pregnant teenagers: A risk factor for a rapid repeat pregnancy? *Archives of Pediatrics & Adolescent Medicine*. 1996; 150:1037–1043. doi: 10.1001/archpedi.1996.02170350039006. [PubMed: 8859135]
- Tien JY, Coxe S, Cham H. Statistical power to detect the correct number of classes in latent profile analysis. *Structural Equation Modeling*. 2013; 20:640–657. doi: 10.1080/10705511.2013.824781. [PubMed: 24489457]
- Tofighi, D.; Enders, CK. Identifying the correct number of classes in a growth mixture model.. In: Hanock, GR., editor. *Mixture models in latent variable research*. Information Age; Greenwich, CT: 2006. p. 317-341.
- Umaña-Taylor AJ, Updegraff KA, White RMB, Herzog MJ, Pflieger JC, Madden-Derdich D. Developing and testing a measure of social support with Mexican-origin pregnant adolescents and their mother figures. *Hispanic Journal of Behavioral Sciences*. 2011; 33:377–397. doi: 10.1177/0739986311412930.
- Unger JB, Molina GB, Teran L. Perceived consequences of teenage childbearing among adolescent girls in an urban sample. *Journal of Adolescent Health*. 2000; 26:205–212. doi: 10.1016/S1054-139X(99)00067-1. [PubMed: 10706168]
- Updegraff, KA.; Umaña-Taylor, AJ. Structure and process in Mexican-origin families and their implications for youth development.. In: Landale, NS.; McHale, S.; Booth, A., editors. *Growing up*

Hispanic: health and development of children of immigrants (97-144). Urban Institute; Washington, DC: 2010.

U.S. Census Bureau. Hispanic Heritage Month 2014. U. S. Census Bureau News; Sep. 2014 from <https://www.census.gov/newsroom/facts-for-features/2014/cb14-ff22.html#> [September 30, 2014]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

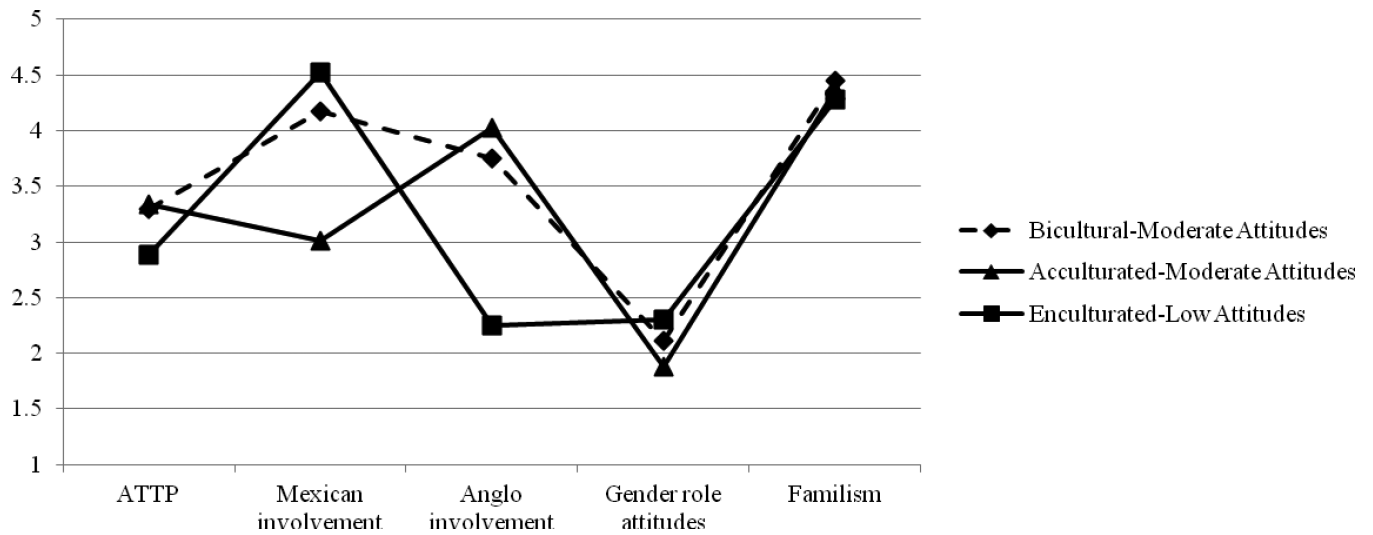


Figure 1. Profiles of pregnant adolescents' attitudes toward teen pregnancy, cultural involvement, and cultural values.
Note: ATTP = Attitudes toward teen pregnancy. Bicultural-Moderate Attitudes ($n = 118$); Acculturated-Moderate Attitudes ($n = 58$); Enculturated-Low Attitudes ($n = 29$).

Table 1
Correlations, Descriptive Statistics, and Reliabilities for Study Variables (N = 205).

	1	2	3	4	5	6	7	8	9	10	11	12
1. W1 ATTP	---											
2. W1 Anglo I	.18**	---										
3. W1 Mexican I	-.04	-.42**	---									
4. W1 Familism	.30**	.18**	.08	---								
5. W1 GRA	.29**	-.14*	.20**	.21**	---							
6. Adolescent nativity	.04	.48***	-.50***	.06	-.12	---						
7. W1 Income	.01	.16*	-.28***	-.05	-.18**	.14*	---					
8. W1 Preg support	.18**	.24***	.05	.24**	-.03	.03	.02	---				
9. W1 Preg int	-.12	-.15*	-.00	-.12	.03	-.09	.13	.00	---			
10. W2 Pregnancy	.05	.03	-.05	.10	.13	.09	.20*	.07	-.09	---		
11. W2 E expectations	.02	.28***	-.15	.03	-.28***	.17*	.23**	.18*	-.03	-.03	---	
12. W2 P efficacy	.15*	.36***	-.13	.19*	-.09	.22**	.10	.28**	-.02	.08	.18*	---
<i>M</i>	3.25	3.61	3.89	4.40	2.07	--	\$27,314	4.38	--	--	14.02	4.52
<i>SD</i>	.93	.73	.71	.43	.62	--	\$19,843	.75	--	--	2.37	.41

Note: ATTP = Attitudes toward teen pregnancy; Anglo I = Anglo involvement; Mexican I = Mexican involvement; GRA = Gender role attitudes; Preg support = Pregnancy support; Preg int = Pregnancy intentions; E expectations = Educational expectations; P efficacy = Parenting efficacy; Adolescent nativity coded 0 = Mexico-born, 1 = U.S.-born. Pregnancy intentions (i.e., birth control use at time of conception) coded 0 = No, 1 = Yes; W2 pregnancy coded 0 = Not pregnant, 1 = Pregnant.

* $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

Table 2

Latent Profile Analysis Fit Indices and Statistics (N = 205).

Number of profiles	BIC	ABIC	Entropy	LMRT <i>p</i> value	Profile probabilities
1	2115.83	2084.15	1.00	--	--
2	2060.58	2009.88	0.88	0.00	.94, .97
3	2043.70	1974.00	0.80	0.03	.89, .92, .94
4	2035.55	1946.84	0.85	0.44	.87, .92, .90, .95

Note: BIC = Bayesian information criterion, ABIC = Adjusted Bayesian information criterion, LMRT = Lo-Mendell-Rubin test. Bolded text indicates the best-fitting solution.

Table 3
Differences Across LPA Profiles on LPA Indicators and Individual and Family Correlates and Future Outcomes.

	Bicultural-Moderate Attitudes (<i>n</i> = 118)	Acculturated-Moderate Attitudes (<i>n</i> = 58)	Enculturated-Low Attitudes (<i>n</i> = 29)	<i>F</i> statistic	η^2
<i>LPA Indicators</i>					
Attitudes Toward Teen Pregnancy	3.29 _a	3.39 _a	2.81 _b	<i>F</i> (2, 204) = 4.12, <i>p</i> < .05	.04
Mexican Involvement	4.18 _a	2.96 _b	4.53 _c	<i>F</i> (2, 204) = 241.96, <i>p</i> < .001	.71
Anglo Involvement	3.75 _a	4.04 _b	2.21 _c	<i>F</i> (2, 204) = 185.97, <i>p</i> < .001	.65
Gender role attitudes	2.12 _a	1.87 _b	2.30 _a	<i>F</i> (2, 204) = 5.55, <i>p</i> < .01	.05
Familism values	4.45	4.37	4.28	<i>F</i> (2, 204) = 2.21, <i>ns</i>	.02
<i>Individual and Family Correlates</i>					
Adolescent nativity (% Mexico-born)	40.7% _a	3.4% _c	79.3% _b	$\chi^2(2)$ = 51.64, <i>p</i> < .001	
% using birth control (pregnancy intentions)	7.6% _a	12.1% _{ab}	24.1% _b	$\chi^2(2)$ = 6.43, <i>p</i> < .05	
Family income	\$24,568 _a	\$35,756 _b	\$21,703 _a	<i>F</i> (2, 198) = 7.79, <i>p</i> < .01	.07
Pregnancy support from mother	4.43 _a	4.46 _a	4.00 _b	<i>F</i> (2, 204) = 4.45, <i>p</i> < .05	.04
<i>Future Outcomes</i>					
% pregnant	12.4%	14.8%	7.7%	$\chi^2(2)$ = .82, <i>p</i> = .66	
Educational expectations [†]	14.15 _a	14.28 _a	12.77 _b	<i>F</i> (2, 193) = 5.27, <i>p</i> < .01	.24
Parenting efficacy [‡]	4.50 _a	4.63 _b	4.37 _a	<i>F</i> (2, 193) = 5.54, <i>p</i> < .01	.33

Note: Means that do not share a subscript within a row are significantly different from one another, *p* < .05.

[†]The means reported are marginal means, controlling for W1 outcomes (e.g., W2 educational expectations means controlling for W1 expectations) and η^2 is reported for the overall model. Sample sizes varied at W2 due to missing data: Bicultural Moderate Attitudes (*n* = 112 to 115), Acculturated-Moderate Attitudes (*n* = 55 to 56), Enculturated-Low Attitudes (*n* = 26 to 28).