Longitudinal Relationships Between Family Functioning and Identity Development in Hispanic Adolescents:

Continuity and Change

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Abstract

The present study was designed to investigate trajectories of identity development and their relationship to family functioning in a sample of Hispanic adolescents and their primary caregivers. Two hundred fifty adolescents completed measures of identity coherence and confusion and of family functioning, and parents completed measures of family functioning. Significant variability over time and across individuals emerged in identity confusion, but not in identity coherence. As a result, the present analyses focused on identity confusion. Changes in adolescent-reported, but not parent-reported, family functioning were significantly related to changes in identity confusion. Follow-up analyses suggested that family functioning primarily influences identity confusion in early adolescence, but that identity confusion begins to exert a reciprocal effect in middle adolescence. Exploratory latent growth mixture modeling (LGMM) analyses produced three classes of adolescents based on their baseline values and change trajectories in identity confusion. The potential for family-strengthening interventions to affect identity development is discussed.

Keywords

identity; family functioning; longitudinal; Hispanic; latent variables

Identity has been posited as one of the key developmental tasks of adolescence and the transition to adulthood (Arnett, 2000; Erikson, 1950, 1968). Developing a coherent sense of identity may help to facilitate positive well-being (Passmore, Fogarty, Bourke, & Baker-Evans, 2005) as well as to protect against anxiety, depression, and problem behaviors (Adams et al., 2001; Jones & Hartmann, 1988; Schwartz, 2007). Moreover, developing a coherent sense of identity in adolescence is an important prerequisite to making one's way in the world later in life (Côté, 2000; Côté & Allahar, 1994; Whitbourne, Zuschlag, Elliot, & Waterman, 1992). Indeed, the Search Institute has identified identity as a key developmental asset (Scales, Benson, Leffert, & Blyth, 2000), and a coherent and agentic sense of identity is often necessary

to provide an "inner compass" that can direct decisions and life trajectories in adulthood (Côté, 2000; Côté & Levine, 2002).

In recent years, theorists and researchers have begun to focus on contextual influences on identity development (e.g., Adams & Marshall, 1996; Akers, Jones, & Coyl, 1998; Côté, 1996). Among the contexts that have been examined is the family (Mullis, Brailsford, & Mullis, 2003; Schwartz, Pantin, Prado, Sullivan, & Szapocznik, 2005). Family is generally considered to be the most important sphere of influence during adolescence (Steinberg, 2001). Family processes are consistently related to adolescent psychosocial and behavioral outcomes, and these relationships have been shown to generalize across variations in ethnicity and nationality (Dmitrieva, Chen, Greenberger, & Gil-Rivas, 2004; Vazsonyi, 2003; Vazsonyi, Hibbert, & Snider, 2003).

Thus far, however, most studies of identity and its influences have been cross sectional and have not been able to examine the course of identity development (Schwartz, 2005). Although some studies have used longitudinal designs, most of these studies have focused on adults (e.g., Fadjukoff, Pulkkinen, & Kokko, 2005; Whitbourne et al., 1992). Moreover, the relationship between family functioning and identity development over time has not been examined in the published literature. Such knowledge would be important in understanding the role of the family in adolescent identity development, as well as for specifying the direction of effects in the relationship between family functioning and identity development.

It is also important to study identity development in young adolescents, for at least two reasons. First, we know much more about how the identity development process is consolidated than about how it begins (Schwartz, 2005). Second, given some evidence that identity activity does occur during early adolescence (Schwartz, Pantin, et al., 2005), and to the extent that early psychosocial development activity serves as a precursor to developmental outcomes later on (e.g., Stein & Newcomb, 1999), it is important to map this activity across time. As a result, in the present study, we examine the course of identity development between early and middle adolescence.

Although research on other aspects of identity has focused on diverse ethnic groups (e.g., Berry, Phinney, Sam, & Vedder, 2006), Eriksonian and neo-Eriksonian identity research has focused largely on non-Hispanic Whites (Sneed, Schwartz, & Cross, 2006). Ascertaining the applicability of Eriksonian and neo-Eriksonian identity theories to Hispanics (as well as other racial/ethnic minority groups), and examining the extent to which patterns observed in non-Hispanic White samples generalize to Hispanics (Schwartz, Côté, & Arnett, 2005), are important directions in identity research. Accordingly, the present study examined the course of family functioning and identity processes over a span of 3 years in a sample of Hispanic adolescents from immigrant families. Hispanics are an important population to the study because of their rapidly growing numbers: Hispanics currently comprise 14% of the U.S. population but are projected to make up 25% of the U.S. population in 2050 (Day, 1996). Hispanics are also a young population, with nearly 40% of individuals under the age of 20 (Ramirez & de la Cruz, 2003). Regarding the present examination of family functioning and identity development, the importance of family in Hispanic cultures (Santisteban, Muir-Malcolm, Mitrani, & Szapocznik, 2002) suggests that family functioning would be particularly strongly related to developmental processes (including identity; Schwartz, Pantin, et al., 2005) in Hispanic adolescents.

Personal identity is important to examine in individuals from immigrant families because it may help to protect against stressors involved in acculturation and cultural identity change (Schwartz, Montgomery, & Briones, 2006). Given the importance of family in Hispanic cultural contexts, and given that the majority of U.S. Hispanics are either immigrants or the

children of immigrants (Ramirez & de la Cruz, 2003), the course of family functioning and its relationship to identity development is important to examine in Hispanic adolescents. Such research would help to address the concern (Schwartz, 2005; Sneed et al., 2006) that Eriksonian and neo-Eriksonian identity research has not attended sufficiently to ethnic minority populations.

Conceptions of Identity

A note on terminology is important here. Following Schwartz, Pantin, et al. (2005), we use the term *identity coherence* rather than *identity synthesis* to refer to identity development in early adolescents. Identity synthesis, referring to a consolidated sense of identity that can support self-direction and autonomous decision making (Côté & Levine, 2002), may not be a reasonable expectation in early adolescence. Rather, given that early adolescents are just beginning the process of developing a sense of identity (Archer & Waterman, 1983), the term *coherence*, reflecting consistency among the various aspects of one's identity, may be a more realistic characterization.

Most identity theory and research draws upon Erikson's (1950, 1968) theory of identity in which identity coherence and identity confusion are taken as the two potential outcomes of the identity development process. Successful identity development is operationalized as the extent to which identity coherence predominates over identity confusion (Erikson, 1950). Some degree of identity confusion is adaptive in that at least some lack of clarity about who one is leaves room for further identity work. Because both identity confusion and identity coherence are adaptive to some extent, Marcia (2002) has reframed Erikson's identity stage as identity coherence *with* identity confusion. Previous empirical work (Schwartz, Pantin, et al., 2005) has supported the conceptualization of coherence and confusion as separate but overlapping components of the identity stage in early adolescence.

The identity status model (Marcia, 1966, 1980) has been by far the most widely utilized empirical extension of Erikson's theory. Identity status is based on the dimensions of exploration and commitment, where exploration refers to sorting through an array of potential identity alternatives, and commitment refers to adhering to one or more of these alternatives (Bosma & Kunnen, 2001). There is extensive literature on the correlates of exploration, commitment, and identity status (see Berzonsky & Adams, 1999; Waterman, 1999, for reviews). However, it should be noted that the identity status model was introduced as "a kind of snapshot of late adolescents who could be expected to have made their first identity resolution" (Marcia, 2001, p. 61). Early adolescents, who are first beginning the process of identity development (Archer, 1982), may not be exploring in any systematic way that would be detected by an identity status measure, and they are unlikely to have developed any lasting identity commitments. The question remains, then, whether there is identity activity in early adolescence, and if so, whether such activity can be measured using approaches other than identity status.

Identity status studies have been successful in mapping the process of identity consolidation in the emerging adult years (see Berzonsky & Adams, 1999; Waterman, 1999 for a review). Identity status measures survey a number of content domains relevant to late adolescents and to adults, such as political preferences, religious beliefs, occupational choices, and relationship styles (see Schwartz, 2001 for a review). However, the relevance of these domains to early adolescents has been questioned (e.g., Archer & Waterman, 1983). For example, in a study of middle and high school students, Archer (1982) found that most participants (especially young adolescents) evidenced little identity development activity. In reviewing Archer's findings, Allison and Schultz (2001) observed that the content domains surveyed in identity status measures, such as occupational choice, religious beliefs, and personal values, are likely not

appropriate for young adolescents. Rather, measures that assess "global" identity synthesis and confusion may be more appropriate as a first effort in tapping into identity activity in early adolescence (Schwartz, Pantin, et al., 2005). Such global measures provide indices of identity coherence and of identity confusion, and may therefore allow for examination of the extent to which identity coherence predominates over identity confusion. Such an approach is more reflective of Erikson's approach than of identity status, a shift that has been called for by a number of scholars in the identity literature (e.g., Côté & Levine, 1988; Schwartz, 2001; van Hoof, 1999). Although Eriksonian and identity status measures may be closely related in emerging adults (Schwartz, 2007), Eriksonian measures may be uniquely equipped to capture the early phases of identity development activity in early adolescence. Reliance on identity status measures, which are most appropriate for older adolescents and for adults, may be partially responsible for the assumption that identity development activity does not occur in early adolescence (Allison & Schultz, 2001; Archer & Waterman, 1983).

Family Functioning and Identity Development

Some literature has examined the relationships between family functioning and identity. Most of these studies have been cross sectional and nearly all have used primarily non-Hispanic White samples. In an overview of some of this research, Bosma and Kunnen (2001) note that relationships with parents are critical in initiating and maintaining healthy identity development. In a nationally representative sample of Dutch adolescents, Meeus, Iedema, Maassen, and Engels (2005) found that family support was significantly related to identity exploration and commitment. Meeus, Oosterwegel, and Vollebergh (2002), also using a sample of Dutch adolescents, found that parent-adolescent communication was related to adolescent identity development. Jackson, Dunham, and Kidwell (1990) and Mullis et al. (2003) found that, in samples of American late adolescents and emerging adults, family cohesion was positively related to identity commitments, where identity commitment can be taken as a rough approximation of identity coherence (Schwartz, 2006). Grotevant and Cooper (1985) found that the quality of individuation and connectedness within the family was related to identity exploration in late adolescents. Similarly, the quality of attachments to parents has been related to a more coherent and less confused sense of identity in college students (Kamptner, 1988; Schultheiss & Blustein, 1994). Using a longitudinal design, Reis and Youniss (2004) found that the quality of mother-adolescent communication and support predicted decreases in identity confusion and increases in identity coherence over a 2-year period. Schwartz, Pantin, et al. (2005) found that, in a sample of Hispanic adolescents from immigrant families, family functioning (defined as parental involvement, positive parenting, parent-adolescent communication, and family support) was positively related to identity coherence and negatively related to identity confusion. These authors also found that identity confusion played a significant role in the relationship between family functioning and adolescent behavior problems. These studies suggest that dimensions such as family support, family cohesion, parent-adolescent communication, and parental involvement and positive parenting are important in relation to identity development in adolescence.

It remains to be determined, however, the extent to which the relationship between family functioning and identity development would hold over time during early and middle adolescence. Because family functioning and other contextual processes may serve as antecedents and concomitants to identity development (Kamptner, 1988; Reis & Youniss, 2004), it is important to understand the ways in which family functioning may relate to identity across time. Moreover, it is important to understand the relationship of family functioning to identity development during early and middle adolescence, when the identity development process is initiated (Archer, 1982).

The Present Study

The present study was guided by two primary aims. First, we sought to describe the trajectory of identity development in a sample of Hispanic adolescents from immigrant families. As part of this aim, we sought not only to characterize the mean developmental trajectory of the sample but also, in a set of exploratory analyses, to identify clusters of participants who could be empirically distinguished in terms of their baseline scores and change patterns. Second, we sought to examine the extent to which changes in family functioning were associated with (and may precede) changes in identity development, as well as the extent to which family functioning trajectories would differ between or among clusters of participants assigned based on their change patterns in identity coherence and confusion.

Although gender was not a focus of the present study, we nonetheless examined potential gender differences both (a) in the overall trajectories of identity and (b) in the relationships between change patterns in family functioning and in identity. Given that gender differences have been reported in previous cross-sectional identity studies (Lewis, 2003; Schwartz & Montgomery, 2002), it is important to ascertain the extent to which the longitudinal patterns of identity development and its relationship to family functioning vary by gender.

Method

Participants

The sample for the present study consisted of 250 adolescents (121 boys, 129 girls) and their primary parents (215 women, 34 men, and 1 unidentified by gender) participating in an HIV prevention trial. At baseline, the age range for the adolescent participants was between 12 and 16 ($\bar{X}$ = 13.5, SD = 0.73). Out of the 250 adolescents, 90% were aged either 13 years (61%) or 14 years (29%) at baseline. Adolescents were attending three public schools in heavily Hispanic areas of Miami.

Recruitment for the study targeted Hispanic adolescents attending these three schools. Participants were selected because of factors inherent in the Hispanic immigrant experience, and not because of academic, behavioral, or other problems. Families interested in participating were excluded from participation only if (a) they were planning to move out of the Miami area during the intervention period or out of South Florida during the course of the study, (b) if the participating adolescent or parent had ever been hospitalized for psychiatric reasons, (c) the adolescent would not be promoted to the eighth grade, or (d) the participating parent was not available to attend intervention sessions. As a result, this was a community, rather than clinical, sample.

A large number of the participants were from low-income families. Only 29% of the families reported household incomes greater than $20,000 per year, and an even smaller percentage (10.6%) reported household incomes greater than $30,000 per year. Of study participants, 60% (n = 150) were first-generation immigrants, and 40% (n = 99) were second-generation (born in the United States to immigrant parents) immigrants. One adolescent's birthplace was unknown. The primary countries of origin for adolescents and/or their parents were Cuba (31%), Nicaragua (31%), Honduras (9%), Venezuela (6%), Puerto Rico (5%), and Mexico (4%). Of foreign-born adolescents, 50% had been living in the United States for less than 3 years, 34% between 3 and 10 years, and 16% for more than 10 years. The majority of foreign-born (88%) and U.S.-born (53%) adolescents reported that their "first or usual language" was Spanish.

Adolescents participated in the study with their primary caregivers, who were mainly mothers. In the family-centered adolescent HIV prevention trial from which the present data were taken

(see Pantin, Schwartz, Sullivan, Coatsworth, & Szapocznik, 2003; Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004; Prado et al., 2007, for a more thorough description of the study), adolescents and parents were consented/assented and completed assessment batteries at baseline and at 6, 12, 24, and 36 months postbaseline. The sample for the present study consisted of all adolescents and parents who provided data for at least 2 of the 5 study timepoints. Because of the longitudinal nature of the analyses to be conducted, families providing data only at baseline ($n = 16$ out of the original sample of 266) were dropped from analysis.

Procedure

Cohorts—Families participated in the study in two cohorts. The first cohort was assessed at baseline in the summer of 2001 and completed the 36-month assessment during the summer of 2004. The second cohort was assessed at baseline during the summer of 2002 and completed the 36-month assessment during the summer of 2005.

Experimental conditions—Although the intervention was not a focus of the present study, it is nonetheless important to describe the experimental conditions and the activities in which participants took part within each condition. Following the baseline assessment for the HIV prevention trial, families were randomly assigned to one of three conditions. In the primary experimental condition, parents received a parent skills training/family-strengthening intervention (Familias Unidas; see Pantin et al., 2003, 2004), followed by a module designed to facilitate parent-adolescent communication about sexuality and HIV (Parent-Preadolescent Training for HIV Prevention [PATH]; Krauss et al., 2000). In the secondary experimental condition, parents attended English for Speakers of Other Languages (ESOL) classes, followed by participation in PATH. In the control condition, parents attended English for Speakers of Other Languages classes, followed by participation in HeartPower! for Hispanics (HEART-H), a parent-centered cardiovascular health module for Hispanic adolescents. In all three conditions, the intervention phase of the study occurred between the baseline and 12-month assessment points. More detail on the Familias Unidas-PATH condition can be found in Pantin et al. (2004) and in Prado, Pantin, Schwartz, Lupei, and Szapocznik (2006).

Assessments—At each assessment point, adolescents completed measures in computerized form using the audio computer-assisted interviewing system (A-CASI), which has been found to increase accuracy and honesty of responding in adolescents (see Turner et al., 1998). Parents completed their measures in interview form. Different methods were used for the adolescent and parent assessments because many parents expressed considerable discomfort when approached about the possibility of conducting their assessments in computerized form.

Measures

Family functioning—We used three sets of indices to assess family functioning: overall family environment, parent-adolescent communication, and parental involvement/positive parenting (see Schwartz, Pantin, et al., 2005). Both parents and adolescents completed measures of all three indices.

Overall family environment was assessed using the cohesion and support subscales from the Family Relations Scale (Tolan, Gorman-Smith, Huesmann, & Zelli, 1997). The 6-item cohesion subscale assesses the extent to which family members feel close to and enjoy spending time with one another (e.g., "Family members feel very close to one another"). The 6-item support subscale consists of reverse-coded items and assesses the extent to which the person feels encouraged and comforted by family members (e.g., "My family doesn't let me be myself").

Open and problematic[1] parent-adolescent communication was assessed using the 20-item Parent-Adolescent Communication Scale (Barnes & Olson, 1985). This scale assesses the extent to which adolescents and parents believe that they can effectively and openly communicate with one another (e.g., "I can discuss my beliefs with my parent without feeling restrained or embarrassed"[2]). Data were gathered on adolescents' relationships with their primary caregivers, most of whom were mothers.

Parental involvement and positive parenting were measured using the Parenting Practices Scale (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996). The parental involvement subscale assesses the extent to which the parent is perceived to be interested and involved in the adolescent's life (e.g., "How often does your parent discuss with you your plans for the coming day?"). The positive parenting subscale assesses the extent to which parents display warmth and affection toward their adolescents (e.g., "When I do something my parent likes, she or he gives me a wink or a smile"). Descriptive statistics and internal consistency reliability estimates for scores on these subscales, as obtained in the present sample at baseline, are presented in Table 1.

Identity—Adolescent identity was measured using the 12-item identity subscale from the Erikson Psychosocial Stage Inventory (Rosenthal, Gurney, & Moore, 1981), which measures the extent to which participants have a clear sense of who they are and what they believe in. Six items are worded in a positive direction (i.e., toward identity coherence), and six items are worded in a negative direction (i.e., toward identity confusion). Sample items from this measure include "I've got a clear idea of what I want to be" (identity coherence) and "I don't really know who I am" (identity confusion). The EPSI was designed for use with early, middle, and late adolescents as well as with adults (Rosenthal et al., 1981). Indeed, the measure has been used with middle school (Schwartz, Pantin, et al., 2005), high school (Reis & Youniss, 2004), and college (Markstrom & Kalmanir, 2001) students.

The measure was designed to yield a single scale score for identity (Rosenthal et al., 1981). However, our previous work with this sample at the baseline assessment (Schwartz et al., 2005) indicated that a 2-factor solution, with identity coherence and identity confusion cast as separate subscales, provided a better representation of the data. Such a 2-factor solution is consistent with Erikson's (1950) conceptualization of identity coherence and identity confusion as separate but overlapping aspects of the identity stage, and with Marcia's (2002) recasting of the identity stage as identity synthesis/coherence *with* identity confusion. Cronbach's alpha coefficients for identity coherence and identity confusion scores at baseline were .83 and .69, respectively.

It should be noted that the Erikson Psychosocial Stage Inventory was added to the parent study's assessment battery in early 2002, after the first cohort had already completed the baseline and 6-month postbaseline assessments. As a result, participants in the first cohort are missing identity data for the first 2 study timepoints. However, all of the analytic procedures used in the present study utilize full-information maximum likelihood estimation procedures that make use of all available data, including cases with missing data. Moreover, the primary analyses were successfully replicated using only the second cohort, which completed the identity measure at all 5 timepoints, to ensure that the results were not biased by the missing data for the first cohort.

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[1]The items reflecting problematic communication are reverse-scored, such that higher scores reflect less problematic communication. The open and problematic communication subscales are then summed to create a total score.
[2]In the parent-reported items, I is replaced with *my child*, and my parent is replaced with *I* or *me*.

Plan of Analysis

The analyses conducted for the present study were divided into three steps: data preparation and preliminary analyses, primary analyses, and post-hoc exploratory analyses. Data preparation and preliminary analyses consisted of creating composite indicators for family functioning, ensuring variability over time in family functioning, and ensuring variability over time in identity coherence and confusion. These preparatory steps were necessary to ensure that the family functioning composite would be valid to include in analysis and that there was sufficient variability to model in family functioning and in identity coherence and confusion.

The primary analyses focused on ascertaining the relationships between family functioning and identity. Latent[3] growth curve analyses were used to test the hypothesis that family functioning and identity would be related over time. Specifically, we tested for significant relationships between the slopes for family functioning and for identity. We used cross-lagged panel analyses to explore the direction of effects, provided that the growth curve analyses produced a significant effect. Post-hoc exploratory analyses, using latent growth mixture modeling (LGMM), were then used to ascertain whether distinct classes of participants could be identified based on their patterns of identity development, and whether these classes would be related to patterns of family functioning over time. Latent growth-curve modeling represents the primary hypothesis test in the present study—ascertaining the extent to which the trajectories of family functioning and identity confusion are related in the sample as a whole. Provided that significant relationships between slopes were obtained in the latent growth-curve models, cross–lagged panel models would be estimated to explore directionality in these relationships. Mixture modeling would also be used to explore the extent to which the relationship between trajectories of family functioning and of identity confusion would differ across subsets of the sample.

Where structural equation modeling techniques were used, such as invariance tests and latent growth curve models (LGCM), the fit of the model to the data was evaluated using standard SEM-fit indices: the chi-square statistic (χ^2), which tests the null hypothesis of perfect fit to the data; the comparative fit index (CFI), which evaluates the extent to which the specified model provides a better fit than a null model with no paths or latent variables; and the root mean square error of approximation (RMSEA), which assesses the degree to which the covariance structure in the model differs from the covariance structure in the data. Excellent model fit is reflected in a nonsignificant χ^2, a CFI of .95 or higher, and a RMSEA of .05 or lower (Kline, 2006), whereas .90 represents the lower bound for an acceptable CFI value and .08 represents the upper bound for an acceptable RMSEA value (Quintana & Maxwell, 1999). The χ^2 is reported but is not used in interpretation because it is vulnerable to inflation in complex models (Keith, 2006; Kline, 2006). An additional fit index, the nonnormed fit index (NNFI), was not used in ascertaining the fit of a single model to the data, but it is used in comparing the fit of multiple models (as is done in invariance tests) because it is especially sensitive to the addition or removal of paths or constraints (Little, 1997).

LGCM and LGMM analyses were conducted in Mplus Version 4.1 (Muthén & Muthén, 2006). Invariance tests were conducted in AMOS Version 6.0 (Arbuckle & Wothke, 2006) because AMOS contains an advanced invariance testing module (Byrne, 2001) that is not available in Mplus. Chi-square tests and analyses of variance were conducted in SPSS Version 14.0.

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[3]These analyses are referred to as latent growth curves (LGCM) because the intercepts and slopes are modeled as unobserved variables.

Results

Data Preparation and Preliminary Analyses

Ensuring comparability across nationality and immigrant generation—The panracial/ethnic label *Hispanic* includes more than 20 different nationalities, many of which are well represented in the United States (Chun, 2007; Marotta & Garcia, 2003). Furthermore, Hispanic samples often include foreign-born individuals as well as those born in the United States to immigrant parents (Sullivan et al., 2007; Schwartz, Pantin, Sullivan, Prado, & Szapocznik, 2006). As a result and, as a first step, we examined whether the study variables differed significantly at baseline across Hispanic nationalities or across adolescent immigrant generation. Provided that these results were not significant, we would be warranted in proceeding with our analytic plan.

To explore potential differences by nationality, we selected the countries from which at least 10 participating families had originated—Cuba, Nicaragua, Honduras, Puerto Rico, and Venezuela. A multivariate analysis of variance (MANOVA) conducted on the adolescent-reported family functioning and identity variables by parent's country of origin at baseline produced a nonsignificant multivariate effect, Wilks's $\lambda = .69$, $F(35, 474) = 1.25$, $p = .16$, $\eta^2 = .07$. A MANOVA conducted on the parent-reported family functioning variables by parent's country of origin at baseline did, however, yield a significant multivariate effect, Wilks's $\lambda = .81$, $F(25, 707) = 1.66$, $p < .03$, $\eta^2 = .04$. The only significant univariate effect was for parent reports of family cohesion, $F(5, 194) = 34.11$, $p < .002$, $\eta^2 = .10$. Post-hoc analyses indicated that Honduran parents reported less communication with their adolescents than did parents from all other nationalities except Nicaraguans.

We also examined effects by adolescent immigrant generation. A MANOVA on the adolescent-reported family functioning and identity variables by immigrant generation did not yield a significant multivariate effect, Wilks's $\lambda = .91$, $F(7, 116) = 1.62$, $p = .14$, $\eta^2 = .09$. However, a MANOVA on the parent-reported family functioning variables by adolescent immigrant generation again yielded a significant multivariate effect, Wilks's $\lambda = .92$, $F(5, 194) = 3.49$, $p < .01$, $\eta^2 = .08$. The only significant univariate effect was for positive parenting, $F(1, 198) = 7.60$, $p < .01$, $\eta^2 = .04$. Parents of U.S.-born adolescents ($\bar{X} = 17.03$, $SD = 1.53$) reported significantly more positive parenting than did parents of immigrant adolescents ($\bar{X} = 16.38$, $SD = 1.89$).

Although two of the univariate effects examined by parent nationality and adolescent immigrant generation were significant, it is worth noting that these effects represent only 8.3% of the 24 univariate analyses conducted. This is only slightly above what would be expected by chance at $\alpha = .05$. As a result, we proceeded with our analytic plan. We did so, however, remaining mindful of the drawbacks inherent in grouping individuals from so many different nationalities, and with such different lengths of stay in the United States, into a single panracial/ethnic group (see Umaña-Taylor & Fine, 2001).

Creating composite indicators for family functioning—Because we had several indicators of family functioning, the next step was to create a latent variable or composite to represent family functioning at each measurement timepoint. Latent growth curves with latent variables as indicators at each timepoint may provide a poor fit to the data (D. MacKinnon, personal communication, October 28, 2005), and our own attempt to estimate a latent growth curve for a family functioning latent variable produced an extremely poor fit to the data, $\chi^2(166) = 1,904.04$, $p < .001$; CFI = .45; RMSEA = .21. Further, given the low levels of convergence between parent and adolescent reports of family functioning (Schwartz et al., 2005; Tein, Roosa, & Michaels, 1994), we created separate composites for parent and

adolescent reports, and we used these composite variables as indicators for each timepoint in LGCM.

Combining variables into a weighted composite at each of several timepoints requires determining that the structure of the composite is invariant over time—that is, the weights that will be used to compute the composite do not vary significantly across time (Raykov & Tisak, 2004). Significant variability in these weights would violate one of the assumptions of LGCM —that the same variable or construct is measured at each timepoint. As a result, separately within the parent-reported and adolescent-reported family functioning indices, we tested for invariance of factor structure across time using AMOS (Version 6.0; see also Vandenberg & Lance, 2000 for a review of methods for invariance testing). Invariance testing is conducted by examining the difference in fit between an *unconstrained model* in which all weights are free to vary across time, and a *constrained model* in which each weight is constrained equal across time. For the assumption of measurement invariance to be statistically rejected, the following three criteria must be met regarding the difference in fit between the two models: $\Delta\chi^2$ significant at $p < .05$ (Byrne, 2001), $\Delta CFI \geq .01$ (Cheung & Rensvold, 2002), and $\Delta NNFI \geq .02$ (Vandenberg & Lance, 2000). In situations where the assumption of invariance is statistically rejected, one potential solution is to identify which subscale is responsible for the noninvariance and drop it from the model. The invariance test would then be reconducted. As soon as we were able to safely retain the assumption of invariance, we would create a weighted composite, weighting the indicators based on their factor pattern coefficients (loadings; see Thompson, 2004) from the invariant model.

With all five family functioning indicators in the adolescent-reported model, the assumption of measurement invariance was statistically rejected, $\Delta\chi^2(20) = 162.12$, $p < .001$; $\Delta CFI = .036$; $\Delta NNFI = .030$. Follow-up analyses using Byrne's (2001) method, where indicators are constrained one at a time to isolate the indicator(s) violating the assumption of invariance, identified positive parenting as the source of noninvariance, $\Delta\chi^2(4) = 140.22$, $p < .001$; $\Delta CFI = .045$; $\Delta NNFI = .039$. In the parent-reported model, only two of the three criteria ($\Delta\chi^2$ and ΔCFI) for rejecting the assumption of invariance were met: $\Delta\chi^2(20) = 69.17$, $p < .01$; $\Delta CFI = .040$; $\Delta NNFI = .016$. However, because the other index ($\Delta NNFI$) was elevated, we used Byrne's method and identified family support as the source of noninvariance, $\Delta\chi^2(4) = 26.37$, $p < .02$; $\Delta CFI = .018$; $\Delta NNFI = .015$. To maintain consistency between the adolescent- and parent-reported composites, we dropped both positive parenting and family support from the model. Pattern coefficients at baseline for both composites were all .40 or greater. Composites were calculated as the sum of the weighted item means for the three family functioning indicators we retained, with the 5-point parental involvement scale converted to a 4-point scale similar to that used for the other indicators. This conversion was performed by multiplying the involvement scores by 4/5.

Ensuring variability over time in family functioning—The next step of data preparation was to ensure that there was significant variability in family functioning scores over time and across persons. The presence or absence of significant variability was evaluated according to both (a) the mean-level linear slopes[4] for identity coherence and identify confusion over time and (b) individual-level variance around those slopes (see Raudenbush & Bryk, 2002). We did this because the presence of significant variability would permit us to include changes in family functioning to predict and explain changes over time in identity coherence and confusion.

In the analysis for adolescent-reported family functioning, the mean linear slope was not statistically significant, $z = 1.61$, $p = .11$. However, the variability around the mean slope was

[4]We also attempted to estimate quadratic slopes, but the quadratic slope was not significant (and did not have significant variability across persons) for any of the models reported here.

highly significant, $z = 4.48$, $p < .001$. In the analysis for parent-reported family functioning, the mean linear slope was statistically significant, $z = 2.07$, $p < .04$, but the variability around the mean slope was not, $z = 1.58$, $p = .11$. To examine whether there was significant variance within one of the genders, we examined adolescent gender as a predictor of the family functioning slope. Gender emerged as a significant predictor of adolescent-reported, $z = 2.34$, $p < .02$, but not parent-reported, $z = 0.05$, $p = .96$, family functioning slopes. LGCMs estimated separately by gender indicated that the mean slope for adolescent-reported family functioning was positive and statistically significant for girls (slope = .08; $z = 2.59$; $p < .01$), but was flat and nonsignificant for boys (slope = −.02; $z = −0.47$, $p = .64$). However, the variability around the mean slope was statistically significant for both boys, $z = 3.68$, $p < .001$, and girls, $z = 2.91$, $p < .005$.

Ascertaining variability in identity coherence and confusion—For identity coherence, neither the mean linear slope, $z = 0.53$, $p = .60$, nor the variability around the mean slope, $z = 0.50$, $p = .62$, were statistically significant. For identity confusion, the mean linear slope approached significance, $z = −1.91$, $p < .06$, and the variability around the mean slope was statistically significant, $z = 2.64$, $p < .01$. As a result, we concluded that there was no significant variability to model in identity coherence,[5] and we focused the remaining analyses on identity confusion.

Interestingly, adolescent gender emerged as a significant predictor of the identity confusion slope, $\beta = .23$, $z = 2.05$, $p < .05$. LGCMs estimated separately by gender indicated that the mean slope for boys was .02 ($z = 0.10$, $p = .92$), whereas the mean slope for girls was −.56 ($z = −2.86$, $p < .005$). This finding suggests that the slope for identity confusion was negative and significant for girls but was flat and nonsignificant for boys. Variability around this mean slope was significant for girls, $z = 2.49$, $p < .02$, but not for boys, $z = 0.92$, $p = .82$. However, because the overall analysis for identity confusion revealed significant variability, we retained both genders in the sample. As we describe in more detail below, subsequent analyses did in fact find gender to play an important role.

Primary Hypothesis Tests: Associations Between Change in Family Functioning and Change in Identity Confusion

To test the primary study hypothesis, we estimated an LGCM including identity confusion as well as both parent and adolescent reports of family functioning. In this model, an intercept and a linear slope were estimated for each of these three constructs. First, to examine the extent to which starting points and changes over time in family functioning were associated with starting points and changes over time in identity confusion, we used all five available timepoints and correlated the intercepts and slopes for adolescent- and parent-reported family functioning, and identity confusion. We included gender as a predictor of each of the intercepts and slopes.

Second, provided that family functioning (either adolescent report or parent report) was found to be associated with identity confusion over time, as a post-hoc analysis, we estimated a follow-up longitudinal panel analysis to test for cross-lagged effects (a) between adolescent-reported family functioning and identity confusion, and (b) between parent-reported family functioning and identity confusion. In this model, adolescent-reported family functioning, parent-reported family functioning, and identity confusion were allowed to covary within each timepoint.

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[5]As a check, we also conducted follow-up analyses on identity coherence by gender. Again, both variability over time and variability across individuals were nonsignificant for boys and for girls.

Associations between changes in family functioning and changes in identity confusion—Three latent growth curves were included in this model—one for identity confusion, one for adolescent-reported family functioning, and one for parent-reported family functioning—and the latent growth parameters (intercepts and slopes) were allowed to covary within and between latent growth curves.[6] Our first step was to ensure that we would be able to pool data across intervention conditions. Pooling data across condition would require that the model was fully invariant across conditions (cf. Byrne, 2001;Choi, Harachi, Gillmore, & Catalano, 2005). Because all of the factor pattern coefficients in LGCMs are constrained to specific values (i.e., all of the intercept paths are constrained to 1, and each slope path is constrained to the number of years between the baseline assessment and the timepoint for the indicator to which the path refers; see Duncan, Duncan, Strycker, Li, & Alpert, 1999), tests of invariance were conducted on the covariances among the latent growth parameters for family functioning and for identity. The fit of an unconstrained model, in which these covariances were free to vary across conditions, was compared to the fit of a constrained model that had each covariance constrained equally across conditions. The same criteria used to evaluate the assumption of measurement invariance in the family functioning composite over time (nonsignificant $\Delta\chi^2$, ΔCFI < .01, and ΔNNFI < .02) were used to test for invariance across intervention condition. The test of invariance indicated that the full model (including identity confusion and both adolescent and parent reports of family functioning) was invariant across conditions, $\Delta\chi^2(54) = 63.37$, $p = .18$; ΔCFI = .007; ΔNNFI = .011. As a result, following Choi et al. (2005) and Dishion, Nelson, and Yasui (2005), participants were pooled across conditions, and conditions was not included in the LGCM analysis.

The LGCM, including intercepts and linear slopes for identity confusion, adolescent-reported family functioning, and parent-reported family functioning, fit the data well, $\chi^2(108) = 165.64$, $p < .001$; CFI = .96; RMSEA = .046. The 90% confidence interval (CI) for the RMSEA index ranged from .032 to .060. Because the entire interval was below .08, the model was taken to fit the data adequately. Correlations among the intercepts and slopes for family functioning and identity confusion are shown in Table 2. Gender was significantly related to the slopes for adolescent-reported family functioning, $\beta = .22$, $p < .01$, and for identity confusion, $\beta = -.29$, $p < .01$. Gender was not significantly related to the slope for parent-reported family functioning, nor to any of the intercepts. Intercepts for both adolescent and parent reports of family functioning were significantly and negatively related to the identity confusion intercept. Changes in identity confusion were strongly associated with changes in adolescent-reported family functioning, $r = -.54$, $p < .001$, but not in parent-reported family functioning, $r = -.14$, $p = .39$.

Examining directionality: cross-lagged panel analysis—Although the LGCM analyses provide information regarding the relationship between changes in family functioning and changes in identity confusion, they do not provide information regarding directionality. As a result and, as a follow-up analysis, we conducted a cross-lagged panel analysis to explore directionality in the relationships between family functioning and identity confusion. The model, presented in Figure 1, fit the data adequately, $\chi^2(62) = 168.40$, $p < .001$; CFI = .90; RMSEA = .08. Adolescent-reported family functioning significantly predicted subsequent levels of identity confusion only between 2 and 3 years postbaseline. Parent-reported family functioning predicted identity confusion between the 6-months and 1-year assessment points, and between the 1-year and 2-year assessment points. Identity confusion predicted adolescent-reported family functioning between 1 and 2 years postbaseline and between 2 and 3 years postbaseline, and it predicted parent-reported family functioning between 2 and 3 years

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[6]The intercept-slope correlations across constructs (e.g., intercept for identity confusion with slope for adolescent-reported family functioning) were all nonsignificant. As a result, these correlations were dropped from the model. We retained in the model only correlations between intercepts, correlations between slopes, and the intercept-slope correlation within each construct.

postbaseline. These patterns might be summarized as follows: During early adolescence, the directionality was characterized primarily by parent-reported family functioning predicting identity confusion. However, as participants entered middle adolescence, identity confusion began to predict both adolescent and parent reports of family functioning. The results suggest that, as adolescents age and their identity becomes better established (in terms of more or less confusion), the relationship becomes more bidirectional.

Exploratory Analysis: Identifying Trajectory Classes for Identity Confusion

As an exploratory analysis, we conducted LGMM analyses (Muthén & Muthén, 2000), using Mplus (Version 4.0). LGMM is an extension of LGCM, where participants are grouped according to similarities in intercepts and slopes. These analyses therefore allowed us to identify distinct clusters of participants in terms of baseline values and change trajectories for identity confusion. In LGMM, the number of latent classes is specified in advance. It may be possible, however, to compare models with different numbers of classes using the Bayesian Information Criterion (BIC; Schwartz, 1978), where a lower BIC value indicates a better-fitting model (Burnham & Anderson, 2004). Furthermore, we examined the entropy value for the solution retained, where possible values range from 0 to 1 and higher values indicate greater accuracy of the class solution (Hix-Small, Duncan, Duncan, & Okut, 2004).

We estimated two, three, and four class solutions. The three-class solution (BIC = 5,411.18) provided a better fit to the data than did either the two-class (BIC = 5,415.62) or four-class (BIC = 5,427.67) solutions. Moreover, a three-class solution, where one class increases over time, a second class decreases over time, and a third class evidences little or no change over time, appeared to be conceptually valid. As a result, the three-class solution, with an entropy value of .76, was retained (see Figure 1). The reliabilities of the three classes were .91, .94, and .86, respectively. The first and third classes were fairly large, encompassing 49% and 44% of the sample, respectively, whereas the second class was quite small, representing 7% of the sample. When participants were placed into their most likely classes (cf. Lacourse, Nagin, Tremblay, Vitaro, & Claes, 2003), class 1 was comprised of 109 participants, class 2 of 17 participants, and class 3 of 119 participants. The identity confusion slopes for the three classes were as follows: class 1, slope = −1.28, $z = 5.42$, $p < .001$; class 2, slope = 3.29, $z = 4.36$, $p < .001$; class 3, slope = 0.09, $z = 0.35$, $p = .73$ (see Figure 2).[7] As a result, the classes were named *decreaser, increaser*, and *stable*, respectively. We saved the most likely class memberships to our data file and used them in analysis. Class membership was not related to intervention condition, $\chi^2(4) = 0.82$, $p = .94$, $\varphi = .06$.

To test for demographic differences in the classes, and to further examine the relationship between family functioning and identity, we then conducted a series of chi-square tests and analyses of variance. In these analyses, individuals were placed into their most likely classes. The classes differed significantly by gender: $\chi^2(2) = 16.85$, $p < .001$, $\varphi = .27$. Boys comprised 34% of the decreaser class, 71% of the increaser class, and 58% of the stable class. Therefore, the smallest class, with increasing confusion over time, was largely boys, whereas the class with decreasing confusion over time was largely girls. The classes did not differ significantly by adolescent age at baseline or by adolescent nativity (U.S.-born or immigrant).

We then conducted a Class × Gender multivariate analysis of variance to examine the extent to which the adolescent and parent reported latent growth parameters would differ by identity confusion trajectory class. This analysis yielded a significant multivariate effect of class, Wilks's λ = .81, $F(4, 472) = 6.49$, $p < .001$, $\eta^2 = .10$; but no main effect of gender and no Class

[7]Because these slopes and their standard errors were calculated using maximum likelihood estimation, their statistical significance is evaluated using a *z* test (Keith, 2006). The *z* statistic is evaluated using the *t* distribution with infinite degrees of freedom.

× Gender interaction. Follow-up univariate analyses indicated that the classes differed on all four growth parameters: adolescent-reported family functioning growth intercept, $F(2, 242) = 15.24$, $p < .001$, $\eta^2 = .11$; adolescent-reported family functioning linear slope, $F(2, 242) = 12.52$, $p < .001$, $\eta^2 = .09$; parent-reported family functioning intercept, $F(2, 242) = 6.14$, $p < .003$, $\eta^2 = .05$; and parent-reported family functioning linear slope, $F(2, 242) = 5.72$, $p < .005$, $\eta^2 = .05$. Tukey's least significant difference pairwise comparisons indicated that the decreaser class was characterized by a significantly higher family functioning intercept and a significantly more positive slope for family functioning (both adolescent and parent reports) than either the stable or increaser classes. Figure 3 displays the trajectories of adolescent-reported family functioning by identity confusion trajectory class.

Discussion

The present study was conducted to ascertain the relationship between family functioning and identity development over time in a sample of Hispanic adolescents from immigrant families. The study extends prior research by (a) using longitudinal methods to augment the cross-sectional work that has been conducted to examine associations between family functioning and identity and (b) using a Hispanic sample. Separate composites were used to represent adolescent and parent reports of family functioning, given the low levels of convergence obtained (correlations between the parent and adolescent-reported composites, computed separately at each timepoint, ranged from .13 to .36 in the present study). These low levels of convergence are consistent with past research (Schwartz, Pantin, et al., 2005; Tein et al., 1994). Interestingly, gender differences emerged in adolescent-reported, but not parent-reported, family functioning, with girls' reports increasing over time while boys' reports were stable over time. Girls appeared to become more satisfied with their families over time, although their parents did not necessarily perceive similar improvements in family functioning.

The use of a Hispanic sample represents an important advance in identity research. Most prior identity studies have been conducted with largely non-Hispanic White samples (Sneed et al., 2006). The present results are consistent with past research linking family functioning to identity (Kamptner, 1988; Reis & Youniss, 2004; Schultheiss & Blustein, 1994). These results, along with those of past studies, then, suggest that the construct of personal identity is relevant to, and important for, Hispanic early adolescents (cf. Schwartz, Pantin, et al., 2005). Moreover, in a largely White sample of early adolescents and using the Erikson Psychosocial Stage Inventory, Montgomery (2005) found evidence of identity activity in early adolescence. This finding is consistent with the finding of identity activity in the Hispanic early adolescents in the present sample. Furthermore, studies have found that the structure and functions of identity are consistent across immigrant generations (Schwartz & Montgomery, 2002) and across ethnic groups (Schwartz, Adamson, Ferrer-Wreder, Dillon, & Berman, 2006; Schwartz, Côté, et al., 2005). Taking these findings together with those of Schwartz, Pantin et al. (2005) and Schwartz, Adamson, et al. (2006) would suggest that the present results are likely to generalize across ethnic groups, and across immigrant generations within Hispanics. More research, however, is needed to support or invalidate this contention.

The primary contributions of the present study to the literature appear to be at least threefold. First, we found identity development in our sample of Hispanic adolescents was characterized primarily by changes in identity confusion, rather than by changes in identity coherence. This is not surprising given that young adolescents are just beginning to consider identity issues. Second, we found evidence that family functioning may predict identity confusion in early adolescence, but that the relationship may become more bidirectional later in adolescence. Third, we found three distinct patterns of changes in identity confusion—one characterized by decreases over time, another characterized by little or no change, and a third, much smaller class characterized by increases over time. The class whose confusion scores decreased over

time was largely girls, whereas the smaller class whose confusion scores increased over time was largely boys. This last finding extends the study of gender differences in identity development (e.g., Lewis, 2003; Schwartz & Montgomery, 2002) into early adolescence. Each of the three major sets of findings is summarized in more detail below.

Characterizing Trajectories of Identity Development

The first objective of the study was to characterize the trajectories of identity development in this sample of Hispanic adolescents. The first noteworthy finding was the lack of variability, either over time or across individuals, in identity coherence. Adolescents tended to report high scores (means at all timepoints were between 25 and 26 on a scale of 6 to 30) on identity coherence, suggesting that either (a) these adolescents were fairly sure of themselves, and that identity development for them was represented primarily by changes in confusion; or (b) social desirability effects may have affected the extent to which the adolescents responded to the identity coherence items. However, there would be no reason to expect that social desirability would affect identity coherence but not identity confusion. Further research may be necessary to track the developmental trajectories of identity coherence and identity confusion in diverse samples of early adolescents.

There was, however, significant variability in identity confusion scores, both over time and across individuals. For the sample as a whole, preliminary growth curve analyses indicated that girls tended to decrease in identity confusion over time, whereas boys tended to remain stable over time. This gender difference continued to emerge when LGMM was used to identify classes of individuals who differed on their baseline levels and trajectories of identity confusion. Boys were overrepresented among adolescents whose confusion levels increased over time and were underrepresented among adolescents whose confusion levels decreased over time. It is possible, then, that identity problems are more common in Hispanic boys than in Hispanic girls, and that Hispanic boys may be more in need of intervention. It is imperative for further research to examine whether this is the case for adolescents from other ethnic groups as well, and it is also imperative to examine the antecedents of increases and decreases in identity confusion among boys and girls from different ethnic groups.

Furthermore, it is also important to examine the content areas in which coherence or confusion may be operating during early adolescence. Although identity status measures tend to utilize domains intended for older adolescents and for adults, it may be possible to develop identity instruments for early adolescents that tap into age-appropriate content areas (e.g., general sense of self, bonding to school, and fitting in with one's peer group). Such measures may provide evidence regarding the areas in which early adolescents feel coherent or confused about themselves.

Relationships Between Identity Confusion and Family Functioning Over Time

LGCM analyses indicated that variability in identity confusion over time was strongly related to adolescent reports, but not to parent reports, of family functioning. This relationship appeared to be consistent across gender. Increases in adolescent-reported family functioning were accompanied by decreases in identity confusion, and vice versa. Moreover, when adolescents were placed into trajectory classes using LGMM, the baseline levels and trajectories of family functioning varied as a function of identity confusion trajectory class. Adolescents with the most favorable characterizations of, and the greatest improvements in, family functioning over time tended to decrease in identity confusion, whereas adolescents who tended to increase in identity confusion over time tended to characterize their family functioning as worsening over time, particularly around ages 15 and 16. Interestingly, this was also the age at which identity confusion began to predict family functioning (both adolescent and parent report) in the analyses of directionality. These findings are consistent with, and may

extend, prior cross-sectional (Jackson et al., 1990; Mullis et al., 2003; Schultheiss & Blustein, 1994) and longitudinal (Reis & Youniss, 2004) research reporting links between family functioning and identity.

Normative Identity Development: Increases or Decreases in Identity Confusion?

The extent to which the patterns observed in the present data set represent "normative" identity development warrants further research. First, the finding that the sample was universally high in identity coherence (both at baseline and over time) seems surprising. Additional research, perhaps using interview or other qualitative methods, is needed to ascertain the extent to which early adolescents actually possess a coherent sense of identity, or whether the present finding is largely the result of social desirability or limitations in the measure. It may also be plausible that the high levels of identity coherence are associated with residing in a bicultural community like Miami, where ethnic and cultural aspects of identity tend to be relatively well developed (cf. Schwartz, Pantin, et al., 2006). Second, it is not known whether "normative" or "optimal" identity development in early to middle adolescence implies increases or decreases in identity confusion. Some studies have found that identity exploration, which is conceptualized as the primary mechanism of identity development within the identity status model (Grotevant, 1987), is associated both with indices of identity confusion (Schwartz, Côté, et al., 2005) and with anxiety, depression, and other forms of psychopathology (Kidwell et al., 1995; Meeus, 1996). Increases or stability in identity confusion over time may therefore not be surprising for adolescents who are beginning to consider identity issues. Decreases in confusion over time in early adolescence may be associated with "foreclosure," which in the identity status model implies making identity choices and commitments without exploring one's options beforehand. Given the relationship between positive family functioning and identity commitments (Mullis et al., 2003), such a conclusion is consistent with the finding that adolescent reports of family functioning increase over time. It is also possible that these adolescents may have already explored and experienced confusion, and that this confusion was decreasing during the study period. Although this seems unlikely given the age of the adolescents in the sample, because exploration is unlikely to have occurred prior to age 13, it is nonetheless important to examine whether the decreases in confusion are characteristic of foreclosure or were preceded by exploration. This is an especially important issue for identity theory because most of the adolescents decreasing in confusion were girls, and investigation of gender differences has been established as a critical endeavor in identity research (Archer, 1992). Culturally, it is possible that, in Hispanic cultural contexts, which tend to have fairly well-established gender role expectations (e.g., women are expected to be primarily responsible for the home, whereas men are encouraged to pursue more fulfilling careers; Gomez & Marin, 1996), girls are more likely to be assigned household responsibilities such as preparing meals and caring for younger siblings. These household roles may provide a sense of identity coherence for the girls in our sample.

Characterizing the small group of adolescents with rapidly escalating identity confusion scores is also an important direction for further research. Erikson (1950) delineated two forms of identity confusion—a benign, normative variant where one is not sure how to proceed; and a more severe type that is associated with high levels of distress. It may be that the stable and increaser classes represent these two variants of identity confusion that Erikson proposed, whereas the decreaser class may represent individuals who do not engage in identity exploration or have previously explored, as outlined above. The small size and severity of the increaser class supports the characterization of this class as experiencing severe identity confusion. Moreover, in immigrants and their immediate descendants, identity confusion may be especially prognostic of distress and with problematic behaviors (Schwartz et al., 2006). Nonetheless, further research is necessary to explore these possibilities.

Limitations

The present results should be considered in light of some important limitations. Perhaps most important, even though intervention condition did not appear to influence any of the study variables, the use of an intervention data set raises at least two concerns. First, although this was a community sample and was not selected based on behavior problems or other individual-level indicators of risk, it was not a natural history sample. All participants received some form of intervention, and the intervention conditions have been shown to influence variables not included in the present analyses (e.g., parent-adolescent communication about drugs and sex; Prado, Pantin, Briones, et al., 2007). Second, participating families were recruited for an intervention study, and only those parents who were interested in participating in the intervention were contacted by project staff to set up assessment appointments. There is evidence that parents who agree to participate (and to allow their adolescents to participate) in such intervention studies tend to be comparatively highly involved with their adolescents (Spoth, Redmond, & Shin, 2000). A more representative sample would likely have included a wider array of participants than can be recruited for an intervention study.

Another additional limitation concerns the demographic characteristics of the sample. The sample was gathered only from participating middle schools in low-income, highly Hispanic areas of Miami. It is not representative of the Miami Hispanic population or of the U.S. Hispanic population as a whole. Miami has received a large number of middle- and upper-class South American professionals in the past 10 years, and given the very low family incomes in the present sample, these individuals and their families would be unlikely to reside in the catchment areas for the middle schools from which data were collected. In terms of the U.S. Hispanic population as a whole, the two largest nationalities, Mexican Americans and Puerto Ricans, were not well represented in the present sample. As a result, the present findings should be regarded as exploratory and as a starting point for a line of research on trajectories of identity development in early adolescence and on the relationship of family functioning to these trajectories.

Despite these limitations, the present results may provide valuable information that can guide further research on identity development as well as future identity intervention design. First, it is important to ascertain whether the identity confusion trajectory classes obtained in the present study are generalizable to the population of Hispanic early adolescents and to early adolescents as a whole. Second, it is also important to examine the extent to which the present findings for identity coherence are idiosyncratic to the present sample or generalizable to other samples of Hispanic (and non-Hispanic) early adolescents. To the extent that these results can be generalized, and to the extent that the anomalous findings for identity coherence represent a meaningful finding rather than an artifact, the present findings have key implications for theory—namely that there is indeed identity activity occurring in early adolescence, and that much of this activity is represented by changes in identity confusion. It is important for further research to more fully characterize this activity and the ways in which it may set the stage for identity development in later adolescence and young adulthood, when identity is more typically studied.

For intervention, the results suggest that modifying adolescents' perceptions of family functioning may help to reduce identity confusion in early adolescence. However, to the extent that some degree of identity confusion may be adaptive as young adolescents begin to consider identity issues, some deterioration in family functioning may be necessary. Research has shown that high levels of family cohesion and involvement may inhibit identity exploration (Jackson et al., 1990; Mullis et al., 2003). As a result, although it may be advantageous to correct maladaptive family processes that interfere with adolescent identity development, there may be optimal levels of parental involvement, parent-adolescent communication, and family support that may modulate identity confusion without suppressing identity exploration (cf.

Szapocznik et al., 1991, who have identified family enmeshment as problematic because it stifles adolescent development). It is critical for further research to examine this possibility. For example, one can test the effects of family functioning dimensions on both identity confusion and identity exploration, and identify levels of family functioning at which its relationship to identity confusion is least or most negative.

In sum, it is hoped that the present results will inspire more longitudinal research on identity development and its antecedents, concomitants, and consequences in early adolescence. We know much more about how identity is consolidated in young adulthood than about how identity development begins in early adolescence (Schwartz, 2005). Extending this literature is therefore of much importance. For example, it would be valuable to ascertain the extent to which the identity confusion trajectory classes obtained in the present sample are differentially associated with substance use, sexual risk taking, behavior problems, or positive developmental outcomes. Such research will help to make identity research relevant to real-world public health concerns.

Acknowledgments

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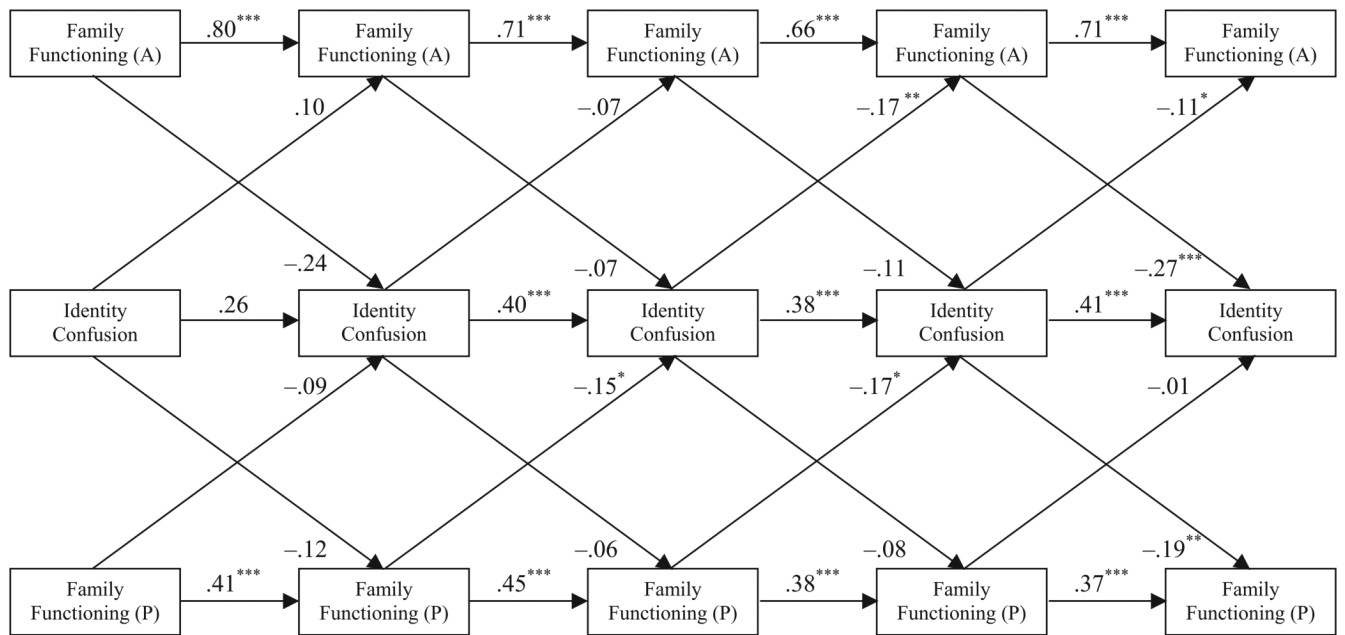
Biography

Seth J. Schwartz is an associate professor in the Department of Epidemiology and Public Health at the University of Miami. He received his bachelor's degree in psychology from Florida State University, his master's degree in family and child sciences from Florida State University, and his PhD in developmental psychology from Florida International University. His research interests are in identity, broadly defined, including personal and cultural identity; in family functioning and parenting; and in the role of cultural processes and ethnicity in developmental processes.

Craig A. Mason received his PhD in clinical child psychology from the University of Washington. He is currently an associate professor of education and applied quantitative methods at the University of Maine. His research interests are in developmental epidemiology, biobehavioral informatics, and quantitative methods.

Hilda Pantin is clinical associate professor in the Department of Epidemiology and Public Health at the University of Miami Miller School of Medicine. She has over 40 scholarly

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José Szapocznik is professor and chair of the Department of Epidemiology and Public Health at the University of Miami Leonard M. Miller School of Medicine. He is also director of the Center for Family Studies and associate dean for Community Development. Dr Szapocznik is a pioneer in the national effort to prevent and treat adolescent drug abuse and other behavior problems among Hispanic youth. His Brief Strategic Family Therapy™ has received considerable national and international recognition and is listed in the National Registry of Effective Practices and Programs.

Family Functioning (A) →.80*** Family Functioning (A) →.71*** Family Functioning (A) →.66*** Family Functioning (A) →.71*** Family Functioning (A)

.10 −.07 −.17** −.11*

−.24 −.07 −.11 −.27***

Identity Confusion →.26 Identity Confusion →.40*** Identity Confusion →.38*** Identity Confusion →.41*** Identity Confusion

−.09 −.15* −.17* −.01

−.12 −.06 −.08 −.19**

Family Functioning (P) →.41*** Family Functioning (P) →.45*** Family Functioning (P) →.38*** Family Functioning (P) →.37*** Family Functioning (P)

Figure 1. Cross-Lagged Path Model
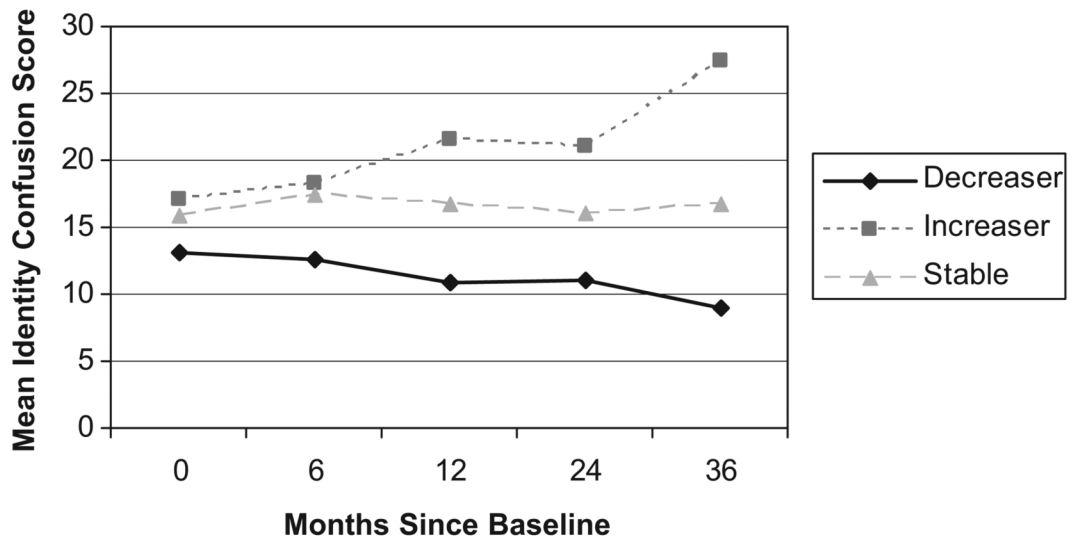*p < .05. **p < .01. ***p < .001.

Figure 2. Growth Mixture Model for Identity Confusion
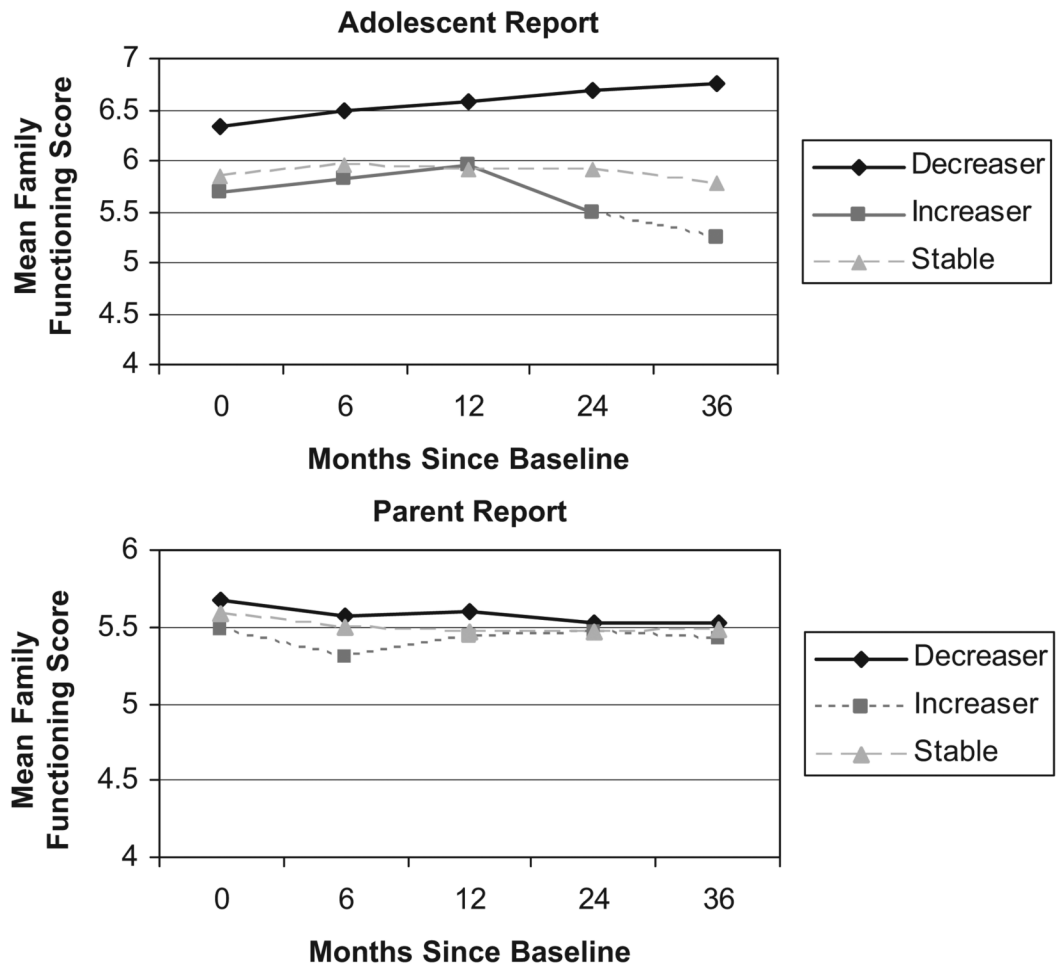
Figure 3. Family Functioning by Identity Confusion Trajectory Class

Table 1

Descriptive Statistics for Study Variables at Baseline

Variable	$\overline{X}$	SD	Range[a]	Cronbach's Alpha
Family support (A)	16.13	3.29	7 to 24 (6-24)	.53[b]
Family cohesion (A)	19.31	3.52	7 to 24 (6-24)	.85
Parent-adolescent communication (A)	72.71	14.37	32 to 100 (20-100)	.96
Parental involvement (A)	21.03	3.65	12 to 26 (0-26)	.71
Positive parenting (A)	8.78	3.26	0 to 12 (0-12)	.86
Family support (P)	18.81	2.83	9 to 24 (6-24)	.65
Family cohesion (P)	20.58	2.78	12 to 24 (6-24)	.79
Parent-adolescent communication (P)	77.50	8.70	43 to 100 (20-100)	.93
Parental involvement (P)	29.07	3.07	17 to 32 (12-38)	.87
Positive parenting (P)	16.68	1.77	9 to 18 (6-18)	.78
Identity coherence (A)	25.32	4.64	6 to 30 (6-30)	.83
Identity confusion (A)	14.68	4.92	6 to 27 (6-30)	.69

[a]Ranges of possible scores are in parentheses.

[b]This alpha coefficient is comparable to those in the article (Tolan et al., 1997) reporting validity evidence for the Family Relations Scale with African American and Hispanic adolescents and their families.

Table 2

Correlations Among Growth Parameters for Family Functioning and Identity Confusion[a]

Growth Parameter	1	2	3	4	5	6
Family functioning (A)						
1. Intercept	—					
2. Slope	–.20	—				
Family functioning (P)						
3. Intercept	.29***		—			
4. Slope		.59***	–.59	—		
Identity confusion						
5. Intercept	–.55***		–.32***		—	
6. Slope		–.54***		–.14	–.25	—

Correlations were not estimated between the intercept for one variable and the slope for another variable.

[a]Statistical significance for each correlation is determined by the size of the corresponding standard error, such that coefficients of equal size may not be equivalently significant.

***
$p < .001$.