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Acculturation Gap Distress among Latino Youth: Prospective Links to Family Processes and Youth Depressive Symptoms, Alcohol Use, and Academic Performance

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Abstract

Latino youth have higher rates of educational and mental health difficulties compared to peers from other racial/ethnic groups. To understand the factors related to such maladjustment, a mediational model linking youth report of parent-youth acculturation gaps to prospective changes (from spring to fall semester) in youth report of academic performance, depressive symptoms and alcohol use via youth report of parent-youth conflict and family cohesion, was studied in a sample of 248 U.S.—and foreign—born Latino youth (Mage = 15.21 years; 50% female; 67% U.S.-born). Parent-youth acculturation gaps were associated with changes in youth academic performance across two semesters via their negative impact on family functioning. For U.S.-born youth, parent-youth acculturation gaps were also linked to changes in alcohol use via parent-adolescent conflict. Results provide some support for the acculturative gap hypotheses while unique findings across nativity groups suggest that such individual-level characteristics may serve as important sources of variation for Latino youth.

Keywords

Acculturation; Latinos; Parent-adolescent conflict; Family cohesion; Psychosocial functioning

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Authors' Contributions RLN conceived of the current study, participated in its design and coordination, performed the statistical analyses and drafted the manuscript; KR helped to conceive the current study, participated in the design and interpretation of the data, performed statistical analyses, was the PI on the grant whose data are used in the study, provided feedback and written contribution to the manuscript; RMBW participated in providing feedback and contributions to the manuscript draft. All authors read and approved the final manuscript.

Conflict of Interest The authors declare that they have no competing interests.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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

Introduction

Acculturation, the process by which immigrants and the children of immigrants adapt to a host country and experience changes in language use, cultural values, beliefs, and practices, has important influences on the developmental trajectories of youth in immigrant families (Gonzales et al. 2009). Although conceptualized as an individual-level process, acculturation also has impacts at the family level largely by virtue of differential rates of acculturation between youth and their immigrant parents (Crockett and Zamboanga 2009). Commonly, adolescent children adopt U.S. values and beliefs more rapidly than do their immigrant parents (Bacallao and Smokowski 2007). The negative implications of these parent-youth discrepancies in cultural values for family processes and youth adjustment are commonly referred to as the acculturation gap distress hypothesis (Phinney et al. 2000; Szapocznik and Kurtines 1993). Although theoretical scholarship on the acculturation gap distress hypothesis is well developed, empirical work, the bulk of which has focused on Latinos in established immigrant receiving areas, is fraught with inconsistent and null findings (Schwartz et al. 2016; Telzer et al. 2016), an issue made more tenuous by measurement complexities (Telzer 2011).

In the current study, we tested the acculturation gap distress hypothesis in a sample of Latino families residing in a new immigrant destination area of the U.S. Specifically, we advanced a prospective mediational model in which parent-youth acculturation gaps were related to poorer levels of family functioning (i.e., higher parent-adolescent conflict and lower family cohesion) and, in turn, higher levels of youth maladjustment across two semesters of high school. The present study addressed measurement complexities (Telzer 2011) by utilizing a proximal and phenomenological measure of acculturative family distancing (AFD; Hwang 2006), wherein, youth reported on their perception of the degree of incongruence in beliefs, cultural values, and practices that existed between themselves and their immigrant parents. We focused on academic performance, alcohol use, and depressive symptoms as indicators of maladjustment for three primary reasons: (1) Latino youth fare significantly worse than several other ethnicracial groups with respect to educational attainment (Child Trends 2014), substance use, and mental health (McLaughlin et al. 2007); (2) although correlated, these outcomes have a distinct etiology (Lewin-Bizan et al. 2010); and (3) prior research suggests that the acculturation gap hypothesis is salient to both externalizing (Elder et al. 2005) and internalizing symptoms, strong correlates of these study outcomes (Lau et al. 2005). Delineating the processes that are associated with maladjustment is critical to effectively alleviate the social and individual costs of compromised mental health, substance use, and poor school performance among this growing and youthful population (Kann et al. 2014). Finally, because of considerable diversity among U.S. Latinos, we examined whether pathways linking acculturative family distancing to youth outcomes varied by adolescent nativity (Gonzales et al. 2012).

Acculturation Gap Distress Measurement

Although immigrant parents and adolescents experience the acculturative process simultaneously, the developmental and social contexts that shape the experiences of each are unique. Youth's acculturative processes have been conceptualized largely as a function

of a key developmental process, namely, identity formation (Erikson 1968). Contextually youth are often thrust, with little choice, into continual rapid interaction with mainstream, or host-country culture and values in school settings while simultaneously developing a sense of their identity (Birman 2006). Models of the acculturative process among adults, on the other hand, have been rooted in theories of adjustment based on stress and selection (Suarez-Orozco and Suárez-Orozco 1995). Contextually, parents, more capable of self-selection than their adolescents, must choose and decide the components of mainstream culture (i.e., business, social) in which they wish to participate, a process that can be stressful (Szapocznik and Truss 1978). Parent-youth differences in the acculturative process have been theorized to result in differential rates of adaptation to the host culture, thereby, leading to the emergence of acculturation gaps or discrepancies in cultural values (Rumbaut 2000). The acculturation gap distress model posits that this gap leads to greater conflict and disharmony within the family context, ultimately harming youth adjustment (Lee et al. 2000).

Difference scores—Perhaps the most common measurement approach used to assess parent-youth cultural gaps is the difference score. In this method, scores for parents' and youth's acculturation levels (e.g., cultural values, language use, cultural behaviors) are subtracted from one another, resulting in a quantitative representation of parent-youth distance on acculturation (Merali 2002). Cross-sectional studies with Latino youth utilizing this measurement technique have evidenced mixed support for gap hypotheses. Broadly, the cross sectional work relying on difference scores suggests that parent-youth differences in host-country (American) cultural orientations are negatively related to effective parenting practices (Martinez 2006; Smokowski et al. 2008) and, positively related to family conflict (Bámaca-Colbert et al. 2012) and alcohol use (Elder et al. 2005). In the prospective work relying on difference score methods, researchers found that father-child differences in late childhood cultural orientations predicted early adolescent father-child conflict, whereas mother-child differences did not predict later mother-child conflict (Schofield et al. 2008). In longitudinal work with Hispanic high school students, Unger and colleagues (2009) found that, for youth, increases in acculturation discrepancies from 9th to 10th grade were associated with higher levels of substance use in 10th grade. Finally, Schwartz and colleagues' (2016) five-year longitudinal study indicated that increasing gaps in heritage values and identities were related to declines in family functioning; however, contrary to expectations, increasing discrepancies in host-country values were associated with improvements in family functioning. Taken together this body of work has produced mixed evidence in support of the acculturation gap distress hypothesis.

From a measurement perspective, the use of differences scores has its benefits in that it allows for both the level and direction of discrepancy between parent and child acculturation levels to be considered (Atzaba-Poria and Pike 2007). However, many researchers do not take advantage of examining the direction of the gap and instead focus solely on its size (Telzer 2011). This is particularly problematic in light of theory, which suggests that mismatches are more problematic when the young person is more aligned with the host culture than the parent (Szapocznik and Kurtines 1993). Another limitation of difference scores, is that the approach is predicated on the assumption that the measurement device

demonstrates the highest levels of measurement equivalence (Knight et al. 2009) across parent and youth reporters and is developmentally appropriate for both reporters. Taken together, studies with Latinos that have operationalized acculturation gaps through the use of difference scores offer mixed support for gap hypotheses; evidence for this support is further complicated when sample considerations (males vs. females, mothers vs. fathers, early vs. late adolescence) are included.

Typologies—Similar to findings from studies using a difference score, studies using alternative measurement approaches raise questions about the degree to which gaps in parent–youth acculturation matter for family and adolescent outcomes. Researchers have operationalized the acculturation gap by creating typologies that represent the degree and, sometimes, type of acculturation match or mismatch (Telzer 2011). In this method, parents and youth are grouped into categories based on their concordance or discordance in cultural values or behaviors, such as parents and adolescents both sharing a high level of U.S. acculturation, or parents having low and youth having high U.S. acculturation, etc. These typologies are then examined in some form of multigroup analyses predicting youth and family maladjustment. Among a sample of high-risk Mexican American families, Lau and colleagues (2005) found that discordant typologies, characterized by youth having less endorsement of heritage cultural values than their parents, were associated with youth reporting greater conduct problems. On the other hand, discordant typologies, whereby youth were more acculturated to U.S. values than their parents, were unrelated to youth outcomes or to family functioning among a high risk sample of Mexican American youth (Lau et al. 2005). Contrary to theory and some research, Pasch and colleagues' (2006) cross-sectional study of Mexican Americans found that in concordant mother–youth dyads, where mothers and adolescents both reported having high levels acculturation, youth reported higher levels of sexual activity. Further, in concordant father–youth dyads, where fathers and adolescents both reported having high levels of acculturation, fathers reported higher levels of conflict with their adolescents (Pasch et al. 2006). Some of the inconsistencies in typology acculturation gap research may stem from the fact that parent and youth cultural values are centered within their own distributions, which restricts the generalizability of findings beyond the specific study sample (Telzer 2011). The lack of longitudinal research examining acculturation gap typologies, coupled with unmeasured heterogeneity in such typologies, limit confidence in the degree to which empirical findings support the theoretical propositions of parent–youth acculturation gaps (Telzer 2011).

Interactions—A final measurement approach, distinct from both difference scores and typology-based approaches, entails researchers testing interactions between youth and parent reports of cultural values, beliefs, and/or practices. In this way, researchers are able to capture the direction and type of differences in acculturation between children and their parents. As with research examining typologies of parent–youth acculturation gaps, interaction-effects research has evidenced mixed findings. For example, among Latino adolescents and their parents, Smokowski et al. (2008) found that interactions between parent and youth levels of traditionalism or Americanism were unrelated to youth reports of family processes. In that same study, however, interactions between parents' traditional culture and youth's U.S. cultural involvement—whereby parents had higher traditional

cultural orientations and youth had higher U.S. involvement—were related to lower levels of family cohesion, adaptability, and familism. Having examined parent-by-youth interactions across cultural domains, including Mexican behavior, American behavior, beliefs regarding family obligations, English proficiency, and Spanish proficiency, Telzer and colleagues (2016) found no evidence for impacts of parent-youth acculturation differences on a range of family and adolescent outcomes. The utility of the interaction-effects approach may be limited by empirical constraints. Specifically, parents and youth both often evince high endorsement of heritage values (Knight et al. 2010) and the magnitude of the acculturation gap differences is often small (Schwartz et al. 2016). These small differences have been found to have effects consistent with the acculturation gap distress hypothesis (Schwartz et al. 2016), but they also likely limit the utility of a variable interaction approach that would require substantial variability to detect an effect.

Acculturative Family Distancing as Operationalization of Acculturation Gaps

As outlined above, the empirical evidence is equivocal, and drawing clear conclusions across studies has been hampered by differences in sample characteristics, measurements, and analytic strategies. Theoretically, parent–youth discrepancies are assumed to represent sources of disagreement that lead to specific conflict centered around value discrepancies. Yet, many operationalizations rely solely on items such as participation in cultural activities (e.g., Martinez 2006; Smokowski et al. 2008), language use (e.g., Bámaca-Colbert et al. 2012) or media use (e.g., Schofield et al. 2008), without attention to value laden domains of acculturation. In the few cases when specific value or belief levels have been assessed (i.e., Telzer et al. 2016; Schwartz et al. 2016) and used to predict family disharmony, findings remain tenuous. Further, all of these approaches assume that measures demonstrate scalar equivalence among parents and youth (Hui and Triandis 1985), a level of psychometric equivalence that has not been assessed in prior work (Knight et al. 2010). In addition, these methods do not capture the extent to which family members (parents and adolescents) perceive that there are problematic value-, expectation-, and behavior-gaps among them. For example, the techniques assume that mathematically, or statistically observed differences (e.g., a 1-point parent-child difference on host-country orientations) are experienced as gaps, or intra-familial cultural divides. Similar to numerous developmental theories emphasizing the phenomenological (Bronfenbrenner and Morris 2006), the acculturation gap-distress hypothesis is rooted in the notion that youth and parents are able to perceive similarities or differences (Edwards et al. 2006). Theoretically, the acculturation gap is based on the parent or youth perceiving differences based on cognitively comparing their own values, beliefs, and behaviors to the others'. This comparison process lies at the core of acculturation gap theories but has rarely been examined empirically because the literature tends to rely instead on mathematical or statistical approaches to operationalize the gap.

In the current study, we attempt to assess the limitations characterizing extant acculturation gap distress research by utilizing acculturative family distancing as a more proximal, and phenomenological measure of parent-youth acculturation gaps. Acculturative family distancing is defined as “the distancing that occurs between parents and youth as a result of communication difficulties and cultural value incongruence,” and it specifically assesses perceptions of parent-youth agreement or disagreement on cultural behaviors and

value domains (Hwang 2006). For example, by asking youth to report on the level of parent-adolescent agreement on issues such as “My parents and I agree ...on the relative importance of academic vs. social life; [and] on whether to spend their free time with friends or family,” acculturative family distancing specifically measures perceptions of a gap or discrepancy as opposed to measuring parent–youth acculturation differences, typologies, or interactions. In this way, acculturative family distancing captures salient behavioral and cognitive autonomy aspects of adolescent development (Erikson 1968) and is consistent with theory (Hwang 2006) which would suggest that acculturation gap discrepancies are occurring at both the behavioral and psychological levels. An additional strength of this measure is that it incorporates phenomenological viewpoints of youth an approach rarely done in the acculturation-gap distress literature, but highlighted as critical in broader theories of development (Bronfenbrenner and Morris 2006). Since the theory of acculturative family distancing was first articulated (Hwang 2006), only a few studies have used it to test acculturative gap distress model hypotheses using Latino samples and none with Latino adolescents. Among Latino college students, higher levels of acculturative family distancing have been associated with more psychological distress and increased risk for depression (Hwang and Wood 2009) and with lower levels of youth’s bicultural competence, which, in turn, was found to increase risks for depression (Carrera and Wei 2014). Unlike for Latinos, there is a growing body of research that examines acculturative family distancing among Asian immigrant populations. In a study of Chinese American high school students and their mothers, youth’s perceptions of acculturative family distancing were related to youth reports of greater family conflict; in addition, maternal perceptions of distancing were associated with more maternal depressive symptoms (Hwang et al. 2010). Due to the greater value placed on family harmony and togetherness among immigrants (Sabogal et al. 1987), acculturative family distancing may have especially adverse impacts on outcomes for recent immigrant Latino families, as compared to those who have spent more time living in the U.S.

Mediating Processes

There are compelling reasons to focus on parent–youth conflict and family cohesion as the mechanisms most proximal to Latino youth’s adjustment. The propositions advanced in acculturation gap distress theoretical models (Szapocznik and Kurtines 1993) are rooted in both bio-ecological theory (Bronfenbrenner and Morris 2006) and family systems theory (Cox and Paley 1997). Bio-ecological theory identifies proximal processes embedded in the family context as powerful socializing forces affecting youth’s developmental trajectories (Bronfenbrenner and Morris 2006). Similarly, family systems theory suggests that behavioral and emotional problems of individuals result from structural and process characteristics of families (Minuchin and Fishman 1981). In family systems theory, the family is viewed as a rule-governed, hierarchically organized system in which there are boundaries and rules that structure all interactions. Indeed, some research has shown that in response to the clash between a system favoring individualism with a system emphasizing family cohesion, familism, and control (Lau et al. 2005), Latino families’ external boundaries may become more rigid in an attempt to preserve behaviors and roles of their culture of origin (Hernandez and McGoldrick 1999).

Empirically, parent–youth conflict and family cohesion are well-established predictors of Latino youth outcomes (Schwartz et al. 2005). Family cohesion, the emotional bond and closeness that family members have with other family members (Olson et al. 1985), has consistently been identified as a family attribute that promotes positive youth development (Grau et al. 2009). Latino youth reporting greater family cohesion report less conduct disorder (Marsiglia et al. 2009) and fewer internalizing symptoms (White and Roosa 2013). Conversely, high levels of parent-youth conflict have been associated with conduct problems, aggression, and antisocial behaviors, as well as internalizing problems such as depression, anxiety, withdrawal, and self esteem (Smokowski et al. 2014). Among Mexican-origin youth, Rumbaut (2000) found that increased levels of parent-youth conflict resulted in lower levels of academic performance and self-esteem and elevated risks for school dropout and after-school suspension. A small number of studies have documented links between parent-youth conflict and adjustment outcomes, showing that parent-youth conflict is related to depressive symptoms and problem behavior among Mexican-origin families (e.g., conduct problems, substance use; Lau et al. 2005; Pasch et al. 2006). Finally, a recent study of Mexican-origin Latina mothers found positive prospective relations (one year later) between mother-daughter conflict and both depressive symptoms and risky behaviors (Derlan et al. 2015).

Nativity

Nativity remains an important source of within-group variability for Latino youth (Garcia-Coll and Marks 2009). With regard to youth outcomes, U.S.-born youth often have higher rates of maladjustment than do their foreign-born counterparts (Lara et al. 2005). In addition, U.S.-born Latino adolescents experience higher levels of parent-adolescent conflict and lower levels of family cohesion, than do their foreign-born counterparts (Barajas-Gonzales and Brooks-Gunn 2014). Nativity can shape the way in which immigrants and their families perceive and experience their lives (Halgunseth et al. 2006). For instance, it may be that processes emanating within family context may be especially impactful for foreign born Latino youth, considering the highly family-oriented context within in which these young people are raised (Sabogal et al. 1987). Alternatively, foreign-born youth and their immigrant parents might have more shared values and, thereby, less likely to perceive acculturation gaps than would be the case for youth and parents with disparate nativity status (Smokowski et al. 2008).

Current Study

Propositions from bio-ecological (Bronfenbrenner and Morris 2006), family systems (Cox and Paley 1997) and acculturation gap distress theoretical models (Szapocznik and Kurtines 1993) provide compelling reason to expect that greater acculturative family distancing would be associated with less positive family processes, and in turn, worse adjustment among youth. Informed by prior research and theory, we set forth a series of hypotheses that contribute to the body of work on the impact of discrepant parent-youth acculturation on development (Schwartz et al. 2016; Telzer et al. 2016). To address key methodological limitations in operationalization and analytic strategies within gap literature (Telzer 2011), we further advanced the use of the acculturative family distancing construct as a more

proximal, and phenomenological measure of parent-youth acculturation gaps (Hwang 2006) that assesses key behavioral and psychological aspects of adolescent development (Erikson 1968). We investigated the prospective associations between parent-youth acculturation discrepancies, family cohesion, parent-youth conflict and changes in youth outcomes (academic performance, depressive symptoms, and alcohol use) in a sample of Latino high school students assessed across two semesters paying special attention to how nativity, a critical marker of within group-diversity (Garcia-Coll and Marks 2009) shaped hypothesized relations.

We had five central hypotheses in the current study. Consistent with acculturation gap theoretical models (Szapocznik and Kurtines 1993) we hypothesized that higher levels of acculturative family distancing would be related to higher levels of parent-adolescent conflict and lower levels of family cohesion. Following theory (Cox and Paley 1997) and empiricism on Latino youth (Grau et al. 2009; Derlan et al. 2015) we hypothesized that (a) higher levels of parent-adolescent conflict would be associated with increases in depressive symptoms and alcohol use from T1 to T2 and decreases in academic performance from T1 to T2; and (b) we hypothesized that lower levels of family cohesion would be related to increases in depressive symptoms and alcohol use from T1 to T2 and decreases in academic performance from T1 to T2. We further hypothesized parent-adolescent conflict and family cohesion would mediate relations between acculturative family distancing and youth outcomes. Finally, we hypothesized that youth nativity would moderate the pathways linking acculturative family distancing to adolescent outcomes through parent-adolescent conflict and family cohesion. We did not have a priori hypotheses for the directionality of youth nativity moderating effects.

Method

Data for this study come from surveys administered in the Fall and Spring of the 2014–2015 school year for Latino (Mexican- and Central American-origin) adolescents attending a high school in suburban Atlanta, an emerging immigrant destination. From grade and gender strata of all 9th and 10th grade Latino-origin students ($N = 507$), we selected a random sample of $n = 335$ youth. We excluded 24 students considered to be ineligible by virtue of no longer being enrolled in school at the time of the Fall data collection or not having a parent reachable by phone, a requirement for obtaining parental permission. Among the remaining 311 eligible students, the response rate was 81%, resulting in a final sample of 252 students. Refusals included students whose parents did not provide consent and students who did not show up for scheduled survey administrations. Among the 252 surveyed youth, four were excluded due to either having special education needs preventing survey completion or being South American. Ninety-one percent of the 248 students participated in the Spring survey (T2); non-respondents included students who had left the school due to either transfer or drop out.

Among the 248 participants, 50% were female; 67% were U.S.-born; and, 70% were Mexican American, with the remaining 30% being Central American. Youth reported on their parents' nativity, 94% of mothers and 96.4% of fathers were foreign born. Youth were interviewed in the Fall semester of their 9th or 10th grade year ($M_{\text{age}} = 15.21$ years, $SD =$

1.02; T1) and again in the Spring semester of the same year. Survey administration for youth was conducted using self-administered surveys on mini-iPads using *Qualtrics* software, a password-protected and encrypted web-based survey that integrates data collection with data downloads (Qualtrics Inc. 2013). A small number of adolescents ($n = 8$; 3%) chose to complete the survey in Spanish. Survey completion took between 30 and 45 min; youth were provided with a \$20 gift card at each time point for participating in the study.

Measures

Nativity—Adolescents were asked to report on their place of birth. Responses were coded 1 = U.S.- born and 0 = foreign-born.

Acculturative family distancing (AFD)—Acculturative family distancing was assessed using the 10-item Values Agreement subscale from the AFD scale (Hwang 2006; Hwang et al. 2010). Adolescents reported the degree to which they perceived agreement or disagreement with their parents in behavioral and psychological domains. Example items included: “My parent and I agree about the relative importance of school vs. social activities;” “My parents and I agree that family needs should always come before individual needs;” “My parents and I agree on whether to spend time with friends or family;” and “My parents and I share the same values.” Previous studies with the AFD measure provide evidence in support of convergent validity for this measure among Latino college students, as AFD was positively associated with family conflict and subjective distress (Hwang and Wood 2009) and a more recent study with Chinese high school students (Hwang et al. 2010) found that AFD was positively linked with family conflict, higher levels of depression and greater enculturative differences providing some evidence of validity of this measure in adolescent samples. Responses, which ranged from 1 = Almost never or never to 4 = A lot of the time/frequently, were reverse coded and averaged such that higher scores indicated greater acculturative family distancing ($\alpha = .84$).

Parent–Adolescent Conflict—Parent–adolescent conflict was assessed using a summed average of nine-items from the Issues Checklist by Robin and Foster (1989). Adolescents reported on how often, in the past month, they argued or disagreed with their parent about issues ranging from chores, clothing, staying up late, homework, and who the adolescent’s friends are and what the young person does with them. This measure has been used extensively in previous research on parent–child relationships during adolescence (Steinberg 1988; Tseng and Fuligni 2000) and has demonstrated validity with multiethnic samples of adolescents including Latinos (Smetana et al. 2003). Responses ranged from 1 = never to 5 = most of the time ($\alpha = .82$, T1; $\alpha = .80$, T2).

Family cohesion—Family cohesion was assessed using the cohesion subscale of the Family Adaptation and Cohesion Evaluation Scales (FACES) II inventory (Olson et al. 1979). Youth responded to six items assessing the frequency of family togetherness being very important, everyone being present for family activities, and family members asking each other for help, feeling very close, and consulting each other on decisions. The Family Adaptability and Cohesion Evaluation Scales has demonstrated evidence of culture and

language equivalence (Knight and Hill 1998). Responses ranged from 0 = never or almost never to 4 = always or almost always ($\alpha = .83$ at T1 and T2).

Depressive symptoms—Adolescent depressive symptoms were assessed using a shortened form of the Center for Epidemiological Studies Depression (CESD) scale (Radloff 1977). This 7-item scale has been shown to demonstrate strong cross-cultural validity, including for Latino-origin youth of different immigrant generations (Perreira et al. 2005). The items assessed youth's report of past week feeling lonely, depressed, sad, and not being able to shake off the blues, even with the help of family or friends. Two items—"felt life was not worth living" and "felt fearful"—were not retained due to low factor loadings. Responses included 1 = rarely or none of the time (less than 1 day); 2 = some or a little of the time (1–2 days); 3 = occasionally or a moderate amount of the time (3–4 days), and 4 = most or all of the time (5 or more days). Cronbach's alpha coefficients were .87 and .84 at T1 and T2, respectively. Average scores for depressive symptoms scale ranged from 1 to 4 (T1: $M = 1.54$, $SD = .71$; T2: $M = 1.57$, $SD = .73$), with higher scores indicating more depressive symptoms.

Academic performance (GPA)—Grade point average (GPA) was used as our measure for academic performance. GPA at Time 1 and Time 2 was assessed by youth's self report of grades in Math, English, Science, and Social Studies/History. Responses included A, B, C, D, and F. The average GPA at Time 1 was 3.21 ($SD = .86$) and at Time 2 was 2.93 ($SD = .84$), scores which correspond to, respectively, a bit above and just below a B. At time 1 (Fall 2014) youth reported on their report card results from the previous spring (June 2013); at time 2 (spring 2015) youth reported on their report cards results from the end of the fall (Dec 2014).

Alcohol use—Using items from the Monitoring the Future study (Johnston et al. 2016), youth's past 30-day alcohol use was measured by recoding original item responses of *never* to 0 = no for "current use" and recoding original responses of 1–2 times, 3–5 times, 6–9 times, 10–19 times, 20–39 times, and 40 or more times to 1 = yes for current use. The proportion of youth reporting past 30-day alcohol use was 16.5% ($n = 41$) at Time 1 and 14.5% ($n = 36$) at Time 2.

Analytic Approach

Missing data—We used the three-form planned missing survey design as a cost-effective way to obtain valid survey data, while minimizing respondent burden (Little and Rhemtulla 2013; Rhemtulla et al. 2014). Youth were randomly assigned to complete one of three surveys. All survey forms included common items (e.g., demographics, youth outcomes, a subset of items from each multi-item scale); in addition, for each of the three survey forms, there were different subsets of selected items from the multi-item scales. Data missing due to the three-form survey design (33%) is missing completely at random and thus completely unbiased. Data missing due to item non-response (ranging from 1 to 5%) were assumed to be missing at random based on their low correlations with variables in the dataset. All missing data were imputed using the Quark package in R (Lang et al. 2015), appropriate for the type of missingness in the study. Principle Components Analysis was used to create

a set of auxiliary variables, which were then used in the multiple imputation procedure (Howard et al. 2015). Imputation was completed through the MICE package in R (Multiple Imputation by Chained Equations) and produced 100 multiply imputed data sets (Buuren and Groothuis-Oudshoorn 2011). All analyses were run using the 100 multiply imputed data sets. Descriptive statistics were obtained using SPSS 22.0 (IBM Corp. 2013). Associations of interest were tested using structural equation modeling (SEM) with *Mplus* 7.3 (Muthén and Muthén 2015).

Structural Models testing Study Hypotheses

Prior to examining our hypothesized model, we tested a measurement model using confirmatory factor analysis to determine whether the observed variables in our model reliably assessed their respective latent constructs (Hatcher 1994). Our hypotheses related to the structural model and prior work suggests that use of multi-item parcels as indicators for latent variables is defensible in such situations (Bandalos and Finney 2001). Use of parcels reduces the number of estimated paths in the model, improves psychometric properties of the indicators, and the domain-representative approach to parcel construction treats information from each reporter as equally valid by distributing their information across the parcels, avoiding the loss of information which results from other approaches (Little et al. 2013). Following the procedures outlined by Kishiton and Widaman (1994), domain-representative parcels were created for each construct. Each latent construct was defined by three parcels composed of two to three individual items from the scale. We first estimated a measurement model to confirm the methodological appropriateness of estimating the latent constructs in our hypothesized model (i.e., acculturative family distancing; conflict, cohesion; depressive symptoms). Next, we estimated the initial unconstrained model in which all paths and covariances were allowed to freely estimate across nativity groups. After establishing adequate model fit for our measurement model, we proceeded to test our hypothesized model using multiple group analyses within a structural equation modeling framework, with nativity as the grouping variable. This allowed us to examine whether there were nativity differences in the paths estimated in our hypothesized model. Using the Wald χ^2 test a series of analyses were done in which each of the pathway coefficients evaluated to see if they were significantly different across nativity groups. A significant Wald test would indicate that the paths were significantly different from one another. After arriving at a final model across both nativity groups, mediation analyses were conducted using the Model constraint commands. We examined a combination of fit indices to assess model fit using the following criteria for acceptable fit: χ^2/df ratio less than 3, CFI above .90, and SRMR and RMSEA below .08 (Hu and Bentler 1995, 1999; Kline 1998, 2005). To test for mediation, we used the product of coefficients method with standard errors computed using the multivariate delta method to determine whether indirect effects were statistically significant (Sobel 1982). The use of imputation precludes the use of bootstrapping techniques (Cole and Maxwell 2003) to test mediational pathways, however, the multivariate delta method has been shown to demonstrate good type one error and power performance (Mackinnon et al. 2002). We controlled for adolescent gender and age in all analyses.

Results

Attrition analyses indicated just one significant difference between youth who participated at both waves, as compared to those participating at T1 only. Youth participating in both time points reported a significantly higher T1 GPA than those participating at T1 only ($M = 2.82$; $SD = 0.84$ vs. $M = 2.27$, $SD = 1.13$, $F(1, 242) = 5.41$, $p < .05$). Descriptive statistics and correlations among study variables are presented in Table 1. Because nativity was the grouping variable of interest, descriptives are presented separately for U. S. and foreign-born adolescents. There were no significant differences between groups on key study variables. Examination of the measurement model indicated an acceptable fit to the data [$\chi^2(146) = 223.082$, $p < .01$; $CFI = 0.94$; $RMSEA = 0.05$; $SRMR = 0.09$]. All parcels had a standardized loading greater than .50 on their respective factors, indicating that the selected variables were a reasonable representation of the latent constructs.

Results from the unconstrained model fit the data adequately, according to a majority of fit indexes [$\chi^2(298) = 207.676$, $p < .001$; $RMSEA = .00$; $CFI = 1.0$; $SRMR = 0.09$]. Results from testing the significance of differences in model pathways by nativity indicated that nativity was a significant moderator of associations between acculturative family distancing and parent-adolescent conflict ($\chi^2(1) = 4.49$; $p < .05$), and between family cohesion and changes in GPA ($\chi^2(1) = 5.96$; $p < .01$), such that these links were only significant among U.S.-born youth.

As shown in Fig. 1, for U.S.-born youth there were significant relations between acculturative family distancing and cohesion and conflict indicating that adolescents who endorsed higher levels of acculturative distancing also reported lower levels of family cohesion and higher levels of parent–youth conflict. Analyses further indicated that, in turn, the lower levels of cohesion were related to decreases in GPA from Time 1 to Time 2 but unrelated to changes in depressive symptoms or alcohol use across the two time points. Additionally, higher levels of conflict were marginally related to increases in alcohol use from Time 1 to Time 2 but unrelated to changes in depressive symptoms or GPA.

As with U.S.-born youth, foreign-born youth (see Fig. 1) reporting higher levels of acculturative family distancing also reported less family cohesion. Unlike U.S.-born youth, however, acculturative family distancing was unrelated to conflict. Consistent with findings for U.S.-born youth, positive associations between cohesion and changes in GPA emerged for foreign-born youth, albeit only significant at the trend level. No significant relations emerged between cohesion and changes in depressive symptoms or alcohol use; nor did results evidence significant relations between conflict and any of the three outcomes for this group.

Mediation Analyses

Results from tests of mediation indicated that family cohesion significantly mediated the relation between acculturative family distancing and changes in GPA but only for U.S.-born youth ($\beta = -0.23$, $SE = 0.09$, $p < .05$). There were no significant mediating pathways between acculturative family distancing and depressive symptoms or alcohol use for either

group. Findings provide some support for the acculturative gap hypothesis particularly among U. S.-born youth.

Alternative Models

We explored a series of alternative models. First, addressing the cross-sectional nature of the associations between acculturative family distancing and the mediators (family cohesion and parent-adolescent conflict) we tested these associations using T2 reports of the mediators. Results demonstrated that acculturative family distancing at T1 was also related to lower levels of T2 family cohesion (U.S. and foreign-born youth) and higher levels of T2 conflict (U.S. born youth). Next, we ran models in which the controls for gender and age were omitted, and all findings replications. Finally, given that only a small portion of our sample included U.S.-born parents, alongside the salience of acculturative family distancing for the children of immigrants, we replicated our model testing on the sub-sample of youth with foreign-born parents only (e.g., excluding the 10% of youth with US born parents). Results of this alternate models were consistent with current model results.

Discussion

The acculturation gap-distress model suggests that intergenerational disparities in cultural values, beliefs, and practices result in compromised family functioning, thereby, increasing youth maladjustment (Phinney et al. 2000). Given the elevated rates of maladjustment experienced by Latino youth (Child Trends 2014), understanding the impact that culture-specific processes have on youth is critical. Using a proximal measure of acculturative family distancing we examined (a) how youth's perception of acculturative family distancing was related to two salient family process variables, parent-adolescent conflict and family cohesion, (b) how parent-adolescent conflict and family cohesion impacted changes in depressive symptoms, alcohol use, and academic performance across two semesters, (c) whether parent-adolescent conflict and family cohesion were significant mediators of associations between acculturative family distancing and youth outcomes and (d) whether nativity moderated associations between acculturative family distancing, family processes, and youth outcomes.

Our findings provide some support for central tenets of the acculturation gap-distress model, particularly for U.S.- born youth. Specifically, we found that youth who reported higher levels of acculturative family distancing also reported less harmonious family relations which, in turn, resulted in decreases in academic performance across two semesters during the early years of high school. These findings are important for several reasons. First, they underscore the salience of family processes in the educational lives of Latino youth (Schwartz et al. 2005). Lower levels of family cohesion were related to decreases in academic performance but did not impact other components of youth functioning, suggesting that processes emanating from the family context might be particularly potent influences on the academic successes of Latino high school students (Rumbaut 2000). Second, the study results highlight malleable mechanisms to target for intervention; for instance, prevention efforts focused on increasing cohesion within families and fostering positive family relations may be prudent. Third, this study suggests that youth perceptions

of acculturation gaps or discrepancies are important and researchers may draw from research on comparative judgments (Chambers and Windschitl 2004) and developmental theories emphasizing phenomenology (Bronfenbrenner and Morris 2006), to expand and enrich acculturation gap research.

Our findings contribute to a modest but often mixed body of literature focused on understanding the mechanisms through which intergenerational discrepancies in values, practices, and beliefs shape the adjustment of Latino youth. Moreover, our study revealed unique findings across nativity groups, suggesting that such individual-level characteristics may serve as important sources of variation for Latino youth (Halgunseth et al. 2006). In particular, our pattern of findings suggest that, with regard to acculturative family distancing and family processes, U.S.-born Latino youth's grades may be especially vulnerable to acculturation gap discrepancies and associated reductions in family cohesion during their early high school years. The current findings extend prior work (Rumbaut 2000; Smokowski et al. 2008) by testing these pathways for both immigrant and native-born youth. This study's results suggest that these processes are particularly costly to the native-born children of immigrants and less so to immigrant youth.

Direct Effects of Acculturative Family Distancing on Family Processes

Findings for U.S. and foreign-born youth provided mixed support for study hypotheses. Consistent with our hypotheses, for both groups reports of elevated acculturative family distancing were related to lower levels of family cohesion. Contrary to expectations, however, acculturative family distancing was related to higher levels of parent-adolescent conflict only for U.S.-born youth. The findings in this study were most consonant with previous acculturation gap research using discrepancy scores and focusing on parent youth conflict (Bámaca-Colbert et al. 2012; Schofield et al. 2008), and effective parenting (Martinez 2006) as mediators. Notably, family cohesion has received less attention as mediator in acculturative gap distress models than parent-adolescent conflict. Yet, in our study, cohesion emerged as one of the few consistencies across U.S. and foreign-born youth. It may be that foreign-born youth are less willing to engage in overt family conflict due to the perception that conflict is inconsistent with the stricter power hierarchies found in more traditional families (Hernandez and McGoldrick 1999). However, subtle indicators of disharmony such as low family cohesion may be a more acceptable mechanism through which youth can demonstrate disagreements with parents. That is, perhaps for foreign-born youth who perceived a high degree of distance between themselves and their parent with respect to values, there is a greater willingness on the part of youth to remain distant by not spending as much time with family and by not seeking advice from their family members. These young people may not be, however, as willing to engage in overt conflict and argument with their parents. Thus it may be that for these youth the gap's effect is primarily through undermining positive processes (vs. promoting negative ones). Importantly, we were able to specifically tap into both dimensions of family processes, heightened overt parent-youth conflict and diminished family cohesion. Our results suggest that declines in family cohesion associated with acculturative family distancing may be important to both immigrant and native born Latino youth, but parent-youth conflict may only be affected by acculturative family distancing for U.S.-born youth. Because much of the prior work has

focused on a single individual mechanism (e.g., conflict or cohesion), it will be important that future work continue to incorporate both positive and negative family processes when studying acculturation gaps in families.

Previous research had generated a narrative that acculturation gaps are common, and those that occur primarily in the direction of parents being less acculturated to American culture than their children have undesirable consequences. Yet, youth may not always be more acculturated than their parents (Marsiglia et al. 2010) they may have arrived in the U.S. after their parents and/or have less exposure to or investment in mainstream American culture (Lau et al. 2005; Elder et al. 2005). In addition, cultural orientation is multidimensional in nature, it not only includes adherence and adaptation to the mainstream culture (i.e., acculturation), but also includes retention of ethnic culture (i.e., enculturation; Gonzales et al. 2002). Although the acculturation gap distress hypothesis emphasizes the detrimental role of experiencing cultural dissonance with the mainstream culture, previous studies suggest that enculturation dissonance may play a more critical role than acculturation dissonance in the lives of ethnic minority youth (Costigan and Dokis 2006; Phinney and Vedder 2006). Discrepancies in enculturative values may be especially salient for foreign-born youth whose parents might tolerate increases in acculturative values as mechanism for their youth to gain entrée into important mainstream institutions such as schools (Bacallao and Smokowski 2007). Overall, our findings underscore the need for more work examining the specific ways that acculturation gaps manifest in youth's lives. This study suggests that acculturative family distancing may be a particularly useful tool for examining this question as it can specifically assess individuals' perception of the acculturation gap in the family. In future work, it will be important to include this type of measurement strategy, in addition to the more traditional measurement strategies (discrepancy scores, typologies, and interactions) to identify how these acculturation gaps shape family processes. Still, our study suggests that Latino youth's perceptions of distancing stemming from intergenerational value gaps represent significant threats to the family system.

Family Processes and Changes in Youth Outcomes

This study's second goal focused on evaluating the impact of family processes on changes in academic performance, depressive symptoms, and alcohol use. Although parent-adolescent conflict and family cohesion are well-established predictors of Latino youth outcomes (Schwartz et al. 2005), our findings revealed only modest support for hypotheses pertinent to the effects of these family processes on youth outcomes. For example, there was no significant association between family process variables and youth's depressive symptoms. Unlike most prior research examining similar kinds of associations, our work investigated changes in youth outcomes occurring within a relatively short window of time—from spring to fall semester. In fact, our findings may be quite conservative given our narrow time frame for examining change. Previous work with Mexican-origin youth documented significant associations between greater family cohesion and lower levels of internalizing symptoms (White and Roosa 2012), albeit in a slightly younger age range (early adolescents). Simultaneously some longitudinal work with Latino youth specifically (Gutman and Eccles 2007) and Mexican- origin youth (Zeiders et al. 2013) has characterized the normative patterns of depressive symptoms across adolescence to include increases during early to middle

adolescence, followed by declines from middle to late adolescence. Thus, it maybe that the youth in our sample (10th graders) might not have experienced as much change in their depressive symptoms during this time period.

Despite the lack of significant findings for associations between family process variables and adolescent depressive symptoms, our results suggest that low levels of family cohesion may predict declines in academic performance for both U.S. and foreign-born Latino youth from spring to fall semester; and that parent–adolescent conflict may increase risks for alcohol use for U.S.-born youth from one semester to the next. These findings support a growing body of literature documenting the increased salience of family cohesion in the lives of Latino youth and families (Marsiglia et al. 2009) and the negative impacts parent-youth conflict have for youth conduct problems (Lau et al. 2005), risky behaviors (Derlan et al. 2015), depressive symptoms (Derlan et al. 2015), and internalizing problems (Smokowski et al. 2014). The fact that influences of family cohesion and conflict on youth’s adjustment may occur within a single academic year during the early high school years underscores the importance of these processes as proximal predictors of Latino adolescent adjustment.

In light of the salience of family cohesion for this sample of Latinos, it is especially alarming that acculturative family distancing was associated with compromises in family cohesion. For Latinos, many of whom place a stronger emphasis on family interdependence and connectedness (Sabogal et al. 1987), family-wide cohesion may be a particularly important indicator of the health of the family system (Cox and Paley 1997) that can support youth as they try to be successful in other contexts (Bronfenbrenner and Morris 2006). Our results are consistent with past work showing that U.S. Mexican families’ levels of cohesion are compromised in the context of stressful family circumstances and that those compromised levels of family cohesion have critical implications for Latino youth adjustment across nativity groups (White and Roosa 2012). Our research, along with the scholarship of others (White et al. 2012), suggests that more research is needed to examine the role of family cohesion in U.S. Latino youth’s adjustment.

Limitations and Future Directions

The present study offers valuable insight into the links between acculturation gaps, family processes, and changes in adjustment problems among Latino-origin youth, but there are important limitations to consider in speculating about future directions in research. First, we tested how acculturation gaps impacted family process and adjustment during middle to late adolescence, a time in which some research has shown increases in stability in family functioning (Costigan and Dokis 2006; Phinney et al. 2000). Future work may want to test these same hypotheses during early adolescence, a time period in which there tend to be declines in positive family processes (Gutman and Eccles 2007) and increases in youth’s maladjustment (Zeiders et al. 2013). Second, future work should test growth in acculturation value trajectories and their relation to growth in outcomes. Our study was limited by the measurement of acculturative family distancing as a static rather than dynamic process. This is a problem in the existing literature, and more studies are needed to examine the influence of acculturation changes on family adjustment over time for families at different stages in the acculturative process (Gonzales et al. 2002). Third, we

were unable to test whether other individual-level factors, such as gender, moderated the links between acculturative gaps and adjustment, because we did not have enough power to run these models. Examining the impact of such individual-level factors on these links, however, is an important future direction given work showing acculturation gaps to be more impactful for mothers and daughters than fathers and sons (Bámaca-Colbert et al. 2012). Fourth, this study utilized a single reporter (youth) for all study constructs, raising the possibility that findings could be due to shared method variance. Future studies should seek to include multiple reporters. Fifth, we were unable to test whether more nuanced measures of nativity such as generation status or time in US moderated links between acculturation gaps and family processes and adjustment due to lack of power. Future work should consider including multiple measures of nativity (e.g., time in US, generational status) to capture important variation within the Latino population. Finally, the results of our study are based on a specific group of Latino-origin adolescents (i.e., adolescents from predominantly immigrant families living in emerging immigrant destination). Social structure characteristics of the geographic areas in which Latino families reside impact the nature, complexity, and magnitude of potential cultural adaptation issues (White et al. 2014). Future work should examine these processes in Latino-origin samples from different geographic locations, with different immigration histories, and of varying family structures (e.g., single- and step-parent families) to determine the generalizability of these findings.

Conclusion

Behavioral and cognitive autonomy are central aspects of adolescent development (Erikson 1968) that influence youth acculturation processes and underlie the emergence of acculturation gap discrepancies between youth and parents. The current study contributes to the often tenuous body of literature on gap discrepancies, suggesting that for Latino high school students parent-youth acculturation discrepancies in values, beliefs, and practices compromise academic performance and increase alcohol use via their negative impact on family processes. Study results also highlight the importance of nativity as a critical shaper of relations between parent-adolescent acculturation gaps, family processes, and youth outcomes. Additionally, the utilization of the acculturative family distancing measure, a more proximal and phenomenological measure of parent-youth acculturation gaps (Hwang 2006), with Latino adolescents, makes a contribution to literature by a) expanding information about the validity of this instrument to Latino adolescents; and b) highlighting the utility of incorporating youth's phenomenological perspectives into this line of research. Our findings suggest that acculturation discrepancies between youth and their parents can compromise core family processes and contribute to educational decline and elevated alcohol use. However, the effect of acculturative family distancing was dependent on youth's nativity; the effects of acculturative family distancing were more pervasive for U.S.-born youth. Foreign-born youth did not evince as many disruptions to family processes nor did they experience changes in their substance use as a result of acculturation gaps. Such findings demonstrate that components of within-group variability (i.e., nativity) matter (Garcia-Coll and Marks 2009) and that future studies should include refined measures of nativity to further delineate relations between acculturation gaps, family processes and youth outcomes. Given Latino adolescents are a rapidly growing segment of the U.S. population

who evidence increased risk for maladjustment (Kann et al. 2014) findings from the current study also offer important targets for intervention and prevention (e.g., family cohesion) that can aid in reducing these inequities in adjustment for Latino youth in the United States. Ultimately, understanding the mechanisms through which acculturation gaps impact youth adjustment contributes to the creation of culturally informed intervention strategies for Latino youth and families.

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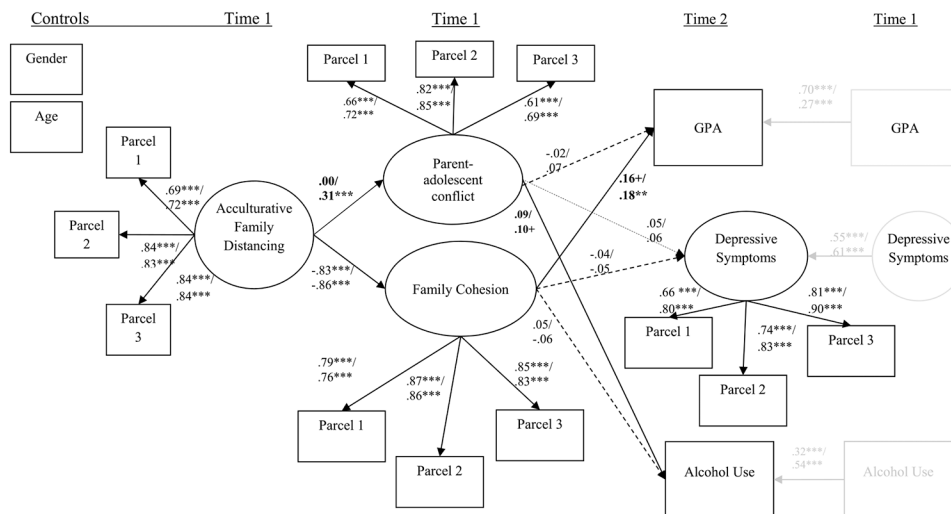


Fig. 1. Final structural model of acculturative family distancing, parent-adolescent conflict, family cohesion and adolescent adjustment. Standardized coefficients are presented for foreign-born/U.S.- born, Bolded foreign-born/U.S.-born coefficients indicate that the coefficients are statistically different across the nativity groups according to Wald Tests. When foreign-born/U.S.-born coefficients are not bolded, Wald tests indicated that they were not statistically different from one another. Dashed lines are not significant. $\chi^2(298) = 207.676, p = .001$; RMSEA = .00; CFI = 1.0; SRMR = .09. *** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$

Correlations and descriptive statistics for study variables (U.S.-born above diagonal/foreign born below diagonal)

Table 1

Variables	1	2	3	4	5	6	7	8	9
1) AFD (T1)	1	0.27***	-0.68***	0.30***	0.26**	-0.22**	-0.23*	0.15***	0.10*
2) P-A Conflict (T1)	0.02	1	-0.16*	0.36***	0.34***	-0.01	0.01	0.11	0.05
3) Family Cohesion (T1)	-0.68***	-0.08	1	-0.24**	-0.26**	0.25**	0.28***	-0.15	-0.14
4) Dep Symptoms (T1)	0.29*	0.17	-0.39**	1	0.91***	-0.12	-0.09	0.24**	0.23**
5) Dep Symptoms (T2)	0.26*	0.11	-0.36**	0.90***	1	-0.11	-0.13	0.28***	0.19*
6) GPA (T1)	-0.25*	-0.02	0.17	-0.12	-0.06	1	0.56***	-0.11	-0.11
7) GPA (T2)	-0.24*	-0.01	0.29*	-0.13	-0.07	0.69***	1	-0.03	-0.08
8) Alc. Use (T1)	0.33**	0.04	-0.25	0.11	0.08	-0.34**	-0.31**	1	0.45***
9) Alc Use (T2)	0.36**	0.01	-0.20	0.09	0.06	-0.21	-0.15	0.60***	1
Mean _{US-Born}	1.94 _a	2.35 _a	2.55 _a	1.53 _a	1.53 _a	2.82 _a	2.82 _a	0.21 _a	0.17 _a
SD _{US-born}	0.52	0.74	0.82	0.73	0.73	0.82	0.84	0.41	0.38
Mean _{For-Born}	1.99 _a	2.46 _a	2.55 _a	1.58 _a	1.57 _a	2.70 _a	2.67 _a	0.21 _a	0.16 _a
SD _{For-Born}	0.58	0.83	0.93	0.73	0.61	0.92	0.92	0.41	0.37

Note: AFDacculturative family distancing, P-A parent-adolescent, Dep depressive, GPA grade point average, Alc alcohol, T1 time 1, T2 time 2, For foreign

Means with different subscripts within a column are significantly different at $p < .05$

 $p < .001$

**
 $p < .01$

*
 $p < .05$