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An Idiographic and Nomothetic Approach to the Study of Mexican-Origin Adolescent Mothers' Socio-Cultural Stressors and Adjustment

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Abstract

The current study examined the longitudinal relations of socio-cultural stressors (i.e., acculturative stressors, enculturative stressors, ethnic discrimination) and Mexican-origin adolescent mothers' depressive symptoms and risk-taking behaviors. Utilizing an idiographic and nomothetic approach, we conducted lagged analyses to examine how individuals' fluctuations in stressors predicted subsequent adjustment. Further, we investigated potential *threshold effects* by examining if the impact of fluctuations in stressors differed at varying levels of stressors. Mexican-origin adolescent females (N = 184) participated in yearly in-home assessments across 5 years and reported on their experiences of acculturative and enculturative stressors, ethnic discrimination, depressive symptoms, and risk-taking behaviors. Findings revealed that within-person fluctuations in acculturative stressors, and to a lesser extent, perceived discrimination, related to youths' depressive symptoms. For risk-taking behaviors, however, only within-person fluctuations in enculturative stressors emerged as significant. Further, a threshold effect emerged in the link between enculturative stressors and risk-taking behaviors, suggesting that fluctuations in enculturative stressors predicted changes in risk-taking behaviors at high levels of enculturative stressors, but not low levels. Our findings highlight the differential relations between socio-cultural stressors and adolescent females' adjustment, and suggest that prevention programs aimed at reducing depressive symptoms should attend to *any* degree of change in socio-cultural stressors, whereas programs focused on risk-taking behaviors should be especially attuned to levels of enculturative stress.

Keywords

acculturative stressors; enculturative stressors; discrimination; adolescent mothers; risk-taking behaviors; depressive symptoms; Mexican-origin youth

Ethnic and racial minority youth develop within contexts in which numerous stressors are at play; youth navigate the normative stressors of adolescence (e.g., parent-child conflict), while experiencing additional stressors related to being an ethnic/racial minority in the U.S. (e.g., ethnic/racial discrimination) and the process of dual-cultural adaptation (e.g.,

acculturative stress, enculturative stress; García Coll et al., 1996; Gonzales, German, & Fabrett, 2012). Although numerous cross-sectional studies have examined the link between these socio-cultural stressors and youths' adjustment (e.g., Behnke, Plunkett, Sands, & Bámaca-Colbert, 2011), limited longitudinal work exists. Further, few studies have examined these stressors simultaneously, leaving us with limited knowledge about the relative consequences of these stressors for youths' adjustment. Guided by frameworks positing the importance of understanding the role of socio-cultural stressors in the lives of ethnic/racial minority youth (e.g., García Coll et al., 1996), the current study takes a longitudinal approach to examining the role of salient socio-cultural stressors (i.e., ethnic discrimination, acculturative and enculturative stressors) on two indices of youths' adjustment (i.e., depressive symptoms and risk-taking behaviors). Capitalizing on five waves of data, we used a *within-person* design that allowed for the examination of how *fluctuations* in perceived stressors within individuals related to their own fluctuations in adjustment (an idiographic approach; Hankin & Abela, 2009), as well as the examination of aggregate or *between-person* relations between stressors and adjustment (a nomothetic approach; Hankin & Abela, 2009). Further, we combined both approaches to examine a potential *threshold effect*; that is, if *within-person* associations differed at varying levels of between-person characteristics. Understanding threshold effects is critical for prevention science efforts because such information can inform our understanding of the conditions under which youths' stressors have implications for their adjustment and, thus, identify target points for interventions.

The current study focused on the experiences of Mexican-origin adolescent mothers. This is a particularly important group to examine as they make up part of the largest ethnic minority population in the U.S. (Passel, Cohn, & Lopez, 2011) and Mexican-origin adolescent mothers have the highest birth rate of all ethnic groups in the U.S. ("Births: Final Data," 2012). Evidence suggests that adolescent mothers, Latina youth included, are at risk for both internalizing (e.g., Mollborn & Morningstar, 2009) and externalizing symptoms (e.g., Zoccolillo, Meyers, & Assiter, 1997), and that these symptoms have implications for adolescent mothers' own subsequent functioning (e.g., Barnet, Liu, & DeVoe, 2008) and their interactions with their children (e.g., Cassidy, Zoccolillo, & Hughs, 1996). Among Mexican-origin adolescent mothers specifically, focusing on socio-cultural stressors as predictors of their adjustment is relevant given that the transition to parenthood among ethnic and racial minority families brings about an increased awareness of cultural socialization of their children (Hughes, Rodriguez, Smith, Johnson, & Stevenson, 2006). This awareness of their children's cultural socialization may bring their own cultural values, beliefs, and knowledge to the forefront, and stressors experienced around these events could be especially salient. By focusing on Mexican-origin adolescent mothers, we provide an important examination of the processes by which sociocultural stressors impact adjustment in a particularly relevant *and* vulnerable group.

Socio-cultural Stressors and Adjustment

Numerous theoretical frameworks emphasize the importance of understanding relevant stressors in the lives of ethnic and racial minority youth. For instance, García Coll and colleagues' (1996) integrative model of the study of developmental competencies in

minority children posits that social mechanisms, such as racism and discrimination, play a key role in youths' developmental processes. Ignoring or minimizing the effects of such mechanisms undermines our larger scientific understanding of ethnic and racial minority youth development. Empirically, a burgeoning body of literature has emerged examining the link between ethnic/racial discriminatory experiences and youths' adjustment. The association between experiences of ethnic/racial discrimination and youths' internalizing symptoms, including *depressive symptoms*, appears strong. Numerous cross-sectional studies of ethnic and racial minority youth from differing socio-economic backgrounds have documented a positive association between perceived discrimination and depressive symptoms (e.g., Behnke et al., 2011; Umaña-Taylor & Updegraff, 2007; Seaton, 2010). Longitudinal work corroborates such findings, linking prior experiences of discrimination to changes in youths' depressive symptoms (e.g., Benner & Graham, 2013; Berkel et al., 2010).

The association between discrimination and youths' externalizing symptoms (e.g., risk-taking behaviors) has received less attention, however, and findings are less consistent. Some cross-sectional studies have documented a positive association between discrimination and behaviors that include smoking, drinking, and substance use (e.g., Coker et al., 2009; Okamoto, Ritt-Olson, Soto, Baezconde-Garbanati, & Unger, 2009), whereas other cross-sectional studies suggest that the positive relation may only emerge among male youth (Delgado, Updegraff, Roosa, & Umaña-Taylor, 2011; Wiehe, Aalsma, Liu, & Fortenberry, 2010), and/or vary based on other contextual experiences (Prelow, Danoffburg, Swenson, & Pulgiano, 2004). The limited longitudinal work points to similar inconsistencies. For example, discrimination related to increases in African American males' substance use but not females' (Brody, Kogan, & Chen, 2011) and, in another study, discrimination did not predict externalizing symptoms when other socio-cultural stressors (e.g., language hassles) were considered (Nair, et al. 2013).

Although much attention has been given to the impact of discrimination, scholars have emphasized that this is not the only socio-cultural stressor that ethnic minority youth face (Gonzales et al., 2012; Stein, Gonzalez, & Huq, 2012). During adolescence, ethnic minority youth are tasked with dual-cultural adaptation; youth are navigating expectations, values, and norms associated within their culture of origin *and* those of the mainstream culture (Gonzales et al., 2012). Social ambiguity (McDade & Worthman, 2004) and acculturative stress theories (Berry, 1997) suggest that conflicts or challenges during dual-cultural adaptation can bring about stress, which can affect individuals' adjustment. Stress can arise from the *acculturation process* (i.e., acculturative stress) that includes the stress of learning English and the perceived pressures from others to adopt values of the mainstream culture; and stress can arise from the *enculturation process* (i.e., enculturative stress) that includes the challenges of not be able to speak Spanish or not speak it well, and increasing pressure from family members to retain the values of their culture of origin (Rodriquez, Myers, Mira & Garcia-Hernandez, 2002; Zeiders, Umaña-Taylor, Updegraff, & Jahromi, in press). Unlike ethnic/racial discrimination, which focuses on experiences of mistreatment based on the larger societal views, acculturative and enculturative stressors represent experiences of

discomfort and strain associated with adapting and retaining differing cultural values, beliefs, and practices.

Despite theoretical discussions of the importance of cultural-adaptation stressors, our empirical knowledge of the link between these stressors and youths' adjustment is limited, especially in comparison to work examining perceived discrimination. Limited cross-sectional work suggests that acculturative stressors positively predict depressive symptoms (e.g., Hovey & King, 1996; Rodriguez, Mira, Myers, Morris, & Cardoza, 2003), and two longitudinal studies corroborate these findings (Sirin, Ryce, Gupta, & Rogers-Sirin, 2013; Nair et al., 2013). Very few studies, however, have examined *enculturative stressors* in relation to internalizing symptoms (for exceptions, see Torres, 2010; Wang, Schwartz, & Zamboanga, 2010), and to our knowledge, no study has considered *both* acculturative and enculturative stressors among youth in a longitudinal examination. In regards to externalizing symptoms, similar limitations exist; cross-sectional studies have linked acculturative stressors to greater substance use intentions (Kulis, Marsiglia, & Nieri, 2009), but no longitudinal study has examined how acculturative stressors co-occur with enculturative stressors to predict youths' risk-taking behaviors over time.

In sum, a growing body of literature has examined the relations between discrimination and adjustment, as well as the relation between acculturative stressors, and to a lesser extent, enculturative stressors and adjustment. These investigations, however, have rarely included both cultural adaption stressors and discrimination in a disaggregated manner or examined these associations using longitudinal data. Understanding how these stressors co-occur to impact adolescents' depressive symptoms and risk-taking behaviors over time is critical to furthering our knowledge of the unique role of cultural adaptation stressors and discrimination in youths' ecological settings. Among adolescent mothers, specifically, identifying the role of these stressors in their mental health is critical, as these youth face disproportionally higher levels of stress (Moore & Brooks-Gunn, 2002) and are at risk for both depressive symptoms and risk-taking behaviors (e.g., Mollborn & Morningstar, 2009; Zoccolillo et al., 1997).

Between-person versus Within-person Approach to the Study of Stressors and Adjustment

As noted above, the majority of studies examining socio-cultural stressors have been cross-sectional, and thus focused on between-person associations. Although some longitudinal studies exist (Benner & Graham, 2013; Berkel et al., 2010; Brody et al., 2011), many of them use between-person approaches (e.g., T1 discrimination predicting T2 depression, controlling for T1 discrimination). Between-person approaches are informative as they offer information about the relations between stressors and youths' adjustment from a *nomothetic* approach (Hankin & Abela, 2009). That is, they describe a relation across a set of individuals and examine the effects of experiencing high levels of stressors relative to the *sample's or population's average* stress level. An additional approach to understanding the stressor/adjustment link is the *idiographic* approach (Hankin & Abela, 2009), which focuses on within-person fluctuations in stressors and examines the effects of experiencing high

levels of stressors in comparison to *one's own average* level of the stressor. An idiographic approach is important for our understanding of the impact of stressors on adjustment, as a major tenet of stress and adjustment theories is that the effect of stressors on individuals' functioning is a *within-person* process (e.g., Abela & Hankin, 2009). Put differently, theories posit that an individual's mental health or adjustment is affected by increases or decreases in his or her own stressor levels. However, testing of this notion has been relatively sparse, especially in the literature examining socio-cultural stressors, as it requires researchers to have longitudinal data in which socio-cultural stressors and adjustment are assessed across at least three points in time.

Although an idiographic approach to the study of stressors is theoretically relevant, there are limitations to this approach. One major limitation is that this approach pays little attention to absolute levels of stressors (something that is a strength of the nomothetic approach), and thus, does not allow for the possibility of "threshold effects" or the idea that within-person increases in stressors could have a stronger impact among individuals who report higher, rather than lower, levels of stress compared to the overall sample's stress levels (Abela & Hankin, 2009). In light of this limitation, Abela and Hankin (2009) proposed a strategy that combines an idiographic and nomothetic approach. Specifically, they suggest that researchers, who are examining within-person relations, should also consider the between-person effects and, importantly, how the between-person effects *interact* with the within-person effects.

From a developmental and prevention science perspective, combining an idiographic and nomothetic approach, and examining a threshold effect is important. First, combining these approaches provides a unique opportunity to help explain prior inconsistencies in the literature, for instance, in the link between socio-cultural stressors and externalizing symptoms. One reason for inconsistencies could be due to a threshold effect; that is, individuals only respond to experiences of discrimination or acculturative/enculturative stress in externalizing ways when they experience higher than average levels of these stressors. From a prevention science perspective, the identification of a threshold effect holds relevance because it can identify the conditions under which particular stressors are the most impactful, which in turn, can inform prevention efforts. For instance, if a threshold effect does *not* emerge, this suggests that fluctuations in youths' stressors are impactful regardless of an individual's average or absolute level of stress, and points to the potency and importance of the particular socio-cultural stressor. As prevention scientists, this knowledge could be helpful in designing interventions that target youth experiencing varying levels of stressors (not just high levels). Alternatively, if a threshold effect *does* emerge, that is, fluctuations in stressors have a stronger impact among individuals who report higher, rather than lower levels of stress, this identifies the need to increase intervention efforts with specific subgroups who are at greatest risk for high levels of exposure.

Method

Data for the current study came from five waves of a larger longitudinal project of 204 Mexican-origin adolescent mothers and their mother figures (Umaña-Taylor, Guimond,

Updegraff & Jahromi, 2013). At Wave 1 (W1), participants were unmarried, between the ages of 15 and 18 years old (M_{age} = 16.80, *SD* = 1.00), and in their third trimester of pregnancy (M_{weeks} = 31.0, *SD* = 4.52). Adolescents were re-interviewed yearly for the next 4 years. At W2, W3, W4, and W5, 96%, 85%, 84%, and 85% of the original adolescent sample was re-interviewed, respectively. Given the interest in adolescents' experiences within the U.S., the current study focused only on adolescents who had lived continuously within the U.S. throughout the 4 years (*N* = 184). A majority of adolescents were born in the U.S. (67.4%) and completed the interview in English at T1 (66%). Over half were enrolled in high school at W1 (61%). Median household income was $22,140 (*SD* = $20,429) at W1.

Procedures

Our community-based sample of adolescent mothers was recruited from high schools, health centers, and community resource centers in a Southwestern metropolitan area. In-home semi-structured interviews were conducted at all five waves by female interviewers and lasted approximately 2.5 hours at each wave. All participants were interviewed in their language of choice (i.e., English or Spanish). At W1, parental consent and youth assent were obtained for participants who were younger than 18 years old, and informed consent was obtained for participants who were 18 years and older. Participant incentives were $25 at W1, $30 at W2, $35 at W3, $40 at W4, and $50 at W5.

Measures

All measures were translated into Spanish and back translated into English by two separate individuals. Final translations were reviewed by an individual of Mexican-origin to ensure cultural validity and any discrepancies were resolved by the research team (Knight, Roosa, & Umaña-Taylor, 2009).

Acculturative stressors—The Multidimensional Acculturative Stress Inventory (MASI; Rodriquez et al., 2002) was used to assess adolescents' experiences of acculturative and enculturative stressors at W1, W2, W3, and W4[1]. Developed for use with Mexican-origin individuals living in the United States, this measure consists of 25 items that examine four different domains of stress: (a) Spanish competency pressures (e.g., "I have a hard time understanding others when they speak Spanish"), (b) English competency pressures (e.g., "I have a hard time understanding others when they speak in English"), (c) Pressure to acculturate (e.g., "It bothers me when people don't respect my Mexican/Latino values"), and (d) Pressure against acculturation (e.g., "I have had conflicts with others because I prefer American customs"). Participants were asked to indicate whether or not the event occurred within the last 3 months, and how stressful the events were, utilizing a 6-point Likert scale ranging from 0 (*did not happen*) to 5 (*extremely stressful*). Given the interest in understanding acculturative and enculturative stressors as unique dimensions of cultural adaptation stressors, we computed individuals' *acculturative stressor* scores by combining the English competency pressures and pressures to acculturate subscales and individuals'

[1]Acculturative and enculturative stress was not assessed at W5. As explained in the analytic section, lagged data analyses were conducted in which outcomes (i.e., depressive symptoms, risk-taking behaviors) were regressed on prior levels of stressors. Given this, analyses only utilized W1–W4 stressor values and W2–W5 outcome values.

enculturative stressors scores by combining Spanish competency pressures and pressures against acculturation subscales. Note that two items were excluded in the current analyses because they contained the word "discrimination" and were tapping into experiences of mistreatment (i.e., "I have been discriminated against because I have difficulty speaking English"; "I have been discriminated against because I have difficulty speaking Spanish"), and thus, overlapped with our measure of discrimination. The enculturative and acculturative stressors subscales each demonstrated adequate internal consistency in the current study. For acculturative stress, alphas were .87, .87, .91, .88 for W1, W2, W3, and W4, respectively, and for enculturative stress, alphas were .86, .83, .84, .83 for W1, W2, W3, and W4, respectively.

Ethnic discrimination—The revised Perceived Discrimination Scale (Umaña-Taylor & Updegraff, 2007; Whitbeck, Hoyt, McMorris, Chen & Stubben, 2001) was used to assess the degree to which adolescents perceived to have experienced discrimination at W1, W2, W3, W4, and W5. The scale is composed of 10 items that examine global instances of discrimination (5 items; e.g., "How often has someone yelled racial slurs or racial insults at you because you are Hispanic/Latino?"), discrimination at the hands of an authority figure (3 items; e.g., How often has the police hassled you because you are Hispanic/Latino?), and discrimination within the school setting (2 items; e.g., How often have you encountered teachers who didn't expect you to do well because you are Hispanic/Latino?). Participants responded to items using a 4-point Likert scale ranging from 1 (*almost never*) to 4 (*very often*). A mean score was taken across all items such that higher scores indicated a greater frequency of perceived ethnic discrimination. The scale has been used with Latino adolescents (Umaña-Taylor & Updegraff, 2007), and demonstrated adequate internal consistency with the current sample (a = .80, .88, .91, .86, and .92 for W1 through W5, respectively)

Depressive symptoms—The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to assess depressive symptoms at W1 through W5. Participants responded to 20 items (e.g., "I was bothered by things that usually don't bother me") that assessed the frequency of depressive symptoms in the past week. Items were scored on a 4-point Likert scale ranging from 0 (*rarely or none of the time (less than 1 day)* to 3 (*mostly or almost all the time (5–7 days)*, and responses were summed with higher values indicating more depressive symptoms. This scale has demonstrated adequate reliability with other Latino samples (Umaña-Taylor & Updegraff, 2007), and demonstrated adequate internal consistency with the current sample (a = .86, .89, .91, .90, and .91 for W1, W2, W3, W4, and W5, respectively).

Risk-taking behaviors—Engagement in risk-taking behaviors was assessed at all five waves using a measure developed by Eccles and Barber (1990). Adolescents responded to 24 items (e.g., Lied to your parents about something important; Drank alcohol without your parents' permission) that assessed risk-taking behaviors including alcohol and drug use, fighting, and property damage. Items were scored on a 4-point Likert scale ranging from 1 (*never*) to 4 (*more than 10 times*), and a mean was computed with higher values representing engagement in more risk-taking behaviors. The scale has been utilized in other Mexican-

origin youth samples (Delgado et al., 2011) and demonstrated good internal consistency in this sample (a = .90, .90, .89, .93, and .90 for W1 through W5, respectively).

Economic hardship—The Economic Hardship measure (Barrera et al., 2001) was used to assess economic distress in adolescents' families at all five waves. Using 18 items, the scale assesses four components of economic hardship in the past 3 months: Financial Strain (2 items), Inability to Make Ends Meet (3 items), Lack of Money for Necessities (4 items), and Economic Cutbacks (9 items). For Financial Strain, adolescents' responses ranged from 1 (*almost never*) to 5 (*almost always*). For Inability to Make Ends Meet and Lack of Money for Necessities, adolescents' responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). For Economic Cutbacks, adolescents responded to questions by indicating if a cutback event happened (1) or did not happen (0). Consistent with Barrera et al., a weighted composite score was created representing perceived economic hardship. The scale demonstrated adequate internal consistency in this sample (as = .86, .84, .82, .86, and .85 for W1 through W5, respectively).

Results

Analytic Plan

To address the current study's goals we used multi-level modeling (MLM). Specifically, we estimated a two-level model with observations nested within individuals using the SAS MIXED procedure (version 9.2). Maximum likelihood estimation was utilized to account for missing data (Enders, 2010). The dependent variable (DV) in these analyses was either risk-taking behaviors or depressive symptoms. We first specified a preliminary model to examine the time trends (e.g., linear, quadratic, cubic) in depressive symptoms and risk-taking behaviors, which enabled us to control for time-related change in the DV in subsequent analyses.

Next, we included socio-cultural stressors in the model. Given that socio-cultural stressors were assessed at each time point, they were considered time-varying predictors. Although time-varying predictors enable within-person examinations, a noted limitation is that the link between the predictor and the DV is only assessing the contemporaneous association, which is subject to issues of reciprocal causation (Singer & Willet, 2003). Guided by Singer and Willet (2003), the current study constructed lagged analyses where mental health symptoms at *T* served as the DV, while socio-cultural stressors *T-1*, mental health symptoms *T-1*, and other Level 1 controls *T-1* (i.e., economic hardship) were included as predictors. In line with an idiographic approach, all Level 1 (L1) time-varying predictors were centered at each person's mean to represent the *within-person* (WP) effect. In addition to predictors at L1, the model also included *between-person* (BP) predictors at Level 2 (L2). Specifically, a cross-time average of acculturative and enculturative stressors and of discrimination were included and represented the nomothetic effects for each socio-cultural stressor. These L2 predictors were grand-mean centered (person-level cross-time mean – sample grand mean). In these models, the WP predictor assessed the relation of stressors to adjustment from an *idiographic* perspective; a significant positive WP effect suggests that when an individual experienced an increase in stressors (compared to her average level of stressors), she

reported an increase in depressive symptoms or risk-taking behaviors (i.e., the DV) at a subsequent wave, controlling for the prior wave's depressive symptoms/risk-taking behaviors, and other covariates (i.e., economic hardship, age at T1, adolescent nativity). The BP predictor assessed the relations between stressors and mental health from a *nomothetic* perspective; a significant positive BP effect suggests that individuals who report higher levels of discrimination or acculturative stressors (compared to the overall sample mean) also reported higher levels of depressive symptoms or risk-taking behaviors, accounting for covariates.

To examine the possibility of a "threshold effect" of socio-cultural stressors on adjustment, an interaction between the *within-person* sociocultural-stressor and the *between-person* socio-cultural stressor was included. A significant interaction would suggest that that the effect of within-person fluctuations in socio-cultural stressors is dependent upon individuals' average levels of the socio-cultural stressors. In line with Aiken and West (1991), the interaction was probed by examining the simple slopes (or the WP effect on the DV) at high (1 standard deviation above the mean) and low (1 standard deviation below the mean) levels of the BP effect. All analyses utilized an unstructured covariance matrix (see Molenberghs & Kenward, 2007). In all models, adolescent nativity and age at W1 were included as time-invariant covariates, and economic hardship (assessed at T1–T5) was included as a time-varying covariate.

Descriptive Information and Initial Analyses

An initial model was estimated to examine the time trend in depressive symptoms and risk-taking behaviors (see Table 1 for descriptive statistics). Results revealed that change in depressive symptoms followed a linear decline across time [b_{linear} = −.90 (.28), p < .01]; risk-taking behaviors declined initially [b_{linear} = −.20 (.03), p < .001], but slowed across time [$b_{quadratic}$ = .04 (.01), p < .001].

Socio-cultural stressors and Depressive symptoms

Next, we examined how prior within-person (WP) fluctuations in discrimination, acculturative, and enculturative stressors predicted youths' subsequent depressive symptoms, controlling for economic hardship and prior levels of depressive symptoms (Table 2, Model 1a). In the same model, we examined the between-person effects of discrimination, acculturative, and enculturative stressors. Results revealed a marginally significant WP discrimination effect (p = .05), suggesting that increases in discrimination levels within an individual related to increases in depressive symptoms at a subsequent wave, taking into account prior levels of depressive symptoms and other covariates (e.g., age at T1, nativity, economic hardship). A significant BP discrimination effect emerged suggesting that individuals who reported greater experiences of discrimination (compared to the overall sample), tended to report greater depressive symptoms. For acculturative stressors, a significant WP effect emerged suggesting that increases in acculturative stressors within an individual related to increases in depressive symptoms at a subsequent wave, controlling for prior levels of depressive symptoms and other covariates. A significant BP acculturative stressor effect emerged suggesting that individuals who reported greater levels of stressors than the average level across the sample, tended to report greater depressive

symptoms. For enculturative stressors, neither the WP effect nor the BP effect was significant. Next, we examined threshold effects by interacting WP stressor predictors with the BP stressor predictors (Table 2, Model 1b). All interactions (WP discrimination X BP discrimination, WP acculturative stressors X BP acculturative stressors, WP enculturative stressors X BP enculturative stressors) were not significant suggesting that, regardless of the overall level of discrimination or acculturative stress, individuals' fluctuations in these stressors had similar implications for their depressive symptoms one year later.

Socio-cultural Stressors and Risk-Taking Behaviors

For risk-taking behaviors (Table 2, Model 2a), results revealed that WP discrimination and WP acculturative stressors were not significant predictors; however, the BP discrimination was significant, suggesting that individuals who reported greater levels of discrimination (compared to the overall sample mean), tended to report greater risk-taking behaviors. For enculturative stressors, a significant WP effect emerged suggesting that increases in enculturative stressors within an individual related to increases in risk-taking behaviors at a later wave, controlling for economic hardship, prior levels of risk-taking behavior, adolescent age, and nativity. Next, we examined the threshold effect by interacting the WP predictor with the BP predictor (Table 2, Model 2b). The only significant interaction was between WP enculturative stress and BP enculturative stress. Probing of the interaction at 1 SD above and below the mean of BP enculturative stressors revealed that, at high levels of BP enculturative stressors, a significant positive association between WP enculturative stressors and risk-taking behaviors emerged [$b = .09$ (.03), $p < .01$], whereas at low levels of BP enculturative stressors, there was no association [$b = -.08$ (.05), *ns*].

Discussion

Scholars have emphasized the need to examine socio-cultural stressors in the lives of ethnic minority youth (García Coll et al., 1996), including ethnic/racial discrimination and dual-cultural adaptation stress (Gonzales, German, & Fabrett, 2012). Despite this call, few studies have longitudinally examined the links to adjustment (for exceptions see Benner & Graham, 2013; Berkel et al., 2010; Mesch et al., 2008; Nair et al., 2013), and even fewer studies have examined these socio-cultural stressors simultaneously, leaving us with limited knowledge about the relative consequences of each stressor for youths' adjustment, especially among particularly vulnerable populations like Mexican-origin adolescent mothers. Utilizing a within-person analytic design, the current study examined how fluctuations in perceived stressors within individuals related to their levels of adjustment, while also taking into account the role of *between-person* differences. Such an approach allowed us to also examine a potential "threshold" effect of stressors on youths' adjustment. We found that increases in acculturative stressors and discrimination predicted increases in adolescent mothers' depressive symptoms one year later, but there was no evidence of a "threshold" effect for these associations. For risk-taking behaviors, enculturative stressors emerged as an important predictor and a threshold effect was evident; only at high levels of enculturative stressors (compared to the overall sample) did fluctuations in these stressors predict increases in adolescent mothers' risk-taking behaviors. Our findings add to a growing literature suggesting that cultural adaptation stressors and discrimination play unique roles

among adolescent mothers—a group who is disproportionally exposed to stressors and at risk for poor mental health (e.g., Moore & Brooks-Gunn, 2002).

Socio-cultural Stressors and Depressive Symptoms

Among Mexican-origin adolescent mothers, *fluctuations* in acculturative stressors and discrimination (marginally significant) emerged as predictors of depressive symptoms. That is, when individuals reported an increase in acculturative stressors or discrimination experiences (as compared to their average level of stress), they demonstrated an increase in their depressive symptoms one year later, taking into account their prior levels of depressive symptoms and economic hardships. Further, significant associations emerged across individuals (between-person effects) suggesting that acculturative stressors and discrimination, on average, related to more depressive symptoms among adolescent mothers. Together, these findings suggest that acculturative stressors and perceived discrimination are robust correlates of Mexican-origin adolescent mothers' depressive symptoms. Importantly, we found no evidence of a threshold effect for these two stressors, suggesting that within-person increases in acculturative stressors and discrimination were just as detrimental for youths' depressive symptoms when higher versus lower levels of these stressors were reported. These findings are critical from a prevention science perspective, as they point to the potency and importance of discrimination and acculturative stressors in the lives of Mexican-origin adolescent mothers. Further, they suggest that prevention programs aimed at reducing Mexican-origin adolescent mothers' depressive symptoms should attend to *any* level of change in acculturative stressors and discrimination.

Notably, enculturative stressors did not emerge as a significant within-person predictor of future depressive symptoms. It is important to note the robustness of the analyses in the current study. We examined within-person fluctuations in stressors and linked them with symptoms one year later, while also taking into account within-person changes in symptoms and economic hardship across the year. Thus, our examination of the association is a relatively strong test. In prior work with the same sample, we found that enculturative stressors did relate to depressive symptoms (Zeiders, Umaña-Taylor, Updegraff, & Jahromi, in press); however, the study was only focused on the contemporaneous association. Viewed in light of the current study's findings, enculturative stressors may relate to adolescent mothers' concurrent depressive symptoms, but may not predict changes in symptoms over time.

Socio-cultural Stressors and Risk-taking Behaviors

In contrast to our findings with depressive symptoms, within-person changes in perceived discrimination or acculturative stressors did not predict adolescent mothers' risk-taking behaviors. Instead, it was within-person *enculturative stressors* that emerged as significant. This effect was further qualified by a "threshold effect;" fluctuations in enculturative stressors related to greater risk-taking, but only if individuals reported, on average, high levels of enculturative stress. One explanation focuses around the processes and experiences of dual-cultural adaptation. Youth who are experiencing the highest levels of enculturative stress (Spanish competency pressures, pressures against acculturation) are likely those who are the most acculturated (speak English, adhere to the mainstream culture; Rodriguez et al.,

2002; Gonzales et al., 2012). Work with Mexican-origin, non-parenting adolescents suggests that in more acculturated families, parents place fewer restrictions on their adolescent children, especially in regards to peer relationships (Updegraff, Killoren, & Thayer, 2007). Further, highly acculturated Latino youth have been found to report lower levels of parental monitoring, compared to their less acculturated counterparts (Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005). Thus, previous findings suggest that more acculturated youth may spend more time in extra-familial contexts, and time outside of the family context may provide greater opportunity to engage in risk-taking behaviors. As such, when enculturative stressors emerge (e.g., stress from family members regarding the use of Spanish, stress from the pressures of maintaining heritage cultural beliefs), these stressors are more likely emerging among those who are more acculturated and, as a result, have more opportunities to cope in more externalizing ways.

In a similar line of reasoning, our findings may reflect aspects of segmented assimilation (Portes, 1995; Portes & Zhou, 1993). Specifically, youth who are quick to integrate to the mainstream culture, and do so at the cost of leaving behind traditions, language, and values of their culture of origin, may suffer strained relationships with their family members. In the context of low socioeconomic settings specifically (as was the case for most of our adolescent mothers), these strained family relationships may then lead to youth assimilating to inner-city settings, settings characterized by violence, poor educational systems, gang activity, and few economic opportunities (Portes, 1995; Vega & Gill, 1998). This "downward assimilation" pattern then places youth at risk for delinquency (Vega & Gill). Thus, our finding that enculturative stressors predict risk-taking behaviors, but only among adolescent mothers who experience the highest levels of these stressors, may reflect aspects of the segmented assimilation process.

Contributions, Limitations, and Future Directions

The current study extends prior work by utilizing a rigorous design to examine the relative consequences of socio-cultural stressors among Mexican-origin adolescent mothers. From a prevention science perspective, our findings are important because they provide information about the potency of socio-cultural stressors in the lives of Mexican-origin adolescent mothers, a group that is at risk for both internalizing and externalizing symptoms (e.g., Mollborn & Morningstar, 2009; Zoccolillo, et al., 1997). That is, discrimination and acculturative stressors appear to be potent risk factors for adolescent mothers' depressive symptoms, but less so for risk-taking behaviors. For intervention programs focused on reducing depressive symptoms, alleviating acculturative stressors and discrimination, *regardless* of overall level of stress, may be an effective way at improving mental health among adolescent mothers; for programs focused on reducing risk-taking, targeting adolescent mothers who report the highest level of stress, particularly from the enculturation process (e.g., interfamilial conflict), will be especially important.

Despite the current study's contributions, there are several limitations worth noting. First, although the study focused on a particularly important vulnerable population, the generalizability to other vulnerable populations of youth, especially male youth, is limited. Mexican-origin adolescent mothers represent a relatively unique population; they face the

normative stressors of adolescence, while making a developmentally non-normative transition to parenthood. Among other vulnerable youth, especially those at risk for externalizing symptoms (i.e., males), discriminatory experiences might be the most salient stressors and, in turn, be more important predictors of their adjustment. Focusing on other populations with equal representation of males and females could help to identify gendered processes underlying responses to socio-cultural stressors and provide information about how particular contexts influence the salience of stressors. Such considerations are critical as we move beyond linking socio-cultural stressors to adjustment and start to examine mediating processes. A second notable limitation of the current study is the reliance on youths' self-reports for all constructs considered. Self-reports can inflate observed associations and are prone to issues of shared method variance. Future studies with multi-informant methods could provide a stronger test of the relations observed in our study.

Despite these limitations, the current study provides a theoretically meaningful and robust test of the associations between three socio-cultural stressors and two indices of adolescent mothers' adjustment. Our findings demonstrate that socio-cultural stressors play an important role in Mexican-origin adolescent mothers' lives. Further, the study highlights the utility of combining an idiographic and nomothetic approach when studying stress exposure and provides important directions for interventions targeting sociocultural stressors among adolescent mothers.

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Table 1

Bivariate Correlations Among Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23
1. Dep W1	--																						
2. Dep W2	.53***																						
3. Dep W3	.45***	.46***																					
4. Dep W4	.50***	.42***	.51***																				
5. Dep W5	.37***	.33***	.43***	.56***																			
6. Risk W1	.37***	.30***	.32***	.26**	.16*																		
7. Risk W2	.28***	.38***	.43***	.25**	.27**	.55***																	
8. Risk W3	.20*	.25**	.51***	.17*	.24**	.42***	.61***																
9. Risk W4	.26**	.20*	.31***	.23**	.11	.31***	.47***	.48***															
10. Risk W5	.22**	.27**	.27**	.14	.24**	.32***	.43***	.51***	.59***														
11. Disc W1	.31***	.34***	.34***	.33***	.12	.43***	.31***	.14	.20*	.15													
12. Disc W2	.24***	.29***	.35***	.20*	.18*	.27***	.21**	.10	.15	.14	.53***												
13. Disc W3	.19*	.34***	.30***	.36***	.27**	.20*	.18*	.07	.09	.20*	.57***	.58***											
14. Disc W4	.26**	.25**	.34***	.35***	.24**	.32***	.44***	.20*	.28**	.24**	.52***	.50***	.61***										
15. Disc W5	.22**	.28***	.32***	.31***	.27**	.28***	.25**	.13	.07	.14	.52***	.53***	.72***	.70***									
16. Astress W1	.43***	.33***	.28**	.31***	.13	.24**	.29***	.13	.13	.13	.45***	.27***	.38***	.29	.25**								
17. Astress W2	.33***	.28***	.22**	.18*	.16	.04	.07	.01	.04	.20*	.24**	.35***	.29***	.24**	.16	.63***							
18. Astress W3	.28**	.14	.14	.25**	.12	−.04	−.04	−.00	.07	.09	.16*	.11	.21*	.06	−.00	.45***	.59***						
19. AstressW4	.30***	.18*	.19*	.32***	.23**	.03	.06	.10	.17*	.16	.16	.13	.18*	.19*	.07	.46***	.60***	.76***					
20. Estress W1	.25**	.24**	.25**	.12	.15	.39***	.37***	.20*	.19*	.15	.45***	.26**	.26**	.43***	.38***	.33***	.07	−.12	−.12				
21. Estress W2	.17*	.22**	.20*	.08	.22**	.19*	.21**	.12	.03	.15	.32***	.31***	.23**	.37***	.27**	.09	.26***	.01	.04	.67***			
22. Estress W3	.10	.13	.20*	.01	.12	.05	.11	.13	.16	.19*	.19*	.10	.15	.22**	.13	−.07	.02	.13	.07	.53***	.71***		
23. Estress W4	.05	.00	.07	.01	.06	.11	.09	.22*	.16	.22**	.11	.05	−.01	.25**	.12	−.03	−.03	−.01	.20*	.45***	.55***	.66***	
Means	17.7	17.4	16.3	14.8	13.8	1.53	1.32	1.31	1.25	1.24	1.36	1.34	1.34	1.33	1.31	.64	.67	.59	.57	.61	.69	.68	.57

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23
SD	9.7	11.1	11.7	10.7	11.2	.40	.31	.33	.31	.28	.37	.42	.48	.45	.47	.64	.70	.72	.64	.71	.74	.73	.64

Note. For correlations, sample size varied from 141to 184 due to missing data. For all MLM analyses, however, maximum likelihood estimation was used and included the full sample (N = 184). Dep = depressive symptoms; Disc = Discrimination; Astress = Acculturative stress; Estress = Enculturative stress; W1 – W5 = Wave 1 – Wave 5

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 2

Lagged Associations Between Acculturative Stress and Discrimination Predicting Adolescents' Depressive Symptoms (Model 1a & 1b) and Risk-taking Behaviors (Model 2a & 2b) (N = 184)

	Depressive Symptoms		Risk-taking Behaviors	
Predictors	**Model 1a**	**Model 1b**	**Model 2a**	**Model 2b**
Intercept	19.13 (1.20)***	19.22 (1.20)***	1.32 (0.04)***	1.33 (0.04)***
Time	−1.60 (0.39)***	−1.64 (0.39)***	−0.10 (0.03)***	−0.11 (0.03)***
Time^2	--	--	0.02 (0.01)*	0.02 (0.01)*
Adolescent nativity	−1.12 (1.39)	−1.12 (1.39)	0.08 (.04)	0.08 (0.04)
Adolescent W1 age	0.05 (0.57)	0.04 (0.57)	−0.04 (0.02)*	−0.04 (0.02)*
WP Economic hardship$_{T-1}$	−0.05 (0.21)	−0.08 (0.22)	0.00 (0.01)	0.00 (0.01)
WP Depressive symptoms/Risk-taking behaviors $_{T-1}$	−0.45 (0.05)***	−0.44 (0.05)***	−0.24 (0.04)***	−0.24 (0.04)***
WP Discrimination$_{T-1}$	2.41 (1.25)†	1.64 (1.62)	−0.04 (0.03)	−0.06 (0.04)
WP Acculturative stress$_{T-1}$	3.28 (1.00)**	3.17 (1.21)**	0.03 (0.03)	0.03 (0.03)
WP Enculturative stress$_{T-1}$	−1.55 (1.05)	−1.91 (1.29)	0.07 (0.03)*	0.00 (0.03)
BP Discrimination	8.24 (1.77)***	8.41 (1.78)***	0.17 (0.05)**	0.17 (0.05)**
BP Acculturative stress	3.16 (1.14)**	3.14 (1.13)***	0.04 (0.03)	0.04 (0.03)
BP Enculturative stress	1.38 (1.11)	1.37 (1.10)	0.05 (0.03)	0.06 (0.03)
WP Discrimination$_{T-1}$ X BP Discrimination		2.61 (2.86)		0.12 (0.08)
WP Acculturative Stress$_{T-1}$ X BP Acculturative stress		0.50 (1.27)		0.02 (0.04)
WP Enculturative Stress$_{T-1}$ X BP Enculturative stress		0.87 (1.43)		0.14 (0.04)***

Note. W1 = Wave 1; T-1 represents the lagged association; WP = Within-person; BP = Between-person.

† $p = .05$,

* $p < .05$,

** $p < .01$,

*** $p < .001$