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Stress, Coping, and Mood Among Latino Adolescents: A Daily Diary Study

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The current study examines whether daily coping moderates the effects of daily stress on same-day mood and next-day mood among 58 Latino adolescents (M_{age} = 13.31; 53% male). The daily diary design capitalized on repeated measurements, boosting power to detect effects and allowing for a robust understanding of the day-to-day experiences of Latino adolescents. Hierarchical linear modeling revealed that on days when youth reported higher levels of peer and academic stress, they also reported more negative moods. However, only poverty-related stress predicted mood the following day. Engagement coping buffered the effect of poverty-related stress on next-day negative and positive mood, while disengagement exacerbated the effects of academic and peer stress. The need for interventions promoting balanced coping repertoires is discussed.

Early adolescence is a transitional period that confers a number of rapid changes in physical maturation, sexuality, autonomy, peer influence, responsibilities, roles, and personal identity (Schulz & Kerig, 2012a; Wolfe & Mash, 2006). During this time, youth are exposed to an increased number of stressors that place them at risk for concurrent and later mental health problems (Schulz & Kerig, 2012b; Wolfe & Mash, 2006). Given this increased vulnerability, it is important to study the processes in place as children enter into adolescence that may increase risk or promote resilience (Conger et al., 2012). As Latino adolescents face disproportionate exposure to risks (Suarez-Orozco, Yoshikawa, & Tseng, 2015), the identification of pathways toward positive outcomes for Latino early adolescents can inform culturally relevant mental health programs that may prevent the development of symptoms of psychopathology.

Stress Among Latino Youth

Low-income Latino adolescents experience stressors in a wide variety of domains. The most salient types of stressors within this population include poverty-related stress, school and academic stress, and peer stress (Cervantes & Cordova, 2011; Cervantes, Padilla, Napper, & Goldbach, 2013; DeJonckheere, Vaughn, & Jacquez, 2014; Romero & Roberts, 2003). For adolescents, poverty-related stress can include economic stress (e.g., having difficulty paying rent or buying school supplies; having to care for siblings or complete numerous household duties), family conflict, exposure to violence, frequent moves and family transitions (e.g., experiencing separation from family members), and exposure to discrimination and other traumatic experiences (Cervantes & Cordova, 2011; Cervantes et al., 2013; DeJonckheere et al., 2014; Evans & Kim, 2013; Romero & Roberts, 2003; Simons et al., 2002; Wadsworth et al., 2008). Poverty creates a "context of stress" extending beyond worries about money in which these types of stressors build on one another and contribute to further stress, increasing conflict and tension within the family (McLoyd, 1998). Although some of these stressors may occur across all levels of income, they are more likely to occur in a context of poverty and to coincide with each other, increasing the risk for poor adjustment among low-income youth (Evans & Kim, 2013). In addition to a context of poverty, the school and peer contexts are of particular developmental significance during adolescence and can create additional stress among Latino youth. For example, adolescents may contend with family pressure to do well in school, challenging schoolwork, arguments with a boyfriend or girlfriend, teasing by peers, and exposure to drugs and gangs

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(Cervantes & Cordova, 2011; Cervantes et al., 2013; DeJonckheere et al., 2014; Romero & Roberts, 2003).

Among Latino and ethnic minority adolescents, high levels of stress are associated with internalizing and externalizing problems, poor health, and deviant behaviors (Romero & Roberts, 2003; Wadsworth et al., 2008). In particular, poverty-related stress has been found to predict depression and anxiety in samples including Latino and ethnic minority youth in a large body of past research (Santiago, Wadsworth, & Stump, 2011; Wadsworth & Berger, 2006; Wadsworth et al., 2008). Academic stress among predominantly Caucasian adolescents has also been associated with poorer emotional functioning, including lower positive affect and higher negative affect (Arsenio & Loria, 2014) and higher levels of subsequent internalizing problems (Carter, Garber, Ciesla, & Cole, 2006). Likewise, among a sample of youth including Mexican American adolescents, peer stress was positively correlated with depressive symptoms (Deardorff, Gonzales, & Sandler, 2003). Moreover, prior research including ethnic minority youth has demonstrated that the accumulation of multiple stressors is especially detrimental (Evans & Kim, 2013; Santiago & Wadsworth, 2009). While it seems clear that exposure to increasing levels of stress has negative implications for Latino youth, it is important to clarify how particular domains of stressors are linked with daily functioning and what factors might moderate this association in order to better understand the development of psychological difficulties.

Coping With Stress

How adolescents cope with an accumulation of stress can increase or decrease the risk for poor psychological functioning. Research typically distinguishes between approach-oriented coping strategies and strategies aimed at avoiding the stressor (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Gonzales, Tein, Sandler, & Friedman, 2001). Research also distinguishes between problem-focused coping, which involves efforts to change the situation, and emotion-focused coping, which involves efforts to regulate emotional responses (Gonzales et al., 2001). The Responses to Stress Model (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) distinguishes between approach and avoidance strategies, referred to as *engagement coping* and *disengagement coping*, respectively (Connor-Smith et al., 2000). Engagement coping is comprised of primary control coping and secondary control coping. Primary control coping involves directly altering the stressor or one's emotional response to the stressor using strategies such as problem solving, emotional expression, and emotion regulation. Secondary control coping involves attempting to adapt to the stressor through acceptance, cognitive restructuring, positive thinking, and distraction. Disengagement coping encompasses behavioral and cognitive avoidance (e.g., avoidance, denial, wishful thinking). This model has been applied to culturally diverse samples of children and adolescents, including Spanish-speaking groups and those facing poverty-related stress (Connor-Smith & Calvete, 2004; Wadsworth & Santiago, 2008).

Both forms of engagement coping—primary control coping (e.g., problem solving) and secondary control coping (e.g., cognitive restructuring)—are linked with better psychological functioning in the context of poverty-related stress and traumatic stress among samples including ethnic minority groups (Wadsworth, Raviv, Santiago, & Etter, 2011; Wadsworth, Santiago, & Einhorn, 2009). Further, engagement coping is linked to fewer internalizing and externalizing symptoms among Caucasian adolescents coping with peer stress (Jaser et al., 2007). Although few studies have examined how daily use of engagement coping may impact daily mood, one study found that more use of daily problem-focused coping when dealing with academic, social, and family stressors predicted higher levels of daily positive affect among a sample of racially and ethnically diverse college students (Bartley & Roesch, 2011). Likewise, low-income Mexican American adolescents who used more daily problem solving also reported more positive daily affect (Aldridge & Roesch, 2008). Thus, engagement coping responses are generally linked to better functioning (Wadsworth & Santiago, 2008; Wadsworth et al., 2011), but few studies have examined engagement coping in daily life, especially among Latino youth.

In cross-sectional investigations that included ethnic minority youth, disengagement coping appears to be unrelated to psychological symptoms (Santiago & Wadsworth, 2009) or related to better functioning at high levels of stress (Gonzales et al., 2001). Thus, avoidance, denial, and wishful thinking may provide temporary relief from stress, especially if that stress is extreme and uncontrollable, such as stress associated with poverty (Gonzales et al., 2001). However, across time, disengagement coping exacerbates the effects of poverty-related stress on psychological functioning (Santiago &

Wadsworth, 2009; Wadsworth et al., 2011). Long-term reliance on disengagement coping is also linked to higher levels of depressive symptoms 2 years later when coping with a range of stressors, including peer and academic stress among European adolescents (Seiffge-Krenke & Klessinger, 2000). Less is understood about disengagement coping in a day-to-day context, although one study found that distancing coping strategies were associated with more negative affect on the same day for Mexican American adolescents (Aldridge & Roesch, 2008). Continued reliance on disengagement strategies may also exacerbate the effects of stress on mood the following day.

Daily Diary Approach

Despite our understanding of how coping is related to psychological functioning in cross-sectional and longitudinal investigations, surprisingly little is understood about how stress, coping, and mood are related daily for youth. Daily diary studies may help capture daily life experiences as they occur and can tap into constructs not readily measured with traditional methods (Bolger, Davis, & Rafaeli, 2003). Further, daily diary methodology has the ability to detect effects that are not observable using cross-sectional or longitudinal methods, as daily diaries capture fluctuations in stress and related outcomes that occur on a day-to-day basis. In fact, classic stress research has shown that daily hassles impact psychological well-being more strongly than chronic stressors (see Monat, Lazarus, Reevy, & Duncan, 2007 for a review). Thus, the use of daily diary methodology may reveal targets for intervention that cannot be detected using methods that require recall over longer periods of time. Moreover, such studies avoid bias resulting from the recall demands of retrospective methods (Bolger et al., 2003). Furthermore, daily diary studies may help elucidate how individuals respond to daily stressors (Almeida, 2005), increasing our understanding of potential moderators of daily stress on mood.

Daily hassles and stressors have been deemed robust predictors of mental health, physical health, and mood problems, perhaps due to their chronic nature, among both Caucasian and Latino populations (e.g., Almeida, Wethington, & Kessler, 2002; Suarez-Morales & Lopez, 2009). Further, Bolger et al. (2003) suggest the benefit of using daily diary methods to study transitions and life events in order to better understand periods of change for individuals and their environments. Major life events have been shown to lead to the experience of a greater number of daily stressors, which results in higher levels of psychological symptoms (Wagner, Compas, & Howell, 1988). Thus, including life events (e.g., a family member losing a job) in addition to daily stressors can help capture ongoing effects on adolescents' emotional functioning through daily diary methodology.

Several researchers have linked daily mood ratings to serious mental health concerns such as major depression (Peeters, Nicolson, Berkhof, Delespaul, & deVries, 2003; Schneiders et al., 2006; Weinstein, Mermelstein, Hankin, Hedeker, & Flay, 2007), suggesting that the application of daily diary methodology to adolescent samples may highlight the day-to-day experiences that lead to psychopathology in this volatile developmental period (Schneiders et al., 2006; Weinstein et al., 2007). Further, prior research highlights the importance of examining both the same-day and next-day mood. For instance, a study of adolescents of Chinese and Mexican descent found that daily stress was positively associated with greater concurrent, but not next-day, anxiety (Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006). A more nuanced understanding of these temporal associations between various domains of stress and mood may have implications for interventions targeting coping with stressful events. For example, stressors that have rapid effects on mood may require adolescents to use more immediate coping strategies compared to stressors that have delayed effects on mood. Moreover, examining both same-day mood and next-day mood may clarify which stressors are likely to have more lasting influences on adolescents' emotional well-being and development of psychopathology. Examining these effects among Latino adolescents is particularly important, as Latino adolescents have higher rates of depressive symptoms than any other ethnic group (Centers for Disease Control [CDC], 2012; Twenge & Nolen-Hoeksema, 2002). Additionally, adolescent girls may be especially vulnerable to problems with negative mood, as gender differences in mood-related mental health problems have been documented in prior research (CDC, 2012; Zahn-Waxler, Shirtcliff, & Marceau, 2008). Further, examining mood as two orthogonal dimensions, positive and negative, is particularly useful when using daily diary methodology, because it captures the varying feelings students may experience daily.

Current Study

The current study examines the daily experiences of stress and coping among Latino adolescents. Specifically, this study tests the association of daily stress and daily coping with same-day and next-day positive and negative mood within this population while accounting for gender. A majority of research among low-income and Latino youth utilizes cross-sectional or longitudinal designs (e.g., Smokowski, Rose, & Bacallao, 2010), and few studies utilizing daily diary methods have been conducted with Latino youth (see Aldridge & Roesch, 2008; Espinoza, Gonzales, & Fuligni, 2013; Kiang et al., 2006; Potochnick, Perreira, & Fuligni, 2012 as exceptions). Moreover, while these studies have used daily diary methods to demonstrate associations between stressors (e.g., peer victimization, negative ethnic treatment) and distress and well-being (Espinoza et al., 2013; Kiang et al., 2006; Potochnick et al., 2012), this study expands upon this work by examining a broader range of stressful experiences relevant to adolescents as well as potential moderators of these experiences. Finally, utilizing a daily diary design provides repeated measurements and sufficient power to detect significant effects, which allows for a robust understanding of the day-to-day experiences of Latino adolescents. The hypotheses of the current study are (1) higher levels of poverty-related, academic, and peer stress will be associated with higher negative and lower positive same-day and next-day mood, (2) engagement coping will buffer the effects of this stress, and (3) disengagement coping will exacerbate the effects of this stress.

METHOD

This research was approved and conducted in compliance with the university's Institutional Review Board and the school district's research review committee.

Participants

Participants were recruited from a local parochial school (pre-K through eighth grade, approximately 470 total students) serving a Latino population in a large Midwestern city. All 7th- to 8th-grade students ($N = 68$) were offered the opportunity to participate in the study, although five did not obtain parental consent and five did not complete the baseline assessment, yielding a final sample of 58 adolescents ($M_{age} = 13.31$; 53% male). Among participants, 95% identified as Latino, while 5% identified as mixed race/ethnicity (i.e., Latino and another race/ethnicity); 95% were U.S.-born, 22% had one immigrant parent, and 47% identified both their parents as immigrants. All immigrant parents were born in Mexico, except for one mother who was born in Uruguay. Per school records, 93% of the seventh- to eighth-grade students were eligible to receive free/reduced lunch. By comparison, during the 2012–2013 school year in the city's public school system, 87% of seventh and eighth graders were eligible to receive free or reduced lunch, which is representative of 185% of the federal poverty line (Chicago Public Schools, 2015). Additionally, 95.7% of students at a comparable public elementary school in the same neighborhood as the parochial school were eligible for free or reduced lunch (Chicago Public Schools, 2015). Therefore, the parochial school participating in this study comprised a similar population as the public school system in terms of income levels. Regarding educational attainment for the participants' mothers, 35% did not finish high school, 35% graduated high school or obtained a GED, 25% attended college and/or obtained a training certificate, associate's degree, or college degree, and 5% obtained an advanced degree. Of the participants' fathers, 40% did not finish high school, 33% graduated high school or obtained a GED, and 25% attended college and/or obtained a training certificate, associate's degree, or college degree. Educational data were missing for one mother and three fathers.

Procedure

Participants completed baseline measures and daily diaries assessing stress, coping, and mood over seven consecutive days (baseline completion = 100%; daily diary completion rates ranged from 84% to 98% across the week). Baseline assessments included demographic variables as well as measures assessing stress, coping, family, identity, and mental health, which are not included in this study. Researchers visited the school at the same time on each weekday (approximately 10:30 am) to administer and collect study materials. On the weekend, participants completed the measures at home (weekend completion times were not recorded, although participants were instructed to complete them at 10:30 am). Each daily diary asked about stress and coping over the past 24 hr. Baseline assessments took approximately 45 min, while daily diaries were typically completed within 15 min. Participants received a $15 gift card for

completing baseline measures and a $5 gift card for each daily diary completed.

Measures

Demographic information. Participants reported demographic and family information as a part of the baseline measures, including gender, age, race/ethnicity, immigration status, language use, and parent education. Participants self-reported their age in years, gender (male or female) and selected from one of seven options to identify race/ethnicity (African American, Asian, Caucasian, Latino/Hispanic, Native American, Pacific Islander, or Other). Participants indicated their immigration status as well as their parents' by responding to questions asking in which country they and their parents were born (United States, Mexico, or other). Participants selected one of nine options (ranging from "Did not finish high school" to "Ph.D., JD, MD, etc." as well as "Currently attending college, GED school, etc.") to indicate the educational attainment of each of their parents. To assess language use, participants completed the language scale from the Brief Acculturation Scale for Hispanics (Norris, Ford, & Bova, 1996).

Daily stress. Stress was assessed daily using a modified version of the Multicultural Events Schedule for Adolescents (MESA; Gonzales et al., 2001). Participants completed 37 items from the original MESA, indicating stressful events that occurred over the past 24 hr and rating stressfulness on a 4-point scale (1 = *not at all*, 4 = *a lot*). Stressors were assessed across poverty-related stress (18 items), peer stress (11 items), and academic stress (eight items). Sample items included "Someone in your family lost a job," "A friend you trusted did not keep a secret," and "You did poorly on an exam or school assignment." All students reported at least one stressful event each day. Participants were encouraged to report even mildly stressful events, as they could indicate a stressfulness rating. Students reported experiencing an average of 2.38 stressors/day. Participants were also asked to indicate the stressor that was the most stressful for them each day. Scoring consisted of taking the sum of the stressfulness ratings for all events endorsed. Reliability estimates for this measure were not calculated because not all adolescents answered the same items, as they only indicated a stressfulness rating for endorsed events. Thus, participants did not always endorse a stressfulness rating across the same items. Therefore, standard measures of reliability, such as Cronbach's alpha, would not be appropriate. However, the MESA was developed and validated using an ethnically diverse, low-income population and has demonstrated adequate test–retest reliability (r = .71).

Daily coping. Coping was measured daily using a modified version of the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). The RSQ consistently demonstrates good reliability and validity, including with Spanish-speaking populations (Connor-Smith & Calvete, 2004; Connor-Smith et al., 2000). The original RSQ contains 57 items, but to maximize compliance with daily diary completion in this study, we administered a 19-item version. Engagement coping was comprised of seven items measuring both primary and secondary control coping responses (e.g., "I try to think of different ways to change the problem or fix the situation," "I think about the things I'm learning from the situation, or something good that will come from it"). Disengagement coping comprised three items (e.g., "I try to stay away from people and things that make me feel upset or remind me of the problem"). Participants rated each item on a scale ranging from 1 (*not at all*) to 4 (*a lot*). Involuntary responses to stress (nine items) were not examined in this study. Adolescents were instructed to complete the RSQ while thinking about how they would manage the stressor rated as most stressful from that day.

For daily diary measures, Shrout and Lane (2011) recommend evaluating both between-person reliability (an extension of the Cronbach's alpha) and reliability of change (the ability to detect change in daily constructs). Examining both indices allows for understanding the ability to detect both between- and within-person variation. Engagement coping showed good between-person reliability (.96) and good reliability of change (.80). The between-person reliability was strong for disengagement coping (.93). However, several participants showed inconsistent responding, which substantially impacted the reliability of change for this three-item scale. When these five cases were removed, reliability of change improved to .59 (from <.10). Thus, the scores on disengagement for these five cases were excluded from the analyses.

Daily mood. Mood was measured daily using the Positive and Negative Affect Schedule for Children (PANAS-C; Laurent et al., 1999). The 12 items

assessing positive affect included "happy," "energetic," and "proud," while the 15 items assessing negative affect included "sad," "nervous," and "ashamed." Participants rated their mood during the past 24 hr on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Positive and negative affects showed good between-person reliability (.99 and .99, respectively) and good reliability of change (.90 and .86, respectively).

Analytic Strategy

Due to the nested nature of the data (daily measures nested within persons), hierarchical linear modeling (HLM) was utilized. Intraclass correlations ranged from .60 to .63, demonstrating sufficient variance to move forward with hypothesized model testing. Because gender was expected to be strongly associated with mood (CDC, 2012; Zahn-Waxler et al., 2008), it was included in all models. Gender was entered as a level 2 (person level) independent variable. At level 1 (daily level), daily stress (poverty-related stress, academic stress, peer stress) and daily coping (engagement coping, disengagement coping) were entered as independent variables, each with seven daily diary ratings. The level 2 equations predicting stress, coping, and previous-day mood were set as fixed, because their slopes were assumed to be similar across students. Four primary models were tested for the following mood outcomes: same-day negative mood, next-day negative mood, same-day positive mood, and next-day positive mood (with seven daily diary ratings). Main effects models were tested first, and Stress × Coping interactions were tested sequentially. Interactions between each type of coping and each type of stress were tested. Because the interactions occur within the same level (level 1), significant interactions were probed and graphed using Rweb (Preacher, Curran, & Bauer, 2006). For example, next-day mood model equations where the dependent variable can be interpreted as the change in depression from day t to day $t + 1$:

$$\begin{aligned}\text{Level 1}: (\text{Negative mood})_{it+1} &= \pi_{0i} + \pi_{1i}(\text{Negative mood})_{it} \\ &+ \pi_{2i}(\text{Poverty-related stress})_{it} + \\ &\pi_{3i}(\text{Peer stress})_{it} + \pi_{4i}(\text{Academic stress})_{it} \\ &+ \pi_{5i}(\text{Engagement coping})_{it} + \\ &\pi_{6i}(\text{Disengagement coping})_{it} + e_{it}\end{aligned}$$

$$\begin{aligned}\text{Level 2}: \pi_{0i} &= \beta_{00} + \beta_{01}(\text{Gender})_i + r_{0i} \\ \pi_{1i} &= \beta_{10} \\ \pi_{2i} &= \beta_{20} \\ \pi_{3i} &= \beta_{30} \\ \pi_{4i} &= \beta_{40} \\ \pi_{5i} &= \beta_{50} \\ \pi_{6i} &= \beta_{60}\end{aligned}$$

Daily diary completion rates ranged from 84% to 98% across the week due to absences, missing weekend diaries, or partially completed diaries. Out of a possible 406 observations (58 students × 7 diaries), 359–369 observations were obtained across constructs (average of 365 data points per construct or 6.29 observations per participant; 10% missing data rate). Data imputation was not conducted because HLM capitalizes on all existing data points nested within individuals. Thus, list-wise deletion does not occur, and all participants are retained in the analysis.

RESULTS

Preliminary Analyses

Adolescents reported high levels of exposure to stress (see Table 1). Aggregated across the week, nearly all adolescents experienced poverty-related stress ($n = 57$; 98.3%). Within poverty-related stress, the stressors that students experienced across the week were economic (67.2%), family trouble/change (51.7%), violence (50.0%), family conflict (37.9%), and discrimination (13.79%). The majority of adolescents reported experiencing peer ($n = 46$; 79.3%) and academic ($n = 53$; 91.4%) stress over the course of the week as well. When aggregated across the week, 41.8% of adolescents reported that a poverty-related stressor was most stressful, 29.8% reported that an academic stressor was most stressful, and 28.4% reported that a peer stressor was most stressful. Within poverty-related stress, the stressors that students found most stressful were economic (17.2%), family trouble/change (9.5%), family conflict (8.9%), violence (4.9%), and discrimination (1.4%).

Correlations among key study variables are reported in Table 1. Poverty-related stress, peer stress, and academic stress were all positively intercorrelated, as were engagement coping and disengagement coping. Negative mood and

TABLE 1
Descriptive Statistics and Correlations for Stress, Coping, and Mood Across the Week

	Stress descriptive statistics				*Correlations*						
	Stressors experienced M (SD)	*Stressfulness rating M (SD)*	*% Endorsed; % most stressful %*	*Coping and mood descriptive statistics M (SD)*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. Poverty-related stress	1.61 (0.90); range: 1.00–6.00	19.62 (1.95); range: 18.00–28.00	98.28; 41.83	—	—						
2. Peer stress	1.47 (0.76); range: 1.00–4.50	12.33 (1.98); range: 10.86–19.33	79.31; 28.37	—	.73**	—					
3. Academic stress	1.24 (0.46); range: 1.00–3.71	9.16 (1.44); range: 8.00–17.43	91.38; 29.80	—	.41**	.30*	—				
4. Engagement coping	—	—	—	2.36 (0.59); range: 1.35–3.94	.17	.12	.09	—			
5. Disengagement coping	—	—	—	2.17 (0.66); range: 1.00–4.00	.60**	.41**	.17	.56**	—		
6. Negative mood	—	—	—	1.75 (0.70); range: 1.00–4.67	.68**	.61**	.43**	.08	.52**	—	
7. Positive mood	—	—	—	3.17 (0.95); range: 1.38–5.00	−.08	−.05	−.01	.21	−.16	−.23^{+}	—

Notes. Stress descriptive statistics were calculated using the weekly averages of the sums for each day. The poverty-related stress scale contained 18 items, the peer stress scale contained 11 items, and the academic stress scale contained eight items. Stressfulness rating options ranged from 1 (*not at all*) to 4 (*a lot*) for each item. Coping rating options ranged from 1 (*not at all*) to 4 (*a lot*). Mood rating options ranged from 1 (*very slightly or not at all*) to 5 (*extremely*). Percentages of stressors endorsed and most stressful stressors were aggregated across the week. Coping and mood descriptive statistics were calculated using the weekly averages of the daily means.
**$p < .01$; *$p < .05$; +$p < .10$.

positive mood were not significantly correlated, but there was a trend toward a negative correlation between these variables. Key study variables did not differ by gender, with the exception of disengagement coping (higher for girls, $t(56) = -2.46$, $p = .017$), negative mood (higher for girls, $t(56) = -2.46$, $p = .019$), and positive mood (higher for boys, $t(56) = 2.43$, $p = .018$). We examined a number of other demographic variables as potential control variables to be included in our models. Parent education, parent immigrant status, language use, and child age were all considered. No significant associations with the primary variables (i.e., stress, coping, and mood) emerged. Thus, no demographic variables other than gender were included in the primary analyses.

We also examined potential differences in ratings of stress and mood during weekdays versus weekends. Repeated-measures analyses of variance (ANOVAs) revealed that negative mood, $F(4.351, 156.633) = 0.838$, $p = .511$, and positive mood, $F(6, 216) = 1.637$, $p = .138$, values did not vary day by day. Poverty-related stress, $F(2.602, 96.263) = 7.857$, $p < .001$, peer stress, $F(2.406, 89.014) = 7.763$, $p < .001$, and academic stress, $F(4.535, 167.798) = 10.288$, $p < .001$, values did vary significantly across the week. However, when the first daily diary was removed from repeated-measures ANOVAs, poverty-related stress, $F(3.461, 141.892) = 1.019$, $p = .393$, peer stress, $F(5, 205) = 1.302$, $p = .264$, and academic stress, $F(3.981, 163.234) = 0.837$, $p = .503$, values did not vary day to day. Specifically, students reported more stress on the first daily diary completed (a Thursday), but no other days were significantly different from each other. Thus, we did not control for weekday versus weekend daily diaries in our models, as they were not significantly different from each other. However, analyses were repeated controlling for the first daily diary day, and results were highly consistent.

Hierarchical Linear Models

See Table 2 for the results of HLM models.

Negative mood. Consistent with Hypothesis 1, peer stress and academic stress were related to more same-day negative mood. Disengagement coping also had a significant main effect on same-day negative mood. Further, a significant interaction between disengagement and peer stress also emerged for same-day negative mood (see Figure 1), consistent with Hypothesis 3 stating that disengagement would exacerbate that effects of

TABLE 2
Hierarchical Linear Models: Coefficients and Statistical Tests

	Same-day negative mood			*Next-day negative mood*			*Same-day positive mood*			*Next-day positive mood*		
	Coefficient (SE)	*df*	*t-Ratio*	*Coefficient (SE)*	*df*	*t-Ratio*	*Coefficient (SE)*	*df*	*t-Ratio*	*Coefficient (SE)*	*df*	*t-Ratio*
Intercept	1.35 (.28)	50	4.87**	1.45 (.11)	49	13.62**	4.21 (.38)	50	11.01**	3.60 (.16)	49	22.20**
Gender	0.29 (.18)	50	1.59	0.17 (.069)	49	2.47*	−0.69 (.25)	50	−2.76**	−0.29 (.11)	49	−2.75**
Previous-day mood	—	—	—	0.65 (.051)	244	12.68**	—	—	—	0.68 (.048)	243	14.10**
Poverty-related stress	0.0033 (.012)	311	0.28	0.039 (.014)	244	2.81**	−0.019 (.019)	310	−1.01	−0.020 (.020)	243	−1.01
Peer stress	0.043 (.017)	311	2.50*	−0.0051 (.016)	244	−0.31	0.012 (.027)	310	0.44	0.028 (.024)	243	1.17
Academic stress	0.040 (.020)	311	1.98*	0.0083 (.018)	244	0.47	0.042 (.032)	310	1.32	0.0099 (.025)	243	0.39
Engagement coping	0.12 (.066)	311	1.78^{+}	−0.019 (.057)	244	−0.33	0.13 (.10)	310	1.26	0.16 (.085)	243	1.86^{+}
Disengagement coping	0.18 (.057)	311	3.17**	−0.034 (.056)	244	−0.61	0.11 (.088)	310	1.25	−0.029 (.078)	243	−0.37
Engagement × Poverty-related stress	—	—	—	−0.053 (.015)	243	−3.50**	—	—	—	0.031 (.014)	242	2.17*
Disengagement × Peer stress	0.047 (.015)	310	3.10**	—	—	—	—	—	—	—	—	—
Disengagement × Academic stress	—	—	—	—	—	—	—	—	—	−0.062 (.028)	242	−2.18*

Notes. Main effects reflect models that did not simultaneously test interactive effects. Interactive effects were tested sequentially controlling for all main effects.
**$p < .01$; *$p < .05$; $^{+}p < .10$.

stress on mood. On days when both peer stress and disengagement coping were high, adolescents reported more negative moods. Simple slope analyses (Preacher et al., 2006) revealed that the slope for peer stress and negative mood was significant for high levels of disengagement (+1 *SD*; simple slope = 0.074 (0.020), $t = 3.766$, $p < .001$) but not low levels (−1 *SD*; simple slope = 0.001 (0.022), $t = 0.033$, $p = .974$).

Next-day negative mood was significantly predicted by gender, previous-day negative mood, and poverty-related stress. Girls reported higher levels of negative mood across days, while more negative mood the day prior predicted more negative mood the following day. Consistent with Hypothesis 1, higher levels of poverty-related stress the previous day also predicted more negative mood. In addition, a significant interaction between engagement coping and poverty-related stress emerged for next-day negative mood (see Figure 2), showing a buffering effect as stated in Hypothesis 2. When previous-day poverty-related stress was high and engagement coping was low, adolescents reported more negative mood the following day. Simple slope analyses revealed that the slope for poverty-related stress and negative mood was significant for low levels of engagement coping (−1 *SD*; simple slope = 0.086 (0.019), $t = 4.512$, $p < .001$) but not high levels (+1 *SD*; simple slope = 0.013 (0.015), $t = 0.823$, $p = .412$).

Positive mood. Gender was significantly associated with same-day positive mood, with girls reporting lower levels of positive mood across days. No significant interactions emerged for same-day positive mood.

Next-day positive mood was significantly predicted by gender and previous-day positive mood. Girls reported lower levels of positive mood across days, while better mood the day prior predicted better mood the following day. In addition, a significant interaction between engagement coping and poverty-related stress emerged for next-day positive mood (see Figure 3), again showing a buffering effect consistent with Hypothesis 2. When previous-day poverty-related stress was high and engagement coping was low, adolescents reported low levels of positive mood the following day. Simple slope analyses revealed that the slope for poverty-related stress and positive mood was significant for low levels of engagement coping (−1 *SD*; simple slope = −0.048 (0.022), $t = -2.148$, $p = .033$) but not high levels (+1 *SD*; simple slope = −0.005 (0.020), $t = -0.259$, $p = .796$). Finally, a significant interaction between disengagement coping and academic stress emerged for next-day positive mood (see Figure 4). When previous-day academic stress was high and disengagement was low, adolescents reported higher levels of positive mood the following day. Simple slope analyses revealed that the slope for academic stress and positive mood was significant for low levels of disengagement coping (−1 *SD*; simple slope = 0.80 (0.040), $t = 1.985$, $p = .048$) but not high levels (+1 *SD*; simple slope = −0.019 (0.026), $t = -0.732$, $p = .465$).

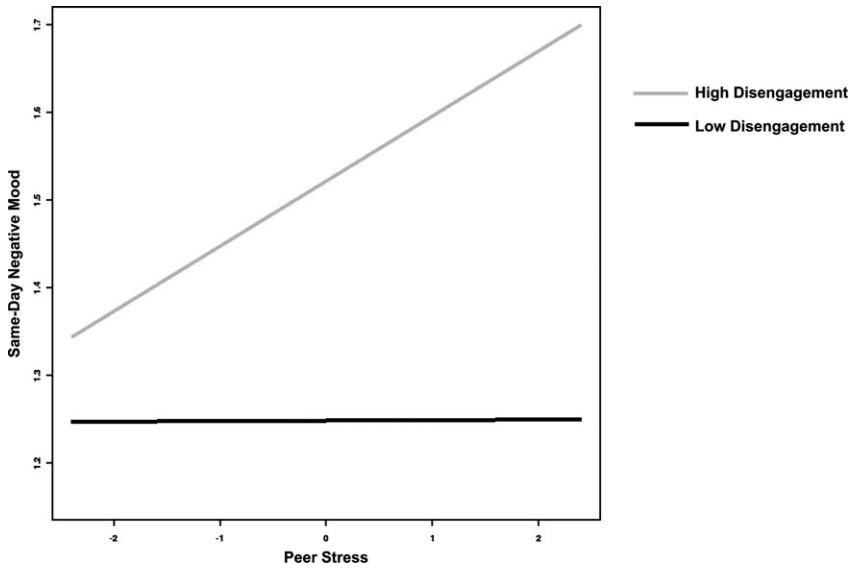

FIGURE 1 Disengagement coping × Peer stress on same-day negative mood.

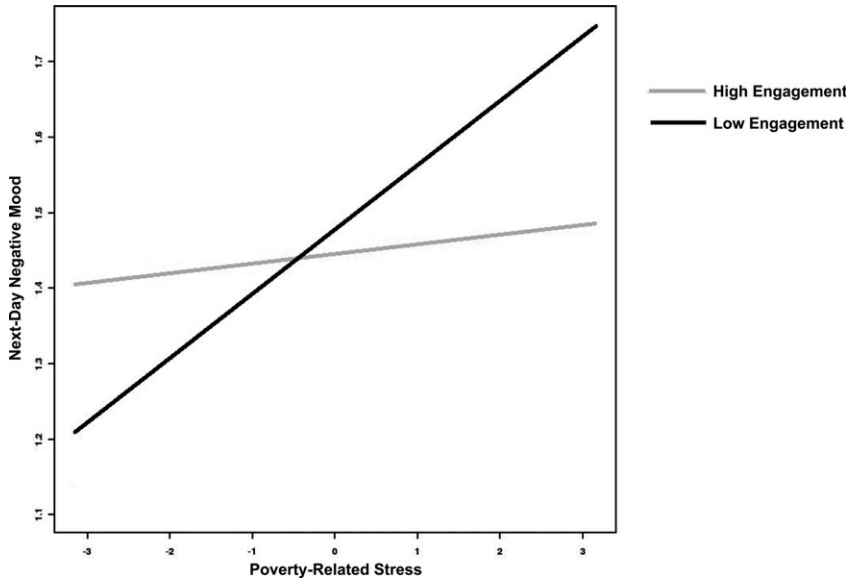

FIGURE 2 Engagement coping × Poverty-related stress on next-day negative mood.

DISCUSSION

This study examined stress, coping, and mood among a sample of Latino youth reporting high levels of stress exposure. On days when youth reported higher levels of peer and academic stress, they reported experiencing more negative moods. However, only poverty-related stress predicted mood the following day. Engagement coping buffered the effect of poverty-related stress on next-day negative and positive mood, while disengagement coping exacerbated the effects of academic and peer stress. Further, girls reported more negative mood across days when compared to boys, which is supported by prior research (CDC, 2012; Zahn-Waxler et al., 2008).

While adolescents' peer and academic stress were associated with same-day negative mood, their experiences of poverty-related stress predicted next-day negative mood. These findings are consistent with prior evidence that stress is positively related to internalizing problems (Romero & Roberts, 2003; Wadsworth et al., 2008). The present findings expand upon previous studies by

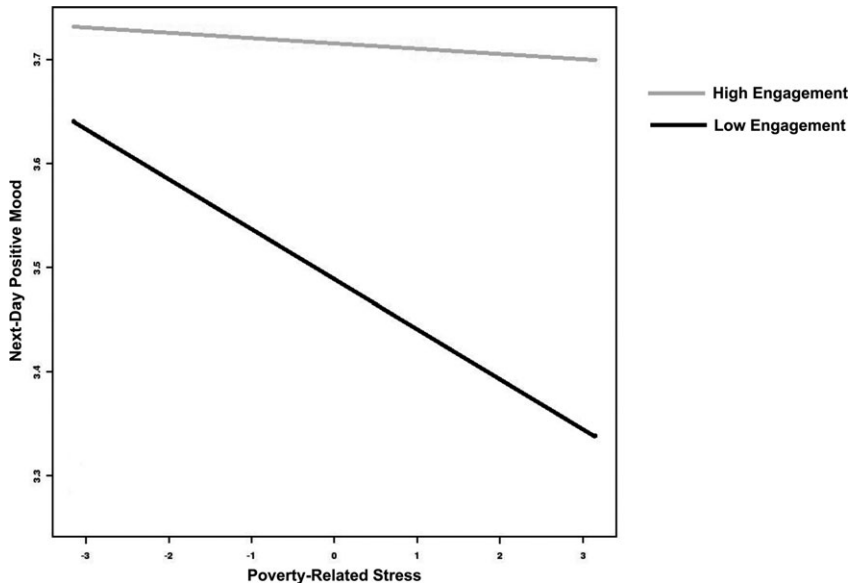

FIGURE 3 Engagement coping × Poverty-related stress on next-day positive mood.

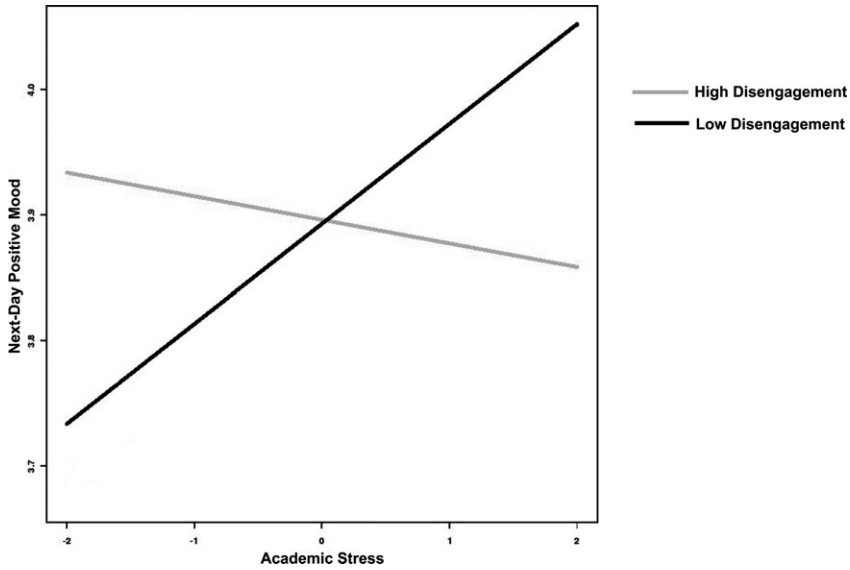

FIGURE 4 Disengagement coping × Academic stress on next-day positive mood.

revealing associations between stress and negative mood on a daily basis and by examining relations between negative mood and specific domains of daily stress. The findings that academic and peer stress predict adolescents' same-day negative mood suggest that these stressors have a rapid effect on adolescents' emotional well-being. Given the developmental salience of peer and academic contexts during adolescence, these domains of stress may be quick to influence adolescents' moods. However, the absence of an effect of peer and academic stress on next-day mood suggests that the effects of these stressors are relatively transient. In contrast, effects of elevated poverty-related stress on negative mood did not emerge until the following day. Given the often chronic and uncontrollable nature of poverty-related stressors, such as economic strain and exposure to violence, this type of stress may be less likely to have an immediate effect on adolescents' negative moods. Rather, poverty-related stress may be particularly influenced by the accumulation of stress, which previous research has shown to be especially harmful (Evans & Kim, 2013; Santiago & Wadsworth, 2009). Consequently, the effects of high levels of poverty-related stress on a given day may not appear until they are exacerbated by additional stressors occurring on subsequent days.

While the hypothesis that higher levels of stress would predict worse mood was partially supported by results examining *negative* mood as an outcome, interestingly, there were no significant main effects of poverty-related, academic, or peer stress predicting either same-day or next-day *positive* mood. The present study measured mood as comprising two orthogonal dimensions by asking students to endorse the frequency at which they experienced positive and negative feelings separately from day to day, and the absence of one did not necessarily indicate the presence of the other (PANAS-C; Laurent et al., 1999). This approach to measuring mood may be particularly meaningful when using daily diary methodology, given that it captures the varying positive and negative feelings students may experience from day to day. Therefore, while findings from the present study support the association between the presence of stress and negative mood, it may be that a lack of stress is predictive of the absence of negative mood but not necessarily the presence of positive mood. In other words, findings support theories that posit that stress is uniquely related to negative mood (Watson, Wiese, Vaidya, & Tellegen, 1999). However, stress coupled with coping was linked to positive mood, suggesting that coping may help increase or maintain positive mood in the face of stress, as discussed below.

The daily use of engagement coping strategies buffered the effect of poverty-related stress on next-day positive and negative moods. Even in the face of high daily poverty-related stress, when youth utilize engagement coping strategies (such as problem solving, emotion regulation, cognitive restructuring, and distraction), they are able to prevent subsequent increases in negative mood and decreases in positive mood, which may protect them from the development of mental health

problems. This finding is supported by cross-sectional and longitudinal research showing that engagement coping protects against symptoms of anxiety and depression in the face of high poverty-related stress (Wadsworth & Berger, 2006; Wadsworth & Santiago, 2008; Wadsworth et al., 2011). Bolstering adolescents' ability to cope with poverty-related stress through evidence-based coping strategies can help to break the link between high stress and the subsequent development of mental health problems (Wadsworth et al., 2011). The present research shows that engagement coping also has a buffering effect on a daily basis when considering negative and positive mood, which are important outcomes, as they relate to the development of mental health problems over time.

Disengagement coping appears to exacerbate the effects of peer and academic stress on mood. In particular, on days when youth reported using more avoidance, denial, and wishful thinking, they reported worse same-day mood at high levels of peer stress. Similarly, when previous-day academic stress was high, high levels of disengagement coping dampened levels of positive mood the following day. This suggests that adolescents who rely on avoidance strategies feel less positive the next day because they have not actively managed their academic stressors. Although previous research suggests that disengagement may provide temporary relief from family stress (e.g., Gonzales et al., 2001), the present study indicates that disengagement coping is not helpful for managing normative peer and academic stressors and may exacerbate their link to negative mood. However, disengagement coping did not exacerbate the effects of poverty-related stress, suggesting it may not be detrimental in the context of chronic and uncontrollable stress (Gonzales et al., 2001). Still, consistent with studies showing the long-term detriment of disengagement coping on psychological functioning (Santiago & Wadsworth, 2009), a daily pattern of reliance on these strategies may increase risk for mental health problems in the future.

This study contributes to the current literature by investigating the daily experiences of stress and coping among Latino adolescents using a daily diary design. Despite the findings, there are some limitations that are important to note. The study has a small sample, which may limit the results' replication and extension to other samples. However, daily diary methodology utilizes repeated measurements, which results in adequate power to detect effects. Still, this study focused on the life experiences of Latino adolescents attending a parochial school in a large city, which may limit the generalizability of the results. Although the school appeared comparable to the nearby public school in terms of the population served, it is not clear that these findings will extend to other ethnic groups or adolescents in less urban settings. Furthermore, this study examined stress, coping, and mood over 1 week, and hence, findings may differ if examined over longer periods of time. In addition, because weekend completion times were not recorded, it cannot be assumed that participants completed weekend daily diaries at the times when they were instructed to do so. The measures utilized in the study were modified for use within a daily diary framework and therefore may not fully capture the daily variability of stress and coping. Finally, although the measure of disengagement showed strong between-person reliability, the reliability of change was less than optimal, suggesting a need for additional research to replicate findings.

Despite limitations, the results of this study have important implications for future research and for interventions with youth exposed to high levels of stress. This study extends the stress and coping literature to an understudied population that is quickly growing in the United States (Moeller, 2010). It is highly important to understand processes that might moderate the effects of stress among Latino youth, as this group is at increased risk for mood problems compared to non-Hispanic White youth (CDC, 2012; Twenge & Nolen-Hoeksema, 2002). Further, this study adds to the coping literature by extending cross-sectional and longitudinal findings to a daily context. This study suggests that engagement coping is not only associated with better functioning over months or years (e.g., Wadsworth et al., 2011), but also buffers the effects of daily stress on mood. Moreover, disengagement coping does not appear to provide relief from daily stress, but instead amplifies the negative effects of daily academic and peer stress on mood. Over time, this daily pattern likely increases risk for internalizing symptoms, as seen in longitudinal research (Santiago & Wadsworth, 2009). However, in contrast to peer and academic stress, disengagement coping did not exacerbate the effects of daily poverty-related stress in the current study. In the context of accumulating and uncontrollable stress, disengagement coping is common and can be a temporary functional response to an unpredictable and overwhelming environment (e.g., Wadsworth, 2015). Without interventions to bolster engagement coping, chronic stress is likely to continue to promote

disengagement coping and disrupt the body's stress response system (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005). Interventions designed to promote a more balanced coping repertoire to prevent psychological difficulties (e.g., Raviv & Wadsworth, 2010) have the potential to improve daily mood and longer term functioning for youth faced with high levels of stress. Further, evidence-based interventions that bolster engagement coping targeted toward youth with elevated symptoms are also needed in community settings where underserved youth can access treatment more easily (e.g., Stein et al., 2003; Weisz, Southam-Gerow, Gordis, & Connor-Smith, 2003). These interventions could be bolstered by considering the existing strengths and resources that Latino youth may have. For example, familism appears to promote the use of engagement coping in the face of stress among Latino youth (Santiago, Torres, Brewer, Fuller, & Lennon, 2016). Additional research should examine additional cultural and family resources that may support adaptive coping among Latino youth.

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