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# A Daily Diary Investigation of Latino Ethnic Identity, Discrimination, and Depression

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# A Daily Diary Investigation of Latino Ethnic Identity, Discrimination, and Depression

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## **Abstract**

The objectives of the current study were to document the effects of discrimination on Latino mental health and to identify the circumstances by which ethnic identity serves a protective function. Instances of discrimination and depressive symptoms were measured every day for 13 days in a sample of Latino adults ( $N = 91$ ). Multilevel random coefficient modeling showed a 1-day lagged effect in which increases in depression were observed the day following a discriminatory event. The findings also revealed differential effects of ethnic identity exploration and commitment. Whereas ethnic identity exploration was found to exacerbate the influence of daily discrimination on next-day depression, ethnic identity commitment operated as a stress buffer, influencing the intensity of and recovery from daily discrimination. The findings are discussed within a stress and coping perspective that identifies appropriate cultural resources for decreasing the psychological consequences associated with daily discrimination.

The growing Latino population in the United States along with the increased national attention on immigration has highlighted the need to understand the nature of stressor exposure and stressor reactivity among Latinos. Discrimination-related stressors have been found to have a profound impact on the mental health of ethnic minority groups (Brondolo et al., 2009). Recently, it has been reported that young U.S.-born Latinos are more likely to perceive discrimination compared with older Latinos (Perez, Fortuna, & Alegria, 2008). This pattern is particularly noteworthy given that a majority of the current Latino population is U.S.-born (U.S. Census Bureau, 2007). In addition, U.S.-born Latinos have been found to have higher rates of depression than their immigrant counterparts (Alegria et al., 2007). A stress and coping perspective provides a framework for understanding the ways in which Latinos respond to discriminatory events and for explaining how living in the United States may place Latinos at risk for experiencing mental health difficulties. Ethnic identity offers an important set of resources that may serve as a buffer from the adverse psychological effects of discrimination-related stress.

## Discrimination

Numerous reports have identified the negative impact of discrimination<sup>1</sup> on psychological outcomes, particularly depression, among various ethnic groups (cf., Brondolo et al., 2009; Ong, Fuller-Rowell, & Burrow, 2009). Discrimination and related stressors have been found to have a greater influence on psychological distress than major life events, among African Americans, suggesting that discrimination is a pervasive rather than a time-limited phenomenon (Utsey, Giesbrecht, Hook, & Stanard, 2008). The majority of the research in the area of discrimination has focused on the experiences of African Americans while very little work has focused on the unique circumstances of Latino groups (Araujo & Borrell, 2006). Recently, a study with university Latino students from more affluent backgrounds suggested that attributions to discrimination were related to greater depressive symptoms (Torres, 2009). This relationship was partially mediated by competence-based cultural variables emphasizing the importance of identifying and implementing resources that are best matched to dealing with discrimination-related stressors. Further reports have demonstrated the negative influence of discrimination on psychological distress, including depression, among Puerto Rican children and adolescents (Szalacha et al., 2003), Latino college students (Hwang & Goto, 2008; Torres, 2009), a community sample of Latinos (Moradi & Risco, 2006), Mexican migrant farmworkers (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999), and Mexican-origin adults (Finch, Kolody, & Vega, 2000; Flores et al., 2008).

Exposure to chronic and persistent discrimination may require the mobilization of internal resources which, in turn, may lead to mental health problems once these resources have been depleted (Brondolo et al., 2008). A meta-analysis reviewing the research on discrimination and health revealed that recent experiences of discrimination had a more significant negative effect on mental health than lifetime discrimination (Pascoe & Smart Richman, 2009). Classic stress research has documented that "daily hassles" contributes to mental health in a unique and, perhaps, more detrimental way than major life stressors (see Monat, Lazarus, & Reevy, 2007, for review). In a similar fashion, Ong et al. (2009) demonstrated that, among a group of African Americans, daily discrimination had a more statistically significant impact on depression than chronic

discrimination. Daily discrimination may include either overt or subtle acts both of which have damaging psychological consequences. A major limitation of much of the empirical literature examining discrimination-related stressors involves the use of cross-sectional designs that may be influenced by recall bias when reporting on past year events (Brondolo et al., 2008). Also, common method variance makes it difficult to account for the effects of discrimination and current psychological states (Broudy et al., 2007). Despite these limitations, there seems to be a robust association between discrimination and mental health. Both the prolonged psychological impact of discrimination and the circumstances by which resources serve to diminish these negative effects remain less clear, however.

## **Ethnic Identity**

Ethnic identity is a multifaceted construct that involves an individual's self-concept based on the knowledge derived as a member of a particular cultural group (Phinney & Ong, 2007). As a dynamic process, ethnic identity is likely to fluctuate across time and situations (Phinney, 2003). Although various aspects of ethnic identity have been identified, recent research has suggested that commitment and exploration are central components with each making unique contributions (Ong, Fuller-Rowell, & Phinney, 2010; Phinney & Ong, 2007). *Commitment* refers to a sense of belonging or attachment to a particular ethnic group, whereas *exploration* involves seeking information regarding one's ethnicity. Often conceptualized as a developmental phenomenon, ethnic identity exploration has been examined within adolescence as individuals begin to search for meaning regarding their ethnicity. However, it has been postulated that exploration is likely to continue into adulthood as individuals reexamine their ethnic identity as a result of new situations or changing contexts (Parham, 1989; Phinney, 2006), as is the case among Latinos immigrating and living in the United States.

Ethnic identity has been linked to positive psychological outcomes including well-being and self-esteem (Umaña-Taylor, Diversi, & Fine, 2002). This relationship may be because of the notion that ethnic identity serves as a valuable resource that provides

individuals a repertoire of ways by which to deal with stress (Sellers & Shelton, 2003). Within the context of discriminatory experiences, research focusing on Asian American and African American samples has found that ethnic identity serves to buffer ethnic minorities from mental health problems (Mossakowski, 2003; Shelton et al., 2005). Several studies with African Americans have indicated that individuals who included race as a central aspect of their self-concept were protected from the impact of discrimination in terms of depression and perceived stress (Neblett, Shelton, & Sellers, 2004; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). All together, these empirical studies suggest that ethnic identity is an important resource for ethnic minority individuals when dealing with instances of discrimination.

Recently, Yip, Gee, and Takeuchi (2008) found evidence that the protective impact of ethnic identity was influenced by age. That is, among U.S.-born Asian participants aged 41 to 50, ethnic identity buffered the relationship between discrimination and psychological distress, whereas the effect of discrimination was exacerbated among the 31–40 and 50–75 age groups. Additional empirical evidence suggests that ethnic identity may intensify the psychological problems that stem from experiencing discrimination. For instance, Yoo and Lee (2008) reported that Asian Americans with high ethnic identity showed lower positive affect when imagining multiple instances of discrimination compared to thinking about a single incident. A strong ethnic identity has also been associated with greater perceived discrimination and increased attributions of prejudice in ambiguous situations (Operario & Fiske, 2001). Unfortunately, there is little empirical research that has examined the role of ethnic identity in potentially moderating the relationship between discrimination and mental health among Latino adults. As an exception, McCoy and Major (2003) studied a group of Latino college students and found that those who had a strong ethnic identification expressed more depressed emotion when they read vignettes describing prejudice against their ethnic group.

Taken together, there are inconsistencies in the literature regarding the stress buffering influence of ethnic identity. Deconstructing and examining the core components of ethnic identity may help to inform these discrepancies. For instance, Greene, Way, and Pahl (2006) reported differential psychological effects of the

components of ethnic identity. They found that among a sample of multiethnic adolescents, ethnic identity commitment served to buffer the relationship between discrimination by peers and self-esteem while exploration had the opposite effect and placed adolescents at greater risk of lowered self-esteem. Furthermore, it has been suggested that a strong sense of commitment and connection with the ethnic group is the key protective aspect of ethnic identity (Quintana, 2007).

The purpose of the present study was twofold: (1) to examine the immediate and prolonged impact of discrimination on depressive symptoms among a sample of Latino adults, and (2) to explore the potential of ethnic identity exploration and commitment to buffer the effect of daily discrimination on depression. To accomplish these goals, the current study used a daily diary methodology that followed participants across a 13-day time period. We predicted that discrimination would be associated with an increase in reports of next-day depression (Hypothesis 1), and ethnic identity exploration and commitment would serve to buffer the effect of discrimination on depression (Hypothesis 2).

## **Method**

### *Participants*

The participants for the current study consisted of 91 adults who self-identified as Latino or Hispanic. These individuals were recruited via professional and student organizations that served the Latino community. The sample included mostly women (79%;  $n = 72$ ) with an average age of 29 years (range = 18–53). Approximately 45% ( $n = 41$ ) of the participants identified as Mexican, Mexican American, or Chicano, 21% ( $n = 19$ ) endorsed Central or South America as their cultural heritage, and 15% ( $n = 14$ ) indicated being Puerto Rican. The remaining respondents (19%;  $n = 17$ ) reported other nationalities. Ten participants (11%) were members of the first generation to move to the United States, 55 (60%) were from the second generation, while the remaining 26 individuals (29%) were from the third generation or higher. In terms of socioeconomic background, the majority of the sample (55%;  $n = 48$ ) reported an annual

family/household income of \$50,000 or greater. Approximately 27% ( $n = 24$ ) of the sample stated that they were married or living with a significant other. About half (49%;  $n = 43$ ) of the participants indicated that they were currently enrolled as a student.

## *Materials*

### *Ethnic identity*

The Multigroup Ethnic Identity Measure–Revised (MEIM-R; Phinney & Ong, 2007) is a shortened 6-item scale of the original MEIM. The MEIM-R uses a 4-point Likert scale, from 1 (*strongly disagree*) to 4 (*strongly agree*), to assess two aspects of ethnic identity, commitment, and exploration. These subscales can be derived by calculating the mean scores. The MEIM has been used widely across a variety of ethnic groups including Latinos. The most recent Cronbach's alphas have been reported at .83 for the exploration and .89 for the commitment subscales (Phinney & Ong, 2007). The current study demonstrated reliability coefficients for the baseline data of .86 for exploration and .91 for commitment.

### *Daily discrimination*

The Perceived Racism Scale for Latinos (PRSL; Collado-Proctor, 1999) is a 35-item measure that assesses the exposure to discriminatory events across occupational, academic, and public settings. The PRSL was developed based on qualitative information that described the discriminatory events that are specific for Latinos (Moradi & Risco, 2006). Cronbach's alpha for this scale has been reported at .93 (Moradi & Risco, 2006). Typically, the PRSL assesses perceived discrimination over the past year by asking participants to indicate how often they have experienced an event from 1 (*never*) to 5 (*several times a day*). For the purpose of the current daily diary methodology, the PRSL items were modified to indicate if the discriminatory events occurred today. For example, "Today, because I am Latina/o, I was passed up for a promotion and/or benefits at work." Participants were then able to respond by indicating 1 (*yes*) or 0 (*no*). To estimate reliability, test–retest correlations were computed across weeks, yielding a week-to-week correlation of .68.

## *Daily depression*

The Brief Symptom Inventory-18 (BSI-18; Derogatis, 1993) is an 18-item instrument that measures mental health distress. The BSI-18 lists a number of symptoms and asks participants to rate, using a 5-point Likert scale from 0 (*not at all*) to 4 (*extremely*), how much they have been bothered by the particular condition. For the daily diary methodology, the items were modified so that respondents were able to report today's level of psychological distress. For example, "Today, how much were you distressed by feeling lonely?" The 5-point Likert format was used to assess daily psychological distress to allow for some variability in the severity of problems experienced on a daily level. The analyses of the current study used the BSI-18 Depression subscale, which can be calculated by summing the item scores (range = 0–24). Within-person estimates of reliability were computed using three-level models in which items were nested within days, which were nested within participants (Bryk & Raudenbush, 1992, pp. 191–196). Using this procedure, the estimated day-level reliability of the BSI-18 depression scale was .87.

## *Procedure*

The current study used a secure Internet-based platform to collect the data. Participants were recruited via organizations that support or network with Latinos and/or Hispanics. After obtaining approval from the organization, potential participants were sent an e-mail with a brief description of the project and a link to the Web site with the project questionnaires. Once participants provided written consent, they were asked to complete a series of measures, including the MEIM-R, the PRSL, the BSI-18, and a demographics form, that constituted baseline data. For the next 13 days, participants were sent e-mail reminders and asked to fill out the daily versions of the PRSL and the BSI-18. E-mail reminders, sent every day at 6:00 a.m., instructed participants to complete that day's questionnaires based on events that transpired on that day. Participants had 24 h from the time of the e-mail reminder to complete the daily questionnaire, which took approximately 10 to 15 min to complete. The questionnaires were typically completed in the evening according to electronic time stamps. Participants who provided data for the entire 13 day protocol were compensated with a \$30 online gift card. Of a possible 1,183 person

days, participants logged on and completed the time-stamped diary on 1,049 days (89%). All 91 participants completed the daily diary procedure to criterion (i.e., they completed a minimum of 7/13 diary records), with 78% participants providing complete data with no missing information. The current study was conducted in compliance with the host institution's internal review board.

## **Results**

### *Descriptive Analyses*

Table 1 shows the Level 1 (day-level) and Level 2 (person-level) intercorrelations, means, and *SDs*. Descriptive statistics for the day-level variables were calculated by averaging across the 13-day study period. Participants reported, on average, slightly more than one discriminatory event during the 13 days. This finding is less than previous reports with African Americans, which found that individuals experienced approximately six encounters during a 2-week daily diary period (Burrow & Ong, 2010). For the current study, the percentage of days in which any discriminatory event occurred was 32.2%. Table 2 displays the most frequently acknowledged PRSL items and the percentage of days they were endorsed over the 13-day study. According to the BSI-18 community norms (Derogatis, 1993), the average daily depression scores suggested that participants reported mild to moderate levels of symptomatology across the study period. The BSI-18 community norms are based on 1,134 adults (605 men, 517 women; age range = 18–69) from the U.S. mainstream culture. In terms of person-level ethnic identity, participant mean scores indicated high levels of both exploration and commitment but equivalent to previously published studies with Latinos college students (Iturbide, Raffaelli, & Carlo, 2009; Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). Depression and discrimination were significantly and negatively correlated to both ethnic identity dimensions. Age was negatively associated with daily depression and daily discrimination but was correlated with increased exploration and commitment. The intercorrelation analyses also revealed that the

exploration and commitment scores were highly correlated, which is consistent with previous reports (cf., Kiang & Fuligni, 2009).

## *Overview of Daily Diary Analyses*

We tested our hypotheses using multilevel random coefficient modeling (MRCM; Raudenbush & Bryk, 2002). The flexibility of MRCM provides a number of advantages. First, MRCM is appropriate for diary data. In the current study, the data have a hierarchical structure with up to 13 daily observations nested within each of 91 participants. Second, MRCM does not require that all individuals be measured at all occasions. We can use the data from participants who entered the study after it began and from participants who have missing data for some occasions of the study. Third, in MRCM, more reliable units of observation contribute more to the estimation of parameters than less reliable units, a process known as precision weighting (for a discussion, see Bryk & Raudenbush, 1992, pp. 32–57). Finally, a multilevel-modeling approach allows for the simultaneous estimation of within- and between-person effects. Level 1 or within-person analyses address the question of *when*. For example, when individuals encounter discrimination, do they also report high levels of depression? Level 2 or between-person equations address the question of *who*. They take the following form: Do people who report higher ethnic identity exploration also have higher depression?

## *Discrimination and Depression*

To test the hypothesis that discrimination would predict increases in depression over time, we used a 1-day lagged multilevel modeling procedure. Here, discrimination on a given day is hypothesized to affect changes in depression from one day to the next. To rule out the possibility that any lagged effect of discrimination on depression might be an artifact of initial level of depression, previous day's depression was included in the model as a control variable. In such a model, the dependent variable can be interpreted as the change in depression from day to day. The analysis model for changes in depression for each individual can be expressed using the following Level 1 equation:

$$Depression_{jt+1} = a_{0j} + a_{1j}(Depression_{jt}) + a_{2j}(Depression_{jt}) + a_{jt+1}$$

where  $Depression_{jt+1}$  is the change in person 's depression score between day  $t$  and day  $t+1$ ;  $a_{0j}$  is a regression intercept representing the mean change in daily depression;  $a_{1j}$  is a partial regression slope representing an individual's level of racial discrimination on day  $t$ ; and  $r_{jt+1}$  is a residual component of change in depression. A number of background variables were also included in the Level 2 equation to adjust for their known association with daily depression.

$$a_{0j} = b_{00} + b_{01}Gender_j + b_{02}Age_j + b_{03}Income_j + b_{04}Generational\ Status_j + u_{0j}$$

These included namely gender (Almeida & Kessler, 1998), age (Mroczek & Almeida, 2004), income (Kessler et al., 2003), and generational status (Yip et al., 2008). In all analyses, the Level 1 predictor variables were person-centered by subtracting each person's mean rating from all their daily ratings. The results of these analyses are summarized in Table 3. The age effect indicates that, on average, this increase in depression was .12 units greater in younger compared to older adults ( $SE = .06, p < .05$ ). In support of Hypothesis 1, there was evidence that discrimination uniquely predicted increases in next day depression. Participant reports of greater discrimination on a given day were associated with a .42 unit ( $SE = .18, p < .05$ ) increase in depression the following day.<sup>2</sup> The standardized effect size of discrimination ( $a_{2j}$ ) is .09. This effect size indicates that discrimination on a given day resulted in a .09 standard deviation increase in next-day depression.

### *Ethnic Identity, Discrimination, and Depression*

To determine whether day-level relationships between discrimination and depression varied as a function of person-level differences in ethnic identity exploration and commitment, coefficients from the day-level models described in the Level 1 equation above were analyzed at Level 2 using the following model:

$$a_{2j} = b_{20} + b_{21}Exploration_j + b_{22}Commitment_j + u_{2j}$$

where person 's Level 1 slope ( $a_{2j}$ ) is predicted as a function of an intercept, ethnic identity exploration, commitment, and a random error component. The resulting partial regression coefficients provide

estimates of (a)  $b_{20}$ , the mean change in depression at average levels of predictor variables (i.e., ethnic identity exploration and commitment) and (b)  $b_{21}$ - $b_{22}$ , the partial relationships between ethnic identity exploration and commitment and the discrimination-depression association. In all analyses, the Level 2 predictor variables were grand mean centered, such that each person's score was subtracted from the average of all the individuals.

In support of our main hypotheses, the analyses found that ethnic identity exploration and commitment moderated the effect of discrimination on depression. The variance components for the original model without Level 2 predictors were 17.74 for the intercept, .06 for the previous day depression slope, and .98 for the previous day discrimination slope. Once the predictors were added, the variance estimates were 10.02 for the intercept, .05 for the depression slope, and .35 for the discrimination slope. The variances in next-day depression explained by the predictors were 7.72 (44%), .01 (17%), and .63 (64%) for the intercept, depression slope, and discrimination slope, respectively. Even after the predictors were added, however, there was still statistically significant variability in the intercept. The discrimination slope, however, was nonsignificant ( $p = .08$ ), suggesting that a significant portion of the variance in the discrimination-depression slope is explained by individual differences in ethnic identity exploration and commitment. Specifically, individuals high in ethnic identity exploration reported greater next day distress on days characterized by increased discrimination ( $b_{21} = 1.32$ ,  $SE = .52$ ,  $p < .05$ ). The statistical significance of the interaction between discrimination and ethnic identity exploration ( $b_{21}$ ) can be interpreted as a multiplicative effect. Thus, every unit increase in ethnic identity exploration was associated with a 1.32 unit increase in the effect of discrimination on depression the following day (Figure 1). In contrast, Figure 2 shows that the effect of discrimination on next-day depression was buffered by ethnic identity commitment ( $b_{22} = -1.03$ ,  $SE = .49$ ,  $p < .05$ ). The negative sign of the interaction indicates that the negative effects of discrimination on mental health were decreased for individuals high in ethnic identity commitment ( $b_{22}$ ). Thus, every unit increase in identity commitment was associated with a 1.03 unit decrease in the lagged discrimination-depression slope.

## Discussion

The objectives of the current study were to document the effects of discrimination on Latino mental health as well as to identify the circumstances by which ethnic identity serves a protective function. To this end, the daily diary methodology used in the current study provided information regarding the day-to-day experiences of Latinos and, within a stress and coping framework, offered insights into the person-environment transactions that influence the psychological consequences associated with discrimination. This approach extends the current knowledge base that has been attained primarily from traditional cross-sectional studies. In support of our hypotheses, the findings illustrated a lag effect by which depression scores were higher following a discriminatory event. The results also revealed the differential effects of ethnic identity exploration and commitment in altering the link between daily discrimination and next-day depression. That is, ethnic identity exploration served to exacerbate the effect of discrimination on depression, whereas ethnic identity commitment functioned as a buffer in this relationship.

Recent work has illustrated that the stressors associated with experiencing discrimination have a broader impact on the mental health of ethnic minorities than major stressful life events (Turner & Avison, 2003; Utsey et al., 2008). As such, the current study demonstrates how depressive symptoms persist after an instance of discrimination among a sample of Latino adults. The diminished recovery from daily discrimination, as evidenced by the lag effect of depressive symptoms from one day to the next, contributes to the chronic nature of discrimination and suggests that these experiences are more detrimental than previously thought. Gallo and Matthews (2003) have suggested that persistent social stressors, such as discrimination, promote more frequent stress exposure, which depletes the reserve capacity for coping resulting in enduring mental health problems.

The main findings provide evidence for the role of ethnic identity in moderating the link between daily discrimination and next-day depression. Deconstructing ethnic identity allowed identification of the key aspects of this buffering effect and suggests that ethnic identity commitment is a critical safeguard against the everyday experience of

discrimination among Latinos living in the United States. Although protective of the negative psychological effects of daily discrimination, individuals high in ethnic identity commitment were not immune to these stressful events, showing some increases in depression scores the day after experiencing a discriminatory event, when compared to a nondiscrimination day. At the very least, commitment helps to abate some of the depressive symptoms experienced the day after experiencing discrimination, thus diminishing the duration of overall stress. It remains unclear, however, if the protective function associated with having a strong sense of belonging is because of the extended cultural and social networks associated with high commitment or the implementation of coping skills specific to the traditional Latino culture. For instance, it has been argued that the protective elements of ethnic identity are attributable in part to the social integration that takes place during the identification process (Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006). In addition, Shelton and colleagues (2005) have suggested that being able to focus on the positive characteristics of one's group in the midst of discrimination is crucial to benefitting from a strong commitment to the ethnic group. It appears that commitment is an effective cultural resource that fits with the demands and stress associated with daily discrimination.

Ethnic identity exploration, on the other hand, contributes to greater vulnerability to daily discrimination. Latinos high in exploration reported higher levels of depression following a daily discriminatory encounter. It could be the case that Latinos with high levels of exploration are more sensitive or attuned to subtle ethnic slights which, in turn, puts them at greater risk for developing mental health problems (Phinney, Madden, & Santos, 1998; Yoo & Lee, 2008). Discrimination has been thought to not only threaten an individual's sense of belonging but to challenge their worldview regarding person-environment interactions (Torres, 2009). Recent research has reported that variations in ethnic identity exploration can be influenced by relational factors given that this search process is driven, in part, by social context (Kiang & Fuligni, 2009). The negative interpersonal transactions associated with daily discrimination in conjunction with an active examination of ethnicity could translate into, as Phinney (2006) suggests, conflicting images of one's group in the mainstream U.S. culture. The result could be difficulty in attaining a satisfactory option

of how to manage such stressful circumstances. Vulnerable individuals may neither have ready access to the protective aspects of Latino cultural resources, such as extended social networks, nor the competence to implement them effectively. More importantly, ethnic identity exploration may prolong the amount of time an individual experiences depressive symptoms in response to a discriminatory event, which is likely to overtax the use of internal resources or other coping strategies.

The findings of the present study also suggested that younger adults were at greater risk for experiencing depressive symptoms compared to older Latinos. It has been postulated that older individuals may display less psychological difficulties, particularly in response to discrimination, because they have developed more effective coping strategies over time (Almeida & Horn, 2004; Yip et al., 2008). The exploration aspects of ethnic identity have been thought to more characteristic of younger individuals (Phinney, 2006), although a process of recycling throughout adulthood has been identified by which a cultural encounter initiates a new search for the meaning one's ethnic identity (Parham, 1989). As suggested by Kiang and Fuligni (2009), it could be the case that exploration is a more fluid facet of ethnic identity, whereas commitment may reflect a more stable dimension. As such, periods of exploration may place an individual at risk particularly during critical developmental periods. Future research should seek to parse potential age cohort effects and ethnicity-related factors as they relate to mental health problems.

Taken together, the current findings have significant implications particularly in helping to elucidate the potential mechanism that accounts for the *Hispanic paradox*, or the phenomenon by which U.S.-born Latinos have higher prevalence rates of psychological disorders than immigrant Latinos. U.S.-born Latinos are more likely to be younger and have higher instances of experiencing discrimination (Perez et al., 2008), which in combination with searching for what it means to be Latino living in the United States, creates a context that engenders psychological distress. Investigating different aspects of ethnic identity helps to disentangle some of the confusion and inconsistencies regarding the context in which identity serves a protective function. The finding that depressive symptoms can spill over from one day to the next in response to a

discriminatory event has considerable significance for clinical practice. Culturally appropriate interventions should seek to curb these prolonged psychological consequences by strengthening the individual's cultural resources including ethnic identity commitment.

Several limitations exist in the current study that should be noted. First, the sample characteristics make it difficult to generalize to the broader Latino population given that these individuals represented various Latino subgroups, each with their unique cultural traditions and sociopolitical histories. In addition, the Latino-serving organizations used to recruit participants may have influenced or further restricted the sample to individuals who have an attachment to their Latino culture. However, the fact that these participants were primarily from later generations and were either students and/or professionals is representative of a growing group of Latinos within the broader population living in the United States. Second, because of the online procedures, participants needed to have access to a computer, which could have further restricted the diversity of the Latino participants. Finally, the present study focused on discrimination-related stress and did not measure general life stress as a possible contributor to Latino mental health problems. Further research should examine the various types of discrimination that Latino individuals are likely to endure. Sue and colleagues (2007) have identified that modern forms of discrimination, or *racial micro aggressions*, involve subtle exchanges that insult and denigrate individuals of different ethnic groups.

Future investigations should continue to examine the time course of depressive symptoms associated with experiences of discrimination. Such an endeavor will facilitate the development of culturally appropriate treatment paradigms that focus on decreasing the prolonged effects of discrimination. Also, it is important to understand the coping skills that Latinos use to directly and indirectly manage discrimination-related stressors. For instance, some research has suggested that problem-solving strategies are effective in alleviating the psychological consequences associated with discrimination (Noh & Kaspar, 2003), whereas other work has reported that confrontational approaches to dealing with discrimination leads to negative evaluations of the victim by external observers (see Zárate, 2009, for review). Longitudinal and daily diary methodologies are

crucial in identifying the development of key competencies and the sustainability of cultural resources as they facilitate mental health.

## Notes

- <sup>1</sup> The terms *discrimination* and *perceived discrimination* are often used interchangeably by scholars, and in the current study, to refer to the level or frequency of discriminatory events reported by individuals (Major & Sawyer, 2009). In contrast, the term *attributions to discrimination* is used by researchers to examine how specific events are understood or explained. Unfortunately, an empirical examination of the differences between discrimination and attributions to discrimination is outside the scope of the current study.
- <sup>2</sup> Analyses were conducted to determine whether increases in depression fell in the clinically significant range using the cut-off scores recommended by Derogatis (1993). In order to appropriately estimate models in this analyses, we specified the MLM with application to dichotomous data using a logit link function (Raudenbush, Bryk, Cheong, & Congdon, 2004). These models are analogous to logistic regression in terms of estimating the log likelihood of an outcome. The analyses revealed no “clinically” significant effect of discrimination on depression. Discriminatory event days were not associated with a higher log-odds of depression scores above the clinical cut-off, holding constant the other predictors in the model.

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## Appendix

**Table 1 Summary Statistics of Day-Level and Person-Level Variables**

Variable	1	2	3	4	5
Level 1 (day- level) variables					
1. Depression	–	.21	-.19	-.20	-.23
2. Discrimination		–	-.21	-.29	-.22
Level 2 (person- level) variables					
3. Age			–	.28	.21
4. Ethnic identity exploration				–	.71
5. Ethnic identity commitment					–
M	2.50	.32	28.73	3.26	3.39
SD	4.39	.47	8.30	.74	.73

Note. All correlations are significant;  $p < .05$ , two-tailed.  $N = 91$  persons.  $N = 1,003$  person days.

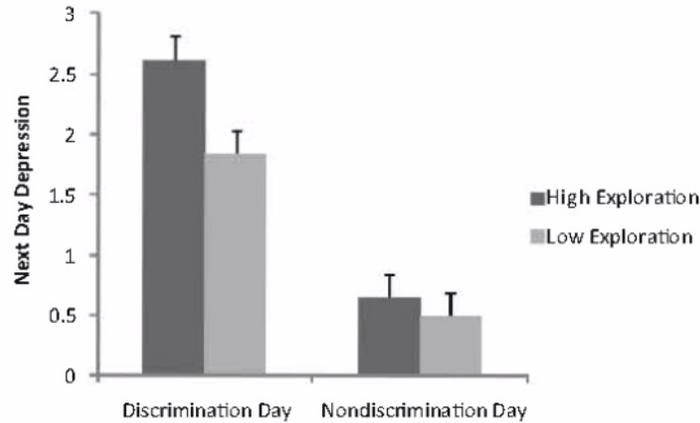
**Table 2 Perceived Racism Scale for Latinos (PRSL) Items Frequently Endorsed Over the 13-Day Study Period by All Participants**

Item	Percentage of days
1. Today, I heard negative comments about Latina/os.	10.9
2. Today, I experienced that Latina/os who achieve or are successful (eg. Highly educated, high power job, middle to high income level, etc.) are viewed as a "special case" or "exception to the rule."	10.7
3. Today, I experienced that Latina/os who have more ethnic features experienced more racism.	10.2
4. Today, I experienced that Latina/os who look white are seen as an exception to the race.	10.1
5. Today, I was given more work to do than people who are not Latina/os.	7.1

**Table 3 Multilevel Model Estimates for Next-Day Depression**

Variable	Estimate	SE	<i>p</i>
Fixed effects			
Gender ( $b_{01}$ )	-1.43	1.09	.195
Age ( $b_{02}$ )	-.12	.06	.030
Income ( $b_{03}$ )	-.29	.28	.320
Generational status ( $b_{04}$ )	1.04	.67	.122
Ethnic identity exploration ( $b_{05}$ )	2.21	.74	.004
Ethnic identity commitment ( $b_{06}$ )	-1.75	.90	.037
Depression ( $a_{1j}$ )	.01	.05	.786
Discrimination ( $a_{2j}$ )	.42	.18	.031
Discrimination X Exploration ( $b_{21}$ )	1.32	.52	.014
Discrimination X Commitment ( $b_{22}$ )	-1.03	.49	.042
	SD	Variance component	<i>p</i>
Random effects			
Intercept ( $u_{0j}$ )	3.88	10.02	.000
Depression slope ( $u_{1j}$ )	.22	.05	.500
Discrimination slope ( $u_{2j}$ )	.92	.35	.076
Residual ( $r_{jt+1}$ )	2.05	4.19	

**Figure 1 Average ratings of next day depression as a function of ethnic identity exploration and prior day discrimination. High and low ethnic identity exploration were defined as one standard deviation from the mean.**



**Figure 2 Average ratings of next day depression as a function of ethnic identity commitment and prior day discrimination. High and low ethnic identity commitment were defined as one standard deviation from the mean.**

