Strength in Numbers? Cognitive Reappraisal Tendencies and Psychological Functioning Among Latinos in the Context of Oppression

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The typically positive relationship between cognitive reappraisal and psychological functioning may be nullified for Latinos embedded within multiple contexts of oppression (Perez & Soto, 2011). Multiply oppressive contexts are characterized by exposure to oppression at a societal level (distal oppression), in the immediate environment (proximal oppression), and at an individual level (personal oppression). We replicated and extended Perez and Soto’s (2011) findings by examining whether the reappraisal–psychological functioning association was moderated by (a) relative numerical representation of Latinos within the environment (proximal oppression) and (b) personal perceptions of discrimination (personal oppression) among 425 Latino college students throughout the United States. For Latinos in high-Latino counties, greater use of reappraisal was associated with better psychological functioning, regardless of perceived discrimination; this relationship was absent for Latinos in low-Latino counties who perceived greater discrimination. Findings highlight the importance of considering how contextual factors can alter the adaptive functions of emotion regulation strategies.

Keywords: emotion regulation, psychological functioning, oppression, discrimination, ethnic minority

There is evidence that perceptions of discrimination are a powerful and deleterious stressor (Clark, Anderson, Clark, & Williams, 1999; Mallet & Swim, 2005; Plummer & Slane, 1996; Todorova, 2010). Perceptions of discrimination across multiple ethnic and cultural groups have been linked to a number of symptoms indicative of poor physical and psychologi-
cal functioning (Paradies, 2006; Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). The contributions of perceived discrimination to poor physical and psychological functioning appear to exceed those related to other life stressors (e.g., divorce, death of family member, illness) or perceived general stress (Dion, Dion, & Pak, 1992; Wei, Hepner, Ku, & Liao, 2010; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008). In addition to providing a source of unique stress, perceptions of discrimination may negatively influence psychological functioning by rendering ordinarily useful coping strategies ineffective (C. R. Perez & Soto, 2011). In the present study, we tested this notion by examining how a context of oppression—a context characterized by exposure to discrimination and group-based societal devaluation—moderates the association between cognitive reappraisal tendencies and psychological functioning among Latino college students across 19 colleges and universities in the United States.

**Discrimination, Coping, and Emotion Regulation**

The pervasiveness of discrimination in the lives of many U.S. ethnic minority individuals (Edwards & Romero, 2008; D. Pérez, Fortuna, & Alegria, 2008; Soto, Dawson-Andoh, & BeLue, 2011) has prompted researchers to focus on the ways in which individuals cope with the perception that they have been discriminated against (e.g., Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009; Major & O’Brien, 2005). Several studies have demonstrated that the outcomes associated with perceived discrimination can be moderated by the types of coping strategies that an individual employs (e.g., Mallet & Swim, 2005; Wei et al., 2008, 2010; Yoo & Lee, 2005; cf. Greer, 2011). Some studies have focused on the relationship between discrimination and use of emotion-focused coping strategies, such as distraction, passive acceptance, and venting (Joseph & Kuo, 2009; Noh & Kaspar, 2003). However, few studies have explicitly examined how the association between the use of specific emotion regulation strategies and psychological outcomes is moderated by perceived discrimination. This gap in the literature is particularly striking given that common responses to perceived discrimination include feelings of anger, anxiety, and sadness (e.g., Gibbons et al., 2010; Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003). As a result, some have argued that understanding how individuals who perceive discrimination regulate negative emotions represents a critical step in understanding how perceived discrimination relates to various psychological outcomes (Major & O’Brien, 2005; Swim, Cohen, & Hyers, 1998).

For the purpose of the present study, *emotion regulation* is defined as the process by which an individual shapes his or her emotional experience by favoring some emotions over others, modifying the intensity and timing of those emotions, and altering the subjective experiences and behavioral expressions associated with those emotions (Gross, 1998). Emotion regulation can be differentiated from coping in that emotion regulation has a narrower focus limited to managing one’s emotional experiences, whereas coping also includes managing nonemotional goals (e.g., talking to a supervisor about unfair treatment; Gross, Richards, & John, 2006). Of particular interest to the study of perceived discrimination is *cognitive reappraisal*, an emotion regulation strategy that has been found to be highly effective in managing negative emotions (see John & Gross, 2004). Cognitive reappraisal refers to the process of altering how one thinks about an emotion-eliciting event (Gross, 1998) such that (a) the outcome is more positive (e.g., “Getting a ‘C’ is still passing”) or (b) the event carries less personal relevance (e.g., “I don’t care about my grade for this class”). Empirical evidence has consistently linked the use of cognitive reappraisal to positive outcomes, such as fewer depressive symptoms, less negative affect, more positive affect, greater well-being, and more successful social interactions (e.g., Butler et al., 2003; Gross & John, 2003). It is important to note that Latinos have been shown to use cognitive reappraisal to the same extent as other ethnic groups (Whites/European Americans) and the positive association between use of cognitive reappraisal and indicators of healthy psychological functioning has been demonstrated with a sample that included Latinos (although these data were not analyzed separately by ethnic group; Gross & John, 2003). Thus, it stands to reason that Latinos who regularly use cognitive reappraisal as an emotion regulation strategy (i.e., cognitive reappraisal tendencies) may be particularly successful in “weathering the storm” of negative emotions that are associated with perceptions of discrimination.

**Cognitive Reappraisal in the Context of Oppression**

Despite the well-documented benefits of cognitive reappraisal, researchers have cautioned that the association between cognitive reappraisal and psychological outcomes may be influenced by multiple personal and contextual factors, including sociocultural (e.g., culture, religion) and individual differences (e.g., personality, trait-emotionality; Butler & Gross, 2009; Consedine, Magai, & Bonanno, 2002). In fact, prior research suggests that the context in which members of oppressed groups live might render cognitive reappraisal protective or detrimental, depending on the resulting attribution. In the United States, ethnic minorities exist in what can be characterized as a context of oppression—a context in which the experience of discrimination and group-based societal devaluation are common for many, although not all, members of the group (Sidanius & Pratto, 1999). For example, ethnic minorities who are turned down for jobs may feel better if they attribute the rejection to racism instead of personal inadequacies. However, they may feel worse if they receive the job and attribute that benefit to their race as opposed to personal strengths (see Crocker & Major, 1989; cf. Schmitt & Branscombe, 2002). Other research has suggested that specific emotion regulation strategies may actually moderate or mediate the relationship between being stigmatized and outcomes such as self-esteem and psychological distress (Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009; Miller & Kaiser, 2001). However, little empirical attention has been given to how stigmatization (or being exposed to oppressive contexts) may moderate the association between emotion regulation strategies and psychological outcomes.

Recently, C. R. Perez and Soto (2011) provided a framework for understanding the multiple contexts of oppression that may define the reality of members of many ethnic minority groups. In their framework, Perez and Soto argued that oppression may be experienced at three separate levels corresponding to distal, proximal, and personal levels of oppression. Exposure to *distant oppression* occurs when one’s ethnic minority group is in a position of relatively low power within a society (e.g., less political influence, less economic wealth, fewer resources). By this definition, Latinos
(and members of all other ethnic minority groups) in the United States are exposed to distal oppression (Hanna, Talley, & Guindon, 2000; A. Torres & Velazquez, 1998). Exposure to proximal oppression occurs when one’s immediate social environment is more likely to make one’s membership in an oppressed ethnic minority group salient. Following self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), exposure to proximal oppression may be operationalized in terms of the relative presence or absence of other in-group members within one’s immediate social environment. Whereas distal and proximal oppression are defined in terms of contextual characteristics, personal oppression is defined as an individual’s beliefs about his or her exposure to oppression. Perez and Soto argued that exposure to multiple contexts of oppression (i.e., distal, proximal, and personal) may alter the “adaptive” qualities of cognitive reappraisal tendencies.

In support of their contentions, C. R. Perez and Soto (2011) found that the relationship between cognitive reappraisal tendencies and psychological functioning (i.e., greater depressive symptoms and lower life satisfaction) was moderated by the context of oppression. Specifically, they found that for Latinos (i.e., high distal oppression) living in a rural, predominantly white, U.S. college town (i.e., high proximal oppression) who also believed that their group is oppressed (i.e., high personal oppression), reappraisal was associated with poorer psychological functioning. However, for those Latinos living in the same area who believed that their ethnic group was less oppressed (i.e., low personal oppression), cognitive reappraisal tendencies were associated with more favorable psychological functioning. It is interesting that, for Latinos in Puerto Rico, who arguably still experience distal oppression within a U.S. context (see A. Torres & Velazquez, 1998, for a discussion of U.S.–Puerto Rico relations) but experience low proximal oppression by virtue of being in the numerical majority in their immediate social context, Perez and Soto found cognitive reappraisal tendencies to be associated with more favorable psychological functioning, regardless of personal beliefs regarding oppression. Thus, it appears that exposure to multiple oppressive contexts may provide quite a challenge for those Latinos who tend to cognitively reappraise negative emotions, perhaps because of the limited number of positive appraisals that can be made within these contexts (Outlaw, 1993; Utsey, Porterotto, Reynolds, & Cancelli, 2000).

Although C. R. Perez and Soto (2011) provide a useful framework for thinking about contexts of oppression, the specific characteristics that distinguish between proximally oppressive and nonproximally oppressive contexts require further elaboration and specification. Ethnic oppression is thought to exist within societies that are hierarchically structured along ethnic lines, that is, societies in which a dominant ethnic group possesses an unequal share of, and control over, valued social and economic resources (Hanna et al., 2000; Sidanis, 1993; Sidanis & Pratto, 1999). Thus, the notion of ethnic oppression implies a specific intergroup dynamic and comparison. Given that proximal oppression is conceptualized as a social environment that increases the salience of one’s membership in an oppressed ethnic minority group, it may be most appropriate to consider proximally oppressive contexts as those in which the proportion of one’s ethnic group is small relative to the proportion of Whites/European Americans (i.e., the numerically, socially, and economically dominant ethnic group in society at large) within one’s immediate social environment. To be certain, being in a numerical minority is likely to make one’s ethnicity and ethnic identity salient, regardless of the specific ethnic composition of one’s environment (Turner et al., 1987). However, the salience of the oppressed status of one’s ethnic minority group would seem to necessitate a comparison (implicit or explicit) between one’s oppressed ethnic minority group and the majority ethnic group. Based on this reasoning, for the current study, we operationalized proximal oppression in terms of the percentage of Latinos relative to the percentage of Whites/European Americans in one’s immediate social environment (i.e., county of residence).

The Present Study

In the present study, we examined how exposure to proximal and personal oppression interacts to alter the adaptive qualities of cognitive reappraisal tendencies among a nation-wide sample of Latino college students within a distally oppressive context (i.e., ethnic minorities within the United States). Specifically, we predicted a three-way interaction among cognitive reappraisal tendencies, percentage of Latinos relative to Whites/European Americans within one’s immediate social environment (proximal oppression), and perceptions of ethnic discrimination (personal oppression). Based on C. R. Perez and Soto’s (2011) context of oppression perspective, we expected the typically positive relationship between cognitive reappraisal tendencies and psychological functioning to be absent among Latinos high in both proximal and personal oppression (i.e., low relative composition of Latinos within one’s social environment and higher perceived levels of personal discrimination). We otherwise expected the positive association between cognitive reappraisal tendencies and psychological functioning to hold, as demonstrated in prior studies (Gross & John, 2003), for all other iterations of proximal and personal oppression (i.e., low in one or both).

Method

Participants

The present sample included 425 Latinos from 19 colleges and universities across the United States (M age = 19.89 years, SD = 3.55; range = 18–54; 72.5% women). Of these participants, 16.5% were foreign-born, 44.2% were U.S.-born to at least one foreign-born parent, and 39.3% were U.S.-born to U.S.-born parents. Information about length of time in the United States was not collected. A plurality of the sample consisted of those who had been in school for less than 1 year (i.e., freshmen; 44.9%). The remainder of the sample was more evenly distributed in terms of the number of years in college (2 years = 22.0%, 3 years = 19.6%, 4 or more years = 13.5%).

Of the study sites, five universities were located in the Midwest, four in the Northeast, six in the South, and four in the West; six were located in urban or suburban areas and 13 were located in “college towns.” All sites were 4-year institutions; 18 were large research universities and one was a teaching college. Fourteen of the institutions were public universities and five were private schools.

Procedure

Participants completed a wide range of measures via a confidential online survey that took 1–2 hr to complete and for which
they received course credit. Participants provided implied consent by reading a consent form online prior to completing the survey and continuing with the study if they agreed with the consent statement. All procedures were approved by the respective Internal Review Boards of the 19 institutions represented in the sample to ensure compliance with human subject protections.

**Measures**

The measures described below were used for the present study. For each scale, negatively phrased items were reverse coded as necessary and composite mean scores were then computed. Table 1 presents means, standard deviations, Cronbach’s alpha coefficients, and correlations between variables, reported separately for groups low and high in proximal oppression. Overall, the scales demonstrated good reliability, ranging from .71 to .96.

**Cognitive reappraisal tendencies.** We used the Cognitive Reappraisal subscale from the Emotion Regulation Questionnaire (Gross & John, 2003). Participants responded to six items, such as “When I want to feel more positive emotion, I change the way I’m thinking about the situation.” Responses were provided on a 7-point scale, anchored by 1 (strongly disagree) and 7 (strongly agree). Gross and John (2003) demonstrated adequate internal consistency for the cognitive reappraisal measure across four subsamples, with an average alpha coefficient of .79. In addition, 3-month test–retest reliability was shown with a coefficient of .69 across the four subsamples (see Gross & John, 2003, for a fuller description). It is important to note that the subsamples included significant ethnic diversity, with the number of Latinos ranging from 9% to 16%.

**Perceived discrimination.** This was measured with three items that assess the frequency of previous-year experiences with ethnic denigration (Pituc, Jung, & Lee, 2009). Participants indicated the number of times during the previous year they had been “rejected by others,” “denied opportunities,” and “treated un- friendly or rudely by strangers” because of their ethnicity/race. Participants responded to these items on a 4-point scale, using the response options 1 (never), 2 (1–2 times), 3 (3–4 times), and 4 (5 or more times). Although this measure has not been widely used with Latino samples, the items are similar to those included in measures that are commonly used with Latino participants (e.g., Williams, Yu, Jackson, & Anderson, 1997).

**Psychological functioning.** Multiple facets of psychological functioning were assessed in terms of self-esteem, life satisfaction, and symptoms of depression and anxiety.

**Self-esteem.** Self-esteem was measured with the Rosenberg Self-Esteem Scale. Participants responded to 10 items, such as “the whole, I am satisfied with myself.” Responses were provided on a 5-point scale, anchored by 1 (strongly disagree) and 5 (strongly agree). This measure has consistently shown good internal consistency among diverse samples, with alphas ranging from .74 to .83 (Moradi & Risco, 2006; Phinney, Ferguson, & Tate, 1997; Prelow, Weaver, Swenson, & Bowman, 2005).

**Life satisfaction.** Life satisfaction was measured with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Participants responded to five items, such as “The conditions of my life are excellent.” Responses were provided on a 6-point scale, anchored by 1 (strongly disagree) and 6 (strongly agree). Adequate internal consistency has been shown with alpha coefficients ranging from .83 and .85 (Pavot, Diener, Colvin, & Sandvik, 1991) to .87 (Diener et al., 1985). Reliability of the SWLS is supported with test–retest correlation coefficients of .84 for both 2 weeks and 1 month (Pavot et al., 1991) and .82 for 2 months (Diener et al., 1985). Convergent validity is supported by significant correlations between the SWLS and other common measures of well-being (Diener et al., 1985; Pavot et al., 1991).

**Depressive symptoms.** We used a modified version of the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). On the original CES-D, participants indicate the degree to which they had experienced symptoms associated with major depression (e.g., “I felt lonely”) during the previous week on a 4-point scale, anchored by 0 (rarely or none of the time; less than one day) and 3 (most or all of the time; 5–7 days). Two minor modifications were made to this scale for the present study. First, one item (“I felt that I could not shake off the
blues, even with help from my family or friends”) was altered (“I felt down or unhappy”) to avoid confusion from the use of a culturally specific idiom. Second, responses were provided on a 5-point scale, anchored by 1 (strongly disagree) and 5 (strongly agree). Although the underlying factor structure of the CES-D has yielded mixed results in ethnically diverse samples (see Crockett, Randall, Shen, Russell, & Driscoll, 2005, for a review), the full scale has consistently been found to be internally reliable, with alphas ranging from .84 to .87 among a number of Latino samples (e.g., Crockett et al., 2005; L. Torres, 2010). In fact, a meta-analytic review of Latino depression found the CES-D to be the most commonly used measure of depressive symptoms (Mensel-son, Rehkopf, & Kubzansky, 2008).

**Anxiety symptoms.** Anxiety was measured with 18 items intended to assess previous-week experiences with symptoms indicative of anxiety disorders. The items reflect experiences with physical tension, restless sleep, disturbance, excessive worrying, and irritability (e.g., “I felt tense and had trouble relaxing,” “My sleep has often been restless or disturbed,” “I have been very irritable and in a bad mood,” and “I have been worrying a lot”). Seven items were adapted from the Beck Anxiety Inventory (A. T. Beck, Epstein, Brown, & Steer, 1988); the 11 remaining items were based on Diagnostic and Statistical Manual of Mental Disorders criteria for generalized anxiety disorder. Responses were provided on a 5-point scale, anchored by 1 (strongly disagree) and 5 (strongly agree). Although these items have not been previously used, the measure demonstrated strong internal consistency in the present study (αs = .92–.93; see Table 1).

**Oppression.** As in the study conducted by C. R. Perez and Soto (2011), distal oppression was a constant in our study owing to the fact that Latinos hold relatively little social power within the United States (Hanna et al., 2000). Proximal oppression was computed using ethnic composition data for the individual counties in which an individual’s school was located. This allowed us to numerically characterize the ethnic makeup of the environment in which these campuses were located, while also taking into account neighboring areas where students living off campus might live and frequent. We relied on the national ratio of Latinos to non-Latino Whites within the United States (16.3%/63.7%, respectively, or a ratio of .255; U.S. Census Bureau, 2011) as a cutoff value for proximal oppression. Those sites with a Latino to non-Latino Whites representation ratio of .26 or above (i.e., relatively high Latino representation) were considered low in proximal oppression (sites = 6; n = 352; e.g., Riverside County, California); those sites with a relative Latino representation of less than 26% (i.e., relatively low Latino representation) were classified as high in proximal oppression (sites = 13; n = 73; e.g., Lancaster County, Nebraska). Given that low proximal oppression was operationalized as greater numerical representation relative to Whites, it is not surprising that a greater number of Latino participants came from the low proximal oppression sites.

**Control variables.** Evidence suggests that gender (e.g., Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009; Delgado, Updegraff, Roosa, & Umaña-Taylor, 2011) and nativity status (e.g., D. Pérez et al., 2008; Sternthal, Slopen, & Williams, 2011; Tillman & Weiss, 2009) may modify the meaning and consequences of perceived discrimination. Given the small cell sizes (e.g., 12 foreign-born individuals in high proximal oppression contexts), we were unable to test gender or nativity status interactions, but we did include gender and nativity status as control variables in our analyses. In addition, owing to the wide age range of our sample, we also included participant age as a control variable in our analyses.

**Data Analytic Plan**

We estimated a series of latent variable path models using Mplus release 6.1 (Muthén & Muthén, 1998–2010), with maximum likelihood estimation with robust standard errors to account for missing data and non-normality. Given our goal of testing theoretically derived, substantive hypotheses, rather than evaluating measurement properties of individual scales, we elected to use three-item parcels for measures with more than three items (see Little, Cunningham, Shahar, & Widaman, 2002). Following Little and colleagues’ (2002) randomization, we randomly assigned all items within each measure to one of three arbitrary categories (first, second, or third). Items within each category were then averaged to create three-item parcels for each measure. Item parcels were created for all of the measures except perceived discrimination, because this measure is already composed of three items. The three perceived discrimination items and three-item parcels for each of the remaining scales were used as indicators of their respective constructs in our analyses.

Initial analyses of our model (described below) provided virtually identical patterns of results for the four psychological functioning variables separately (i.e., self-esteem, life satisfaction, depressive symptoms, and anxiety symptoms). A confirmatory factor analysis including cognitive reappraisal tendencies, perceived discrimination, and the higher order psychological functioning variable provided a good fit to the data, based on Hu and Bentler’s (1999) recommended criteria, χ²(128) = 358.70, comparative fit index (CFI) = .96, root mean square error of approximation (RMSEA) = .06, standardized root mean square residual (SRMR) = .08. Thus, for the sake of brevity, we used the latent self-esteem, life satisfaction, depressive symptoms (reverse coded), and anxiety symptoms (reverse coded) variables as indicators of a higher order psychological functioning variable. The standardized factor loadings for the higher order factor were as follows: satisfaction with life = .50, self-esteem = .66, anxiety symptoms = .59, and depressive symptoms = .99.

To test our hypothesis that the association between cognitive reappraisal and psychological functioning was moderated by exposure to proximal and personal oppression, we used a series of latent variable mixture models. This approach is necessary to test moderation involving both categorical variables (proximal oppression) and continuous latent variables (reappraisal and psychological functioning). An interaction between the latent cognitive

1 An alternative approach would be to use multiple-group path analyses with observed, composite scale scores, with a product term to reflect the interaction between cognitive reappraisal tendencies and perceived discrimination. This, however, would require us to make assumptions regarding our measures that are rarely tenable (e.g., tau equivalence), and thus weaken the accuracy of the associations among the variables.

2 Ideally, we would have modeled community ethnic composition as a continuous variable, and estimated a three-way interaction between cognitive reappraisal tendencies, perceived discrimination, and community ethnic composition. Unfortunately, this approach is computationally demanding and would require computer-processing capabilities that are not widely available.
reappraisal and perceived discrimination variables was specified, and paths were included from cognitive reappraisal, perceived discrimination, and their interaction to psychological functioning. Low and high proximal oppression sites were specified as known latent classes. Given the specification of known classes, this analysis is functionally equivalent to a multiple-group approach to testing moderation with categorical variables. Finally, paths from our control variables (i.e., gender [0 = women, 1 = men], nativity status, and age) to psychological functioning were included. The path coefficients for the control variables were constrained to be equivalent between the known classes in our analyses.

A significant cognitive reappraisal–perceived discrimination interaction coefficient would indicate that the association between cognitive reappraisal and psychological functioning varies based on levels of perceived discrimination. Whether this interaction is further moderated by proximal oppression (i.e., a three-way interaction) is determined by comparing (a) a model in which the interaction path coefficient is allowed to be estimated separately for low and high proximal oppression sites (i.e., unconstrained model) with (b) a model in which the interaction path coefficient is constrained to be equal for low and high proximal oppression sites (i.e., constrained model). Significant interactions were plotted at 1 standard deviation above and below the means of cognitive reappraisal and perceived discrimination, and the associations (i.e., simple slopes) between cognitive reappraisal and psychological functioning were tested at 1 standard deviation above and below the mean of perceived discrimination (Aiken & West, 1991).

Results

Before testing our hypothesized three-way interaction (Reappraisal × Proximal Oppression × Personal Discrimination), we examined whether our primary study variables (i.e., cognitive reappraisal, perceived discrimination, self-esteem, life satisfaction, depressive symptoms, and anxiety symptoms) were associated with proximal oppression (high vs. low) or gender using one-way analysis of variance (ANOVA) and nativity and age via correlation analysis. Our results showed that the low and high proximal groups did not significantly differ on any of the variables, $F$s(1, 410–423) = 0.03–5.52, $\eta^2$s = <.001–.006, $ps = .11–.93$. There was a significant gender difference on perceived discrimination, $F$(1, 405) = 5.02, $\eta^2 = .01, p = .03$, such that men reported slightly more perceived discrimination ($M = 1.47$) than did women ($M = 1.33$). There were no other gender differences. $F$s(1, 405–423) = 0.008–1.85, $\eta^2$s = <.001–.004, $ps = .18–.93$. Nativity status was not significantly correlated with any of the variables, $rs$(409–423) = -.05 to .08, $ps = .12–.91$. Age, however, was significantly associated with self-esteem, $r$(423) = .10, $p = .03$, and depressive symptoms, $r$(418) = -.13, $p = .007$, such that older individuals reported higher levels of self-esteem and fewer depressive symptoms. There were no other age effects, $rs$(409–423) = -.08 to .03, $ps = .12–.82$.

For our latent variable mixture models, tests of relative model fit (i.e., constrained vs. unconstrained) are provided based on the log likelihood ($LL$) and Bayesian information criteria ($BIC$) values. The log likelihood values for alternative models were used to compute the change in $-2\log$ likelihood statistic ($\Delta-2LL$), which has a chi-square distribution with degrees of freedom for the test equal to the differences in parameters estimated within the respective models. For BIC, lower values are indicative of better model fit. Moreover, according to Raftery (1995), when comparing alternative models, a BIC change between 2 and 6 provides positive evidence of model differences, between 6 and 10 provides strong evidence of model differences, and greater than 10 provides very strong evidence of model differences.

The latent variable mixture model in which the path coefficients for cognitive reappraisal tendencies, perceived discrimination, and their interaction were allowed to estimate separately for individuals in low versus high proximal oppression contexts provided a $LL$ value of $-7323.388$ and a BIC value of $15106.02$. Constraining the path coefficients for the main effects (i.e., cognitive reappraisal tendencies and perceived discrimination) did not significantly reduce the fit of the model, $LL = -7323.54, \Delta-2LL(df = 2) = 0.30, p = .86$. Moreover, a BIC change of $-11.79$ indicated that the constrained model should be preferred to the unconstrained model. As shown in Figure 1, across contexts of proximal oppression, cognitive reappraisal tendencies were positively associated with psychological functioning, whereas perceived discrimination was negatively associated with psychological functioning. Constraining the path coefficient for the cognitive reappraisal by perceived discrimination interaction resulted in a significant drop in model fit, $LL = -7325.67, \Delta-2LL(df = 1) = 4.268, p = .04$. Moreover, a BIC increase of 9.61 suggested that the unconstrained interaction model should be preferred to the constrained interaction model. This indicates that the interaction between cognitive reappraisal and perceived discrimination differed significantly for individuals in low and high proximal oppression contexts, consistent with our hypothesis.

As Figure 1 illustrates, the interaction was statistically significant for those Latinos in high proximal oppression contexts, but the interaction was not statistically significant for their counterparts in low proximal oppression contexts. Although not shown in the figure, there was a positive and significant association between age and psychological functioning ($b = 0.02, p = .04$). However, gender ($b = -0.08, p > .05$) and nativity status ($b = -0.02, p > .05$) were not significantly associated with psychological functioning. It should be noted that excluding the control variables strengthened the main and interactive associations of cognitive reappraisal tendencies and perceived discrimination to psychological functioning.

The interaction between cognitive reappraisal tendencies and perceived discrimination for individuals in high proximal oppres-

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3 Indices of model fit are not available for latent variable interaction or mixture models. To ascertain the general fit of the model, we first estimated a multiple-group path model that did not include the latent variable interaction for low and high proximal oppression. This model provided a good fit to the data, $\chi^2(173) = 430.51, CFI = .96, RMSEA = .06, SRMR = .07$ (see Hu & Bentler, 1999).

4 The degrees of freedom for the analyses in this paragraph vary because of slightly different patterns of missing data. As noted earlier, for our primary analyses, missing data were taken into consideration using maximum likelihood estimation with robust standard errors.

5 Although the overall endorsed rates of perceived discrimination were fairly low ($M = 1.38$) across the sample, item response theory analyses conducted with these data suggest that even at low levels of endorsement, the items assess moderate to high levels of the underlying perceived discrimination construct. The results of these analyses may be requested from the first or second author.
tion contexts is depicted in Figure 2. Simple slopes analyses indicated that the association between cognitive reappraisal tendencies and psychological functioning was significantly positive for Latinos in high proximal oppression contexts who perceived lower levels of discrimination, $b = 0.572$, $t = 3.947$, $p < .01$, but was not statistically significant for Latinos in high proximal oppression contexts who perceived higher levels of discrimination, $b = -0.27$, $t = -1.863$, $p > .05$.

**Discussion**

Perceiving discrimination can lead members of ethnic minority groups to mobilize a variety of resources in efforts to cope with their experiences with this uniquely powerful stressor (Armenta & Hunt, 2009; Clark et al., 1999; Joseph & Kuo, 2009; Scott, 2003). Emotion regulation strategies may be particularly important in managing the response to negative emotions typically elicited by discriminatory experiences (Swim et al., 2003). The present study examined how cognitive reappraisal tendencies, a typically adaptive emotion regulation strategy (e.g., Gross & John, 2003), were associated with psychological functioning among Latino college students embedded within varying levels of oppression. In line with previous research, we showed that proximal and personal oppression jointly moderated the relationship between cognitive reappraisal tendencies and psychological functioning.

For Latinos in counties with a lower percentage of Latinos relative to non-Latino Whites (high proximal oppression) and who perceived higher levels of discrimination (high personal oppression), cognitive reappraisal tendencies were not significantly associated with psychological functioning. The positive association between cognitive reappraisal tendencies and psychological functioning held, however, for Latinos experiencing high proximal oppression contexts who perceived lower levels of discrimination, and for Latinos in counties with a larger percentage of Latinos relative to non-Latino Whites, regardless of their level of perceived discrimination. Thus, as argued by C. R. Perez and Soto (2011), and in line with their findings with a sample of Latinos in a small, predominately White U.S. community, our results suggest that cognitive reappraisal may be an ineffective emotion regulation strategy for Latinos who are exposed to multiple levels of oppression.

Our findings add to those of C. R. Perez and Soto (2011) in demonstrating the moderating effects of sociocultural contexts that had been previously theorized or empirically suggested by other researchers interested in the relationship between emotion regulation and health (Butler & Gross, 2009; Cheung & Park, 2010; Consedine et al., 2002). It is important to note that these findings were not due to differences in personal oppression (i.e., perceived discrimination in this case) between low and high proximal oppression groups as no differences were observed on any of the dependent variables. This is consistent with Perez and Soto’s study in which high and low proximal oppression groups did not differ in their level of personal oppression (oppressed minority ideology in that study). Rather, it appears to be the unique combination of experiencing all three levels of oppression (distal, proximal, and personal) that nullifies the benefits of being a frequent reappraiser.

These results also extend Perez and Soto’s context of oppression perspective by demonstrating the importance of relative ethnic composition in understanding proximal oppression contexts. This supports our argument that the oppressive characteristics of proximal environments are best understood by considering power relations among ethnic groups within a society (Sidanius, 1993; Sidanius & Pratto, 1999).

It is interesting that findings similar to these were reported by Yoo and Lee (2005), who found that among Asian Americans who highly identified with their ethnic group, cognitive restructuring tendencies (i.e., cognitive reappraisal) were positively associated with psychological well-being among those who perceived low levels of discrimination but not among those who perceived high levels of discrimination. Although Yoo and Lee considered constructs corresponding to distal (i.e., minority status within a society) and personal (i.e., perceived discrimination) oppression, they

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6 We also estimated a latent variable mixture model using absolute percentage of Latinos and compared it with our model using the relative percentage of Latinos. Based on criteria outlined by Raftery (1995), the model in which the relative percentage of Latinos was used (BIC = 14864.85) provided a better fit to the data than did the model in which the absolute percentage of Latinos was used (BIC = 15046.91; $\Delta$BIC = 182.06).

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**Figure 1.** Unstandardized parameter estimates for final latent variable mixture model testing the associations of cognitive reappraisal tendencies, perceived discrimination, and proximal oppression contexts to psychological functioning. Paths moderated by relative county-level representation of Latinos classified as high (lower proportion of Latinos) and low (higher proportion of Latinos) proximal oppression contexts. $*** p < .01$.  

**Figure 2.** Association between cognitive reappraisal tendencies and psychological functioning moderated by perceived discrimination (PD) for Latinos in high proximal oppression contexts. $ns = $nonsignificant. $*** p < .001$.  

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One of the questions raised by these findings is why cognitive reappraisal fails to be adaptive for Latinos (who are defined as distally oppressed) in contexts where they perceive relatively higher levels of discrimination (high personal oppression) and are numerically underrepresented relative to members of the dominant ethnic group (high proximal oppression). For the Latinos students in this study, this means that these are individuals in higher education (where they are already underrepresented) who may feel particularly out of their element or disconnected from other Latinos. This can be especially difficult for a highly collectivistic and family-oriented cultural group. In addition, these individuals may possibly experience group-based attacks while simultaneously lacking the support of other Latinos to help combat the effects of such discrimination or its psychological impact. In such contexts, cognitive reappraisal strategies may fail to yield a satisfactory reframing of discriminatory experiences (i.e., thinking about the situations in a manner that allows individuals to feel good about the experience). Indeed, as suggested by Outlaw (1993), racism may not allow for a positive reappraisal. When combined with the fact that emotion regulation processes can be psychologically and physically draining (Gailliot et al., 2007), a rather unpleasing scenario can begin to unfold. In response to discriminatory experiences, Latinos who habitually use cognitive reappraisal may valiantly search for positive aspects only to find themselves ruminating about the event, thereby prolonging the negative effects and emotions associated with discrimination. The resulting process may also represent a maladaptive thought pattern, whereby the thoughts themselves may be accurate or based in reality, but nevertheless serve the function of increasing depressive mood (J. S. Beck, 1995). Future empirical work is needed to clearly specify the mechanisms behind this effect.

Although our results paint a rather bleak picture for the use of cognitive reappraisal among those who experience discrimination at multiple levels, the full story contains a positive message as well. For Latino college students who perceived low discrimination or resided in communities with a relatively high Latino composition, cognitive reappraisal tendencies were associated with positive psychological functioning. Our findings may lend credence to efforts in place at various college campuses across the nation to increase diversity and decrease discrimination. Similarly, building educational institutions around communities where diversity is already rich could also decrease the experience of proximal oppression. Our results suggest that successfully achieving either of these goals may help protect against the particularly harmful conditions that exist where diversity is not highly visible, but discrimination is frequently perceived. Moreover, research by Kross, Ayduk, and Mischel (2005) suggests that not all thinking about negative events is harmful. Individuals who can adopt a self-distanced perspective and focus on why a particular negative event happened do not show the same increased negativity as those who take an immersed perspective or focus solely on what occurred. Future work will need to consider whether this “cool” processing model also applies to discriminatory situations.

Limitations

The present findings should be interpreted in light of some important limitations. First, the cross-sectional design used in the present study does not permit us to ascertain the directionality of the observed associations. For obvious reasons, the associations among contexts of oppression, discrimination, and emotion regulation are difficult to disentangle experimentally, but this question is important to tackle moving forward. Second, although our sample improved on prior studies by collecting data from various regions across the United States, the sample was limited to college students, was largely composed of women, and included relatively few foreign-born individuals in proximal oppression sites. For this reason, we were unable to determine whether the associations that we found vary by gender or nativity status or apply to noncollege samples. Given that previous findings suggest that the effects of discrimination may differ between Latinos and Latinas (e.g., Alfaro et al., 2009; Delgado et al., 2011) and between immigrant and U.S.-born Latinos (e.g., D. Pérez et al., 2008; Sternthal et al., 2011), it will be important for future studies to recruit large samples that are more balanced to adequately test for moderation by gender and nativity status. Third, our measure of cognitive reappraisal assessed only general tendencies and did not assess specific kinds of cognitive reappraisals that might be associated with poorer psychological functioning. Being able to accurately assess how individuals cognitively reappraise in the precise moment of a discriminatory event might help uncover the mechanisms by which cognitive reappraisal can be ineffective in multiply oppressive contexts. Finally, although we were able to collect data from several sites, there were not enough sites to examine potential multilevel effects (i.e., nesting within schools). We have no strong reasons to expect substantial nesting effects; nonetheless, multi-level analyses will provide an opportunity to further consider contextual influences on the associations between exposure to oppression, cognitive reappraisals, and psychological functioning.

Conclusions

As psychologists grapple with understanding the processes of perceived discrimination and ways that ethnic minority populations might cope with such experiences, it behooves us to pay attention to the specific strategies employed by members of specific ethnic minority communities. In doing so, it is important to consider contextual factors that influence the everyday realities of U.S. ethnic minority groups. The simultaneous experience of different levels of oppression among Latino college students may
effectively remove one such strategy—cognitive reappraisal—from their set of potential coping strategies. The implications of these findings stretch well beyond the laboratory and into several aspects of the real world. For this group of Latinos, who are embedded within multiple levels of oppression, trying to reframe negative events into more positive ones may backfire against a backdrop of prejudice and discrimination. At the same time, increased diversity in one’s environment may contribute to better psychological health for members of U.S. ethnic minority groups. Thus, simply increasing the number of Latinos in the environment may significantly help change the social dynamic for Latino college students (and possibly members of other ethnic minority groups), suggesting there really can be strength in numbers.

References


