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## Ethnicity Moderates the Outcomes of Self-Enhancement and Self-Improvement Themes in Expressive Writing

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### Abstract

The current study examined whether writing content related to self-enhancing (viz., downward social comparison and situational attributions) and self-improving (viz., upward social comparison and persistence) motivations were differentially related to expressive writing outcomes among 17 Asian American and 17 European American participants. Content analysis of the essays revealed no significant cultural group differences in the likelihood of engaging in self-enhancing vs. self-improving reflections on negative personal experiences. However, cultural group differences were apparent in the relation between self-motivation processes and changes in anxiety and depressive symptoms at 3-month follow-up. Among European Americans, writing that reflected downward social comparison predicted positive outcomes, whereas persistence writing themes were related to poorer outcomes. For Asian Americans, writing about persistence was related to positive outcomes, whereas downward social comparison and situational attributions predicted poorer outcomes. Findings provide evidence suggesting culturally distinct mechanisms for the effects of expressive disclosure.

### Keywords

expressive writing; culture; self-enhancement; self-improvement; Asian

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The positive effects of expressive writing (EW) on psychological and physical health are well-documented (see Frattaroli, 2006, for a review). However, there is still much to be learned about the mechanisms underlying the ameliorative effects of EW, and the wide variability in effect sizes across studies suggests possible moderators of efficacy. Recent findings suggest cultural differences in the benefits of EW, but these studies raise more questions than answers because studies have variably revealed that individuals of Asian descent benefited more (Lu & Stanton, 2010) and less (Knowles, Wearing, & Campos, 2011) than European Americans. Examination of processes undertaken by individuals during EW may help to explain differential outcomes across cultural contexts. In this study, we examined whether the approach to writing about stressors would enhance outcomes to the extent that it is in line with broader cultural goals. Using data from a trial of EW (Niles,

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Haltom, Mulvenna, Lieberman, & Stanton, 2013), we examined whether self-relevant motivations (i.e., writing content related to self-enhancing and self-improving motivations) predicts EW outcomes distinctly across cultural groups.

## Cultural Differences in Self-Enhancement and Self-Improvement

Self-enhancement involves maintaining positive self-regard by focusing and elaborating upon positive information about the self (Heine & Hamamura, 2007; Taylor & Brown, 1988). Cross-cultural research demonstrates that self-enhancing motivations appear weaker among individuals of East Asian descent compared with European Americans (Heine & Hamamura, 2007), a pattern related to East-West differences in self-construal (Markus & Kitayama, 2010). East Asian cultures foster a view of the self as interdependent and defined by relational context, where behavior is dictated by the social situation, so that the self is malleable and responsive to social context and referenced against social standards rather than fixed. Thus, interdependent individuals are accustomed to holding a self-critical stance and learning to exercise vigilance to areas where one is falling short of group standards in service of social harmony. In contrast, European Americans tend to view the self as an independent entity defined by internal fixed attributes that remain consistent across contexts (Markus & Kitayama, 1991). Under the entity view, when confronted with a threat to self, restorative self-enhancement becomes crucial (Heine & Hamamura, 2007). In contrast, within an incremental view self-improvement is propelled by open consideration of one's shortcomings and an emphasis on struggling with difficulty (Heine et al., 1999; Stevenson, 1994).

Whereas European Americans achieve positive self-regard through self-enhancement, East Asians achieve positive self-regard through self-improvement and maintaining one's standing with others (Heine & Hamamura, 2007). Supporting these theories, European Americans who maintains positive self-views through self-enhancement report having greater psychological well-being (Taylor & Brown, 1988). On the other hand, East Asians report having greater psychological well-being and higher self-worth when they focus on maintaining or improving their interpersonal relationships (Kang, Shaver, Sue, Min, & Jing, 2003). These findings support the hypotheses that individuals who reflect on stress experiences in a culturally-syntonic manner (i.e., Westerners engaging in self-enhancement and Easterners engaging in self-improvement) may report better psychological well-being. However, what remains unclear is whether individuals who reflect on stressors in a culturally-dystonic manner (i.e., Westerners engaging in self-improvement and Easterners engaging in self-enhancement) will report greater distress. In the present study, we aim to address this question by examining how writing content related to self-relevant motivations predicts EW outcomes distinctly across cultural groups.

## Processes supporting self-enhancement: Self-serving attributions and downward social comparison

When reflecting on stressful personal experiences, situational attributions can enhance positive self-views. When "blame" is laid elsewhere, one can preserve the view of the self as efficacious (Bandura, 1999). There is some evidence that situational attributions for failure

are more common among European Americans than East Asians. European Americans are more likely to characterize assessments as not credible when they experience failure, whereas Japanese individuals are less likely to endorse the credibility of tests when they succeed (Heine et al., 2001). Indeed, Westerners are significantly more likely than East Asians to make dispositional attributions for positive events and situational attributions for negative events (Mezulis, Abrahamson, Hyde, & Hankin, 2004).

Another strategy that can deflect threat is social comparison. Individuals may seek social comparison information in ways that promote self-enhancement or self-improvement goals. Social comparison can involve comparing oneself to others doing better (i.e., upward social comparison) or worse (i.e., downward social comparison) than the self. Downward social comparison is a self-enhancing strategy for restoring positive self-regard when self-esteem is threatened (Wills, 1981; Crocker, Thompson, McGraw, & Ingerman, 1987). In Western samples, individuals who attend to their strengths through downward social comparison report greater life satisfaction and less depression (Taylor & Brown, 1988; Diener, 1984). However, cross-cultural studies suggest that European Canadians are more likely than East Asians to engage in downward social comparisons in their spontaneous self-descriptions (Ross et al., 2005) and when reflecting on negative life events (White & Lehman, 2005a) in ways driven by self-enhancement motives.

### **Processes supporting self-improvement: Upward social comparison and persistence facing failure**

Complementing the findings above, East Asians appear more likely than Westerners to engage in upward social comparison, consistent with a self-improving or mastery orientation focus (Butler, 1992). When given performance feedback and an opportunity to compare themselves to better or worse performers, Asian Canadians were more likely than European Canadians to seek upward social comparisons (Lehman & White, 2005b). In the context of academic self-assessments, students with greater interdependent values report a greater desire to make upward comparisons, and lower desire to make downward comparisons compared to those low in interdependent values (Chung & Mallery, 1999).

A second process that supports self-improving motives involves pursuing challenges that are tied to past failure. Easterners tend to subscribe to incremental theories of ability that suggest that achievement hinges on effort not talent, making persistence crucial (Heine & Hamamura, 2007). Indeed, whereas Japanese participants are more likely to continue working on a difficult task if they have been given failure feedback as opposed to success feedback, European Americans are more likely to elect a novel task not associated with past failure (Heine et al., 2001). Japanese individuals judge failures as having more influence on self-esteem than successes, whereas the converse applies to North Americans (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997).

### **The Current Study**

In the current study we conducted content analysis of essays from Niles et al. (2013) to examine cultural differences in the use and impact of attributions, social comparison, and

persistence themes in EW. Niles and colleagues (2013) found no significant main effects of writing condition on anxiety, depressive, or physical symptoms in a sample of 116 participants ( $M_{\text{age}} = 21.2$  years old,  $SD_{\text{age}} = 2.89$ ); however, trait emotional expressiveness moderated the effects of EW. The goal in the present analysis is to elucidate potential cultural variability in psychological mechanisms underlying the therapeutic benefits of EW. We predicted that Asian Americans will engage in more self-improvement writing whereas European Americans will engage in more self-enhancement writing. Moreover, we predicted that the social cognitive processes apparent in participants' writing would have positive implications for psychological and physical functioning when it is syntonic with the writer's culturally modal self-motives. That is, we hypothesized that cultural group would moderate the effects of social comparison, attributions, and persistence focus, with Asian Americans benefiting more from self-improving themes in their writing whereas European Americans would benefit more from writing reflecting self-enhancement motives.

## Method

### Participants

Participants included 34 Asian American and European American adults who participated in a randomized study of 116 adults on expressive writing. Eligibility criteria were ages between 18 and 40 years, fluent in English, no self-reported psychiatric disorder or serious physical illness, and having experienced a stressful event within the past five years that they rated as 5 or greater in stressfulness on a 7-point Likert scale. A total of 116 participants met eligibility and were randomly assigned to the expressive writing ( $n = 59$ ) and control ( $n = 57$ ) conditions. The current analysis only focused on individuals in the expressive writing condition who self-identified as Asian American ( $n=17$ ) or European American ( $n = 17$ ). All 34 participants used in the present study completed the follow-up questionnaire. Participants were 19 (55%) males and were an average of 20.76 years old ( $SD = 3.31$ , range = 18–35 years). Among the 17 Asian Americans, 12 (71%) were born in the U.S., and 5 were foreign-born. The Asian American participants included 8 Chinese (47%), 1 Korean (6%), 2 Japanese (12%), 3 Filipino (18%), 2 Vietnamese (12%), and 1 participant declined to state. Among the 17 European Americans, 14 (82%) were born in the U.S., and 3 were foreign-born.

### Procedure

Participants were students and adults recruited from introductory psychology courses and flyers posted in the community. In a baseline session (T1), they provided consent, completed questionnaires, and completed a fMRI scan. Participants then engaged in four 20-minute writing sessions, scheduled at least three days apart and occurring within the eight weeks following T1. Participants completed the four writing sessions in an average of 24.83 days ( $SD = 5.16$ ). During the initial writing session, participants were assigned randomly to a writing condition (expressive writing or control). In the expressive writing condition, participants wrote about their “deepest thoughts and feelings” regarding their “most stressful or traumatic experience during the past five years.” Three months after the final writing session, participants completed follow-up questionnaires online (T2).

## Dependent Measures

**Depressive Symptoms**—A composite scale was created comprised of three measures of depressive symptoms (Niles et al., 2013): the 7-item Depression subscale of the Depression, Anxiety, and Stress Scale (DASS-21; e.g., “I couldn’t seem to experience any positive feeling at all”; Antony, Bieling, Cox, Enns, & Swinson, 1998), the Beck Depression Inventory 1A (BDI; e.g., “I feel I am a complete failure as a person”; Beck & Steer, 1984), and the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; e.g., “I felt depressed”; Radloff, 1977). All are psychometrically sound measures of depressive symptoms (Antony et al., 1998; Steer, Beck, Garrison, & Lester, 1988; Radloff, 1977). Standardized scores on the three measures were averaged at T1 and T2 to create composite scores, which had a mean of zero and standard deviation of one at T1. Correlations between depression measures at T1 ranged from .63 to .78, and at T2, from .60 to .86. In this sample,  $\alpha$ s are .86, .80, .62 for Asian Americans and .81, .74, .70 for European Americans at T1, and .88, .94, .85 for Asian Americans and .84, .78, .91 for European Americans at T2 for DASS, BDI-1A, and CES-D respectively.

**Anxiety Symptoms**—A composite measure was created from standardized scores on three measures of anxiety symptoms: the 7-item Anxiety subscale of the DASS (e.g., “I found myself in situations that made me so anxious I was most relieved when they ended.”), and the Anxiety and Somatization subscales from the Brief Symptom Inventory (BSI; e.g., “Suddenly scared for no reason” & “Faintness or dizziness”; Derogatis & Melisarotos, 1983). Correlations between anxiety scales at T1 ranged from .61 to .63 and at T2, from .81 to .83. In this sample,  $\alpha$ s for the Anxiety subscale were .90, .87, .89 for Asian Americans and .67, .74, .60 for European Americans at T1, and .83, .90, and .70 for Asian Americans and .81, .91, .83 for European Americans at T2 for the BSI-Anxiety, BSI-Somatization, and the DASS-Anxiety subscales respectively.

**Physical Symptoms**—The 54-item *Pennabaker Inventory of Limbic Languidness* (PILL; Pennabaker, 1982) assesses a number of common physical symptoms (e.g., “Chills”, “Tightness in chest”, “Nausea”). Participants indicate how often they have experienced each symptom on a five-point Likert scale (1 = never or almost never, 5 = more than once every week). In this sample,  $\alpha$ s were .91 for Asian Americans and .96 for European Americans at T1 and .95 for Asian Americans and .93 for European Americans at T2.

## Essay Coding

The 134 essays (33 participants with four essays, one participant with two essays) from the EW condition were content analyzed by coders who were unaware of the study hypotheses and participants’ demographic information. The first author trained 3 Asian Americans and 1 Latino American coder to use a manual adapted from Niles et al. (in preparation) and Creswell et al. (2007). Coders were trained to detect the presence of a situational attribution for the negative event, social comparison, and persistence themes in essays, with a sentence being the smallest unit of text that could be coded. Coders went through the essays line-by-line and codes were applied to “meaning units,” which could span a single sentence or multiple consecutive sentences. A form of dichotomous interval coding was used, such that codes were either *present* or *absent* within a 5-line block of text (e.g., lines 1–5, 6–10, &

11–15). Thus, although multiple meaning units might be found within a 5-line block, only its presence was recorded. If a single meaning unit spanned multiple line blocks, the attached code was counted in multiple blocks (e.g., a meaning unit spanning lines 4–8 would be noted in two line blocks). We used dichotomous interval coding and not summed frequency counts of sentences to be consistent with how we calculate inter-rater reliability. Codes were not considered mutually exclusive. Thus, meaning units could contain multiple codes. A limitation of this approach is that overlapping coding may lead to violating the statistical assumption of independence of observations when multiple coded variables are entered into a statistical model. Thus, each category of essay codes was assessed alone.

Coders were trained using 12 randomly-selected training essays, and then all four independently coded an additional 28 essays (19.2% of the sample). Interrater reliability was assessed based on the post-training essays. Agreement was satisfactory across the codes for situational attribution (85–90% agreement ; kappa between pairs of coders ranged from 0.70–0.82), downward social comparison (92.5–97.5% agreement; kappa ranged from 0.60–0.82), upward social comparison (90–95% agreement; kappa ranged from 0.65–0.85), and persistence (90–95% agreement; kappa ranged from 0.70–0.87). As such, the remaining essays were content analyzed by single coders.

Formal operational definitions and text examples of each coding category are provided in Table 1. We defined downward social comparison as “comparison to others doing worse than the self,” and upward social comparison as “comparison to others doing better than the self.” The self must be explicitly mentioned in a comparison with others to be coded. Situational attribution was defined as “explaining negative personal events with external attributions,” such that codes were applied when themes of “blaming others or the context for personal failures” appeared. Persistence was defined as “the process of actively thinking about persevering and working through adversity/stress/failure.” As such, codes were applied when themes of “sticking with it” and “not giving up” appeared. Statements simply describing negative feelings, thoughts, and events did not qualify as persistence. Persistence had to involve writing about the negative events/experiences in a way that demonstrated drive for overcoming failure.

**Covariates: Objective threat, number of positive/negative emotion words, and word count**—We also controlled for age and gender because previous research shows that these variables can influence the effectiveness of EW (Smyth, 1998). In addition, we included covariates related to the stressor reflected on in the EW, and other characteristics of EW that may impact intervention outcomes.

Because the nature of the traumas written about may be a moderating variable (Smyth, 1998), the objective threat associated with the stressor was examined as a covariate. Procedures for rating the severity of stressful life events outlined in the UCLA Life Stress Interview protocol was used (Hammen, Marks, de Mayo, & Mayol, 1985). Two coders rated the stressfulness of the event on a 1–5 Likert scale (1 = minimal impact, 5 = worst impact) and then discussed their impressions to come to a consensus. Severity ratings were based on the number of life domains affected by the event (e.g. social, work/school) as well as how

severely the area was affected. Prior to consensus rating, the two coders' independent ratings were highly correlated ( $r = .74$ ).

We controlled for the number of positive and negative emotion words in the EW essays because emotional expressivity can predict health outcomes of EW (e.g., Pennebaker, Mayne, & Francis, 1997; Lepore & Greenberg, 2002). Our goal was to determine whether self-relevant motivations predicted outcomes independently of negative or positive affectivity during EW. The number of positive and negative emotion words was identified using the Linguistic Inquiry and Word Count (LIWC) program (Francis & Pennebaker, 1993). LIWC calculates the percentage of total words written that were either positively emotionally valenced (e.g. love, nice sweet) or negatively valenced (e.g. hurt, ugly).

Word count was included as a covariate to control for overall engagement during EW and to address the potential for essay length to be confounded with the frequencies of each code of interest. Longer essays are more likely to yield higher code frequency than shorter essays.

### Statistical Analyses

Data were examined for outliers ( $>3$  SD from the mean) on outcomes and for EW codes. Three outliers were identified for anxiety and one outlier for depressive symptoms. Outliers were replaced with the next highest value based on the Winsor method (Guttman, 1973). Testing the normality of the predicted residuals for T2 anxiety symptoms revealed a slight positive skew. Thus, we also tested our anxiety models using Poisson regression, and the results remained the same as using linear regression. We report linear regression results because no comparable approximations of  $R^2$  effect sizes currently exist for Poisson regression.

To examine cultural differences in the associations between essay codes and psychological and physical well-being at T2, we conducted a series of linear regression analyses separately for each essay code. For each regression equation, in step 1, the psychological or physical well-being score at T1, objective threat, word count, gender, age, and number of positive and negative emotion words were included as covariates.<sup>1</sup> In step 2, ethnicity and essay codes were entered. In the final step, the interactions between ethnicity and essay codes were entered.

## Results

### Preliminary Analyses

Preliminary analyses indicated that the cultural groups were matched on gender ( $\chi^2 = 1.07$ ,  $ns$ ), age ( $t(32) = 0.93$ ,  $ns$ ), number of positive ( $t(32) = 0.88$ ,  $ns$ ) and negative emotion words ( $t(32) = 0.65$ ,  $ns$ ), and objective threat of the events ( $t(32) = 0.71$ ,  $ns$ ). We examined correlations between essay codes with T1 and T2 psychological and physical functioning outcomes across ethnic groups (see Table 2 for descriptive statistics and Table 3 for zero-

<sup>1</sup>The inclusion of the set of covariates did not substantially influence the significance or direction of effects in any of the reported results for the exception of situational attributions in predicting depressive symptoms when the set of covariates were not included in the model (i.e., from  $B=0.28$ ,  $p<.05$  to  $B=0.16$ ,  $p=ns$ ).

order correlations). Contrary to predictions, independent samples t-tests showed that cultural groups did not differ significantly in the frequency of self-relevant motivations ( $ps > .05$ ). We also examined frequency of essay codes using multi-level mixed-effects linear regression by the ordinal position of the essay (i.e., first through fourth essays), and found no significant change across time ( $\chi^2$  range = 0.30 to 2.32,  $p = ns$ ). To compare the degree of relatedness among essay codes, the number of line blocks double-coded was assessed. Essay codes shared a small degree of overlap: 2% in upward social comparison and persistence, 3% in upward social comparison and situational attribution, 2% in persistence and downward social comparison, and 7% in persistence and situational attribution overlapped. There was no triple coding. Correlations between essay codes and frequency of positive and negative emotion words were not significant.

Table 3 displays cultural differences in the relationships between essay codes and EW outcomes. Downward social comparison writing was associated with poorer outcomes at both time points for Asian Americans ( $r$  range = .60 – .66,  $p < .05$ ) but not for European Americans ( $r$  range = -.40 – -.09,  $ns$ ), and persistence writing was associated with poorer outcomes at T2 for European Americans ( $r = .46$ ,  $p < .05$ ) but not for Asian Americans ( $r$  range = -.38 – -.41,  $ns$ ). The differences between these correlation coefficients between ethnic groups (i.e., Asian Americans and European Americans) are significantly different from each other using Fisher r-to-z transformations ( $ps < .05$ ).

### **Self-Enhancement: Downward Social Comparison and Situational Attributions**

Regression analyses revealed significant interactions of ethnicity x downward social comparison writing on anxiety ( $F(1, 21) = 5.30$ ,  $p < .05$ ,  $R^2 = 12.67\%$ ,  $\eta_p^2 = .20$ ), and depressive symptoms ( $F(1, 21) = 3.50$ ,  $p < .05$ ,  $R^2 = 8.99\%$ ,  $\eta_p^2 = .14$ ), but not on physical symptoms (See Figure 1). Simple slopes plotted in Figure 1 revealed that downward social comparison writing was positively associated significantly with an increase in anxiety and depressive symptoms for Asian Americans ( $B = 0.27$  and  $0.37$ ,  $p < .05$ , respectively). In contrast, downward comparison predicted a significant improvement in anxiety for European Americans ( $B = -0.30$ ,  $p < .05$ ; depressive symptoms in the same direction, although not statistically significant).

We found a significant interaction of ethnicity x situational attributions on depressive ( $F(1, 21) = 7.85$ ,  $p < .01$ ,  $R^2 = 17.68\%$ ,  $\eta_p^2 = .27$ ) symptoms, and a marginally significant interaction of ethnicity x situational attributions on anxiety ( $F(1, 21) = 3.64$ ,  $p = .07$ ,  $R^2 = 8.83\%$ ,  $\eta_p^2 = .15$ ). Simple slopes plotted in Figure 3 reveal that situational attribution was significantly associated with an increase in anxiety and depressive symptoms at T2 for Asian Americans ( $B = 0.22$  and  $0.28$ ,  $p < .05$ , respectively), but approached zero and was not significant.

### **Self-Improvement: Upward Social Comparison and Persistence**

Regression analyses revealed no significant interactions of ethnicity x upward social comparison writing in predicting psychological and physical well-being. There were significant interactions of ethnicity x persistence writing on depressive ( $F(1, 21) = 10.38$ ,  $p < .01$ ,  $R^2 = 21.13\%$ ,  $\eta_p^2 = .33$ ) and anxiety ( $F(1, 21) = 2.31$ ,  $p < .05$ ,  $R^2 = 5.24\%$ ,  $\eta_p^2 = .$



10) symptoms, but not on physical symptoms. Simple slopes plotted in Figure 2 reveal that persistence writing was associated with an increase in anxiety and depressive symptoms at T2 for European Americans ( $B = 0.39$  and  $0.30$ ,  $p < .05$ , respectively), but with a significant improvement in depressive, but not anxiety symptoms for Asian Americans ( $B = -1.14$  and  $-0.26$ ,  $p < .01$  and  $ns$ , respectively).<sup>1</sup>

## Discussion

Bridging influential theories from cultural psychology to the EW paradigm, we found that writing that reflects culturally syntonetic self-relevant motivation predicts improved psychological functioning, and that a cultural mismatch of self-relevant motivation predicts poorer psychological functioning at 3-month follow-up. For European Americans, downward social comparison is predictive of more positive outcomes, whereas writing marked by persistence themes is predictive of poorer outcomes. For Asian Americans, writing about persistence through failure predicts improved psychological adjustment, whereas writing that reflects downward social comparison and situational attribution for negative personal events predicts poorer outcomes. Results suggest stronger evidence for cultural mismatch being predictive of poorer functioning than for cultural match being predictive of improved functioning. Notably, we did not find cultural differences in the frequency of self-relevant motivations such that Asian Americans wrote more self-improvement themes and European Americans wrote more self-enhancement themes. Although speculative, it may be that cultural group differences in the utilization of self-enhancement and self-improvement rely on behavioral measures and may not be observable through written measures (e.g., self-report; Heine, Lehman, Peng, & Greenholtz, 2002). Indeed, the majority of studies have demonstrated cultural differences through examining behavioral measures of self-relevant motivations (e.g., time persisting on task; Heine & Raineri, 2009).

Writing about the importance of persisting through failure appears to confer important emotional benefits for Asian Americans. Previous experimental findings have revealed a greater tendency on the part of Easterners to focus on areas awareness of relative weakness, arguably to allow for the opportunity to self-correct. However, the current findings are novel suggesting that when individuals of Asian descent focus on persisting in areas of difficulty, they reap psychological benefits as well as potential performance advantages. On the other hand, making downward social comparisons and attributing failure outcomes to external circumstances may reflect attempts to deflect poor outcomes or negative evaluations. One possibility is that among cultural groups for whom self-enhancement is less normative, downward social comparison in the context of negative personal experiences may be more likely be a reflection of trait negative affectivity (e.g., resentment) which may not palliate distress. Indeed, inconsistency with self-improving orientation in EW appeared to undermine benefits for Asian Americans.

In contrast, downward social comparison was beneficial for European Americans. This may be taken as indirect evidence that European Americans subscribe to entity theories of the self as relatively immutable, resulting in negative information about the self becoming relatively more threatening. Downward social comparison may help European Americans

focus on areas of strength to maintain positive self-regard. Although our results show situational attributions for negative personal events to be unrelated to EW outcomes for European Americans, the positive relationship between downward social comparison and situational attributions provides support for the notion that both processes subserve self-enhancement motives. This dovetails with findings from Creswell and colleagues (2007) that self-affirmation (i.e., writing about valued aspects of the self) predicted better outcomes in their primarily European American sample. It is plausible that for European Americans, tenacious persistence in areas of previous failure may present some risk to emotional well-being, as this orientation may continue to expose individuals to threats to the self. Effort to restore self-efficacy by diverting attention from negative self-relevant information is congruent with a self-enhancement motivation.

Our findings may also inform efforts to reconcile previous contradictory findings about the benefits of EW across cultural groups. Lu and Stanton (2010) found that Asian Americans benefitted more from EW compared to European Americans, whereas Knowles et al. (2011) reported the opposite pattern. Whereas Lu and Stanton (2010) instructed writers to use cognitive reappraisal, Knowles et al. (2011) instructed participants simply to write about their deepest thoughts and feelings. Perhaps the cognitive reappraisal instructional set shaped a more culturally congruent self-improvement focus among Asian Americans in Lu and Stanton (2010).

Self-enhancement and self-improvement motivations were not differentially related to physical symptom outcomes across the two cultural groups. This was unexpected given that stronger intervention effects have been noted for physical symptoms than for psychological symptoms (Frattaroli, 2004). Perhaps psychological symptoms are more closely related to the EW processes revealed in self-relevant motivations than physical symptoms. It is also possible that cultural differences in the mechanisms of EW may be more easily detected in affective outcomes.

Although this study provides compelling data on cultural variability in the function of self-enhancement and self-improvement motivations in predicting psychological well-being in EW, it also has several limitations. First, the present study has a small sample revealing large effect sizes, but future replication is essential as small sample sizes could lead to inaccurate and spurious findings (Schonbrodt & Perugini, 2013). Second, it is not possible to examine within-group variability (e.g., generational status or Asian subgroups); results may not generalize to the larger Asian American and European American community. Third, we did not manipulate self-relevant motivations directly. Instead, we assessed the naturalistic occurrence of these motives through writing. Although this limitation restricts our ability to make causal statements, we had the opportunity to compare the naturalistic use of these foci to test underlying psychological mechanisms in EW (also see Niles et al., 2013, in preparation). Lastly, we used ethnic group membership as a proxy for cultural differences in self-construals. Future research should directly assess independent and interdependent self-construals to provide more direct evidence of the culturally-based theories posed.

Despite these limitations, this study used a novel approach for assessing potential psychological mechanisms of expressive disclosure and provided empirical evidence

supporting the links between self-relevant motivations and outcomes. In EW, we found that self-enhancement motivation in the form of downward social comparison is adaptive for European Americans, but not for Asian Americans. In contrast, self-improvement motivation in the form of persistence themes is adaptive for Asian Americans, but not for European Americans. Findings from the present research suggest the importance of future work focused on the roles of cultural values and processes to clarify our understanding of the mechanisms underlying the ameliorative effects of EW.

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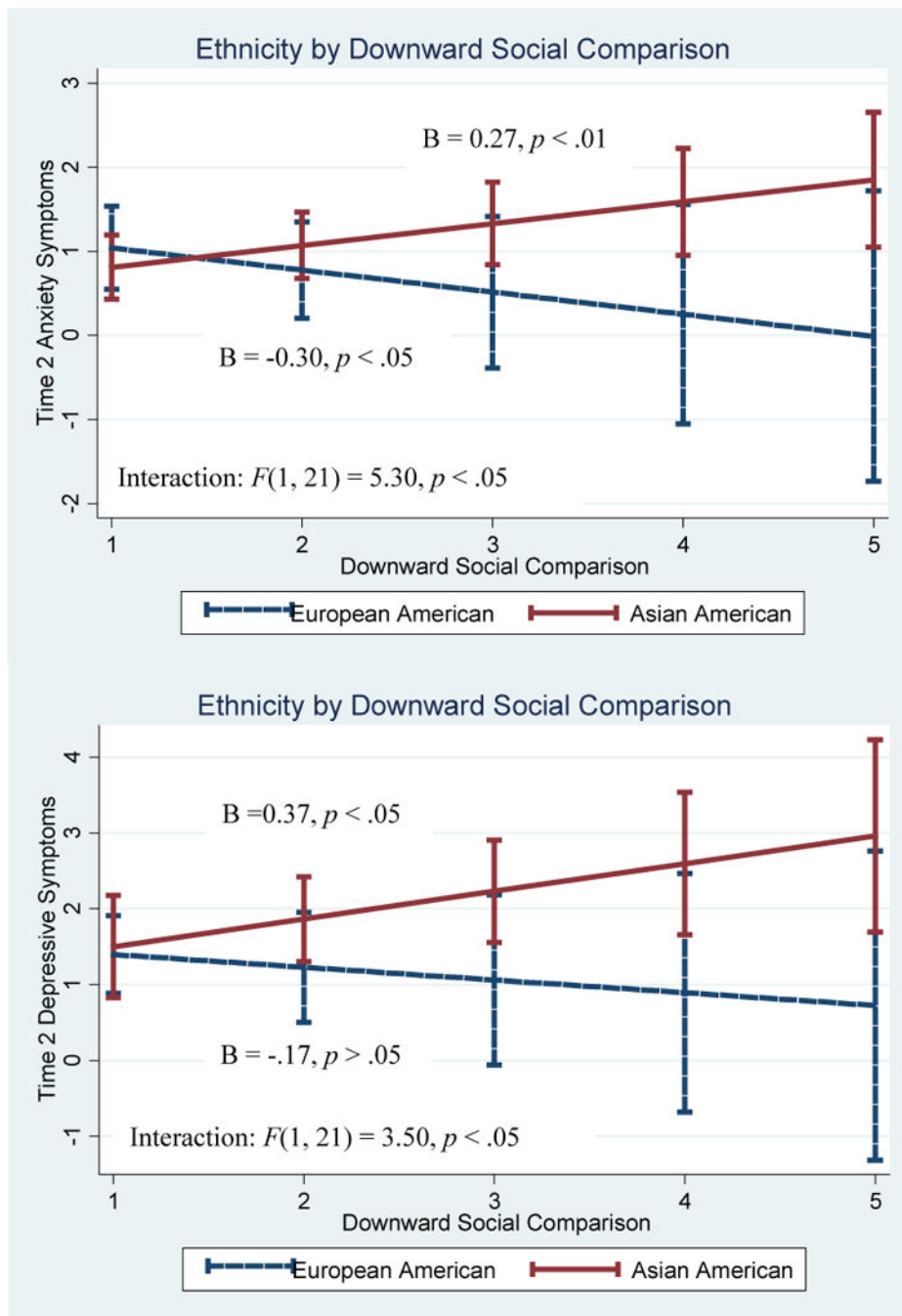
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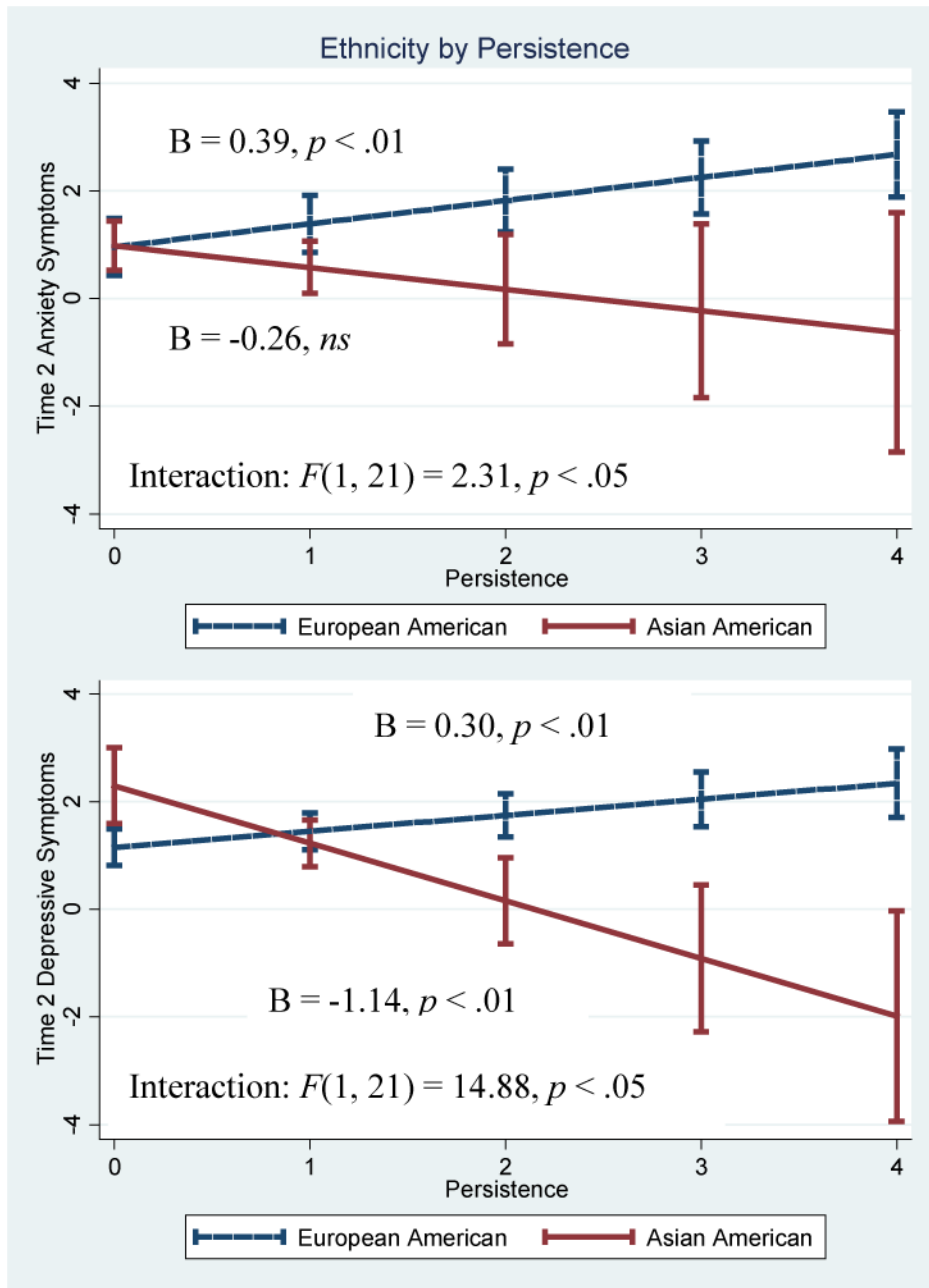
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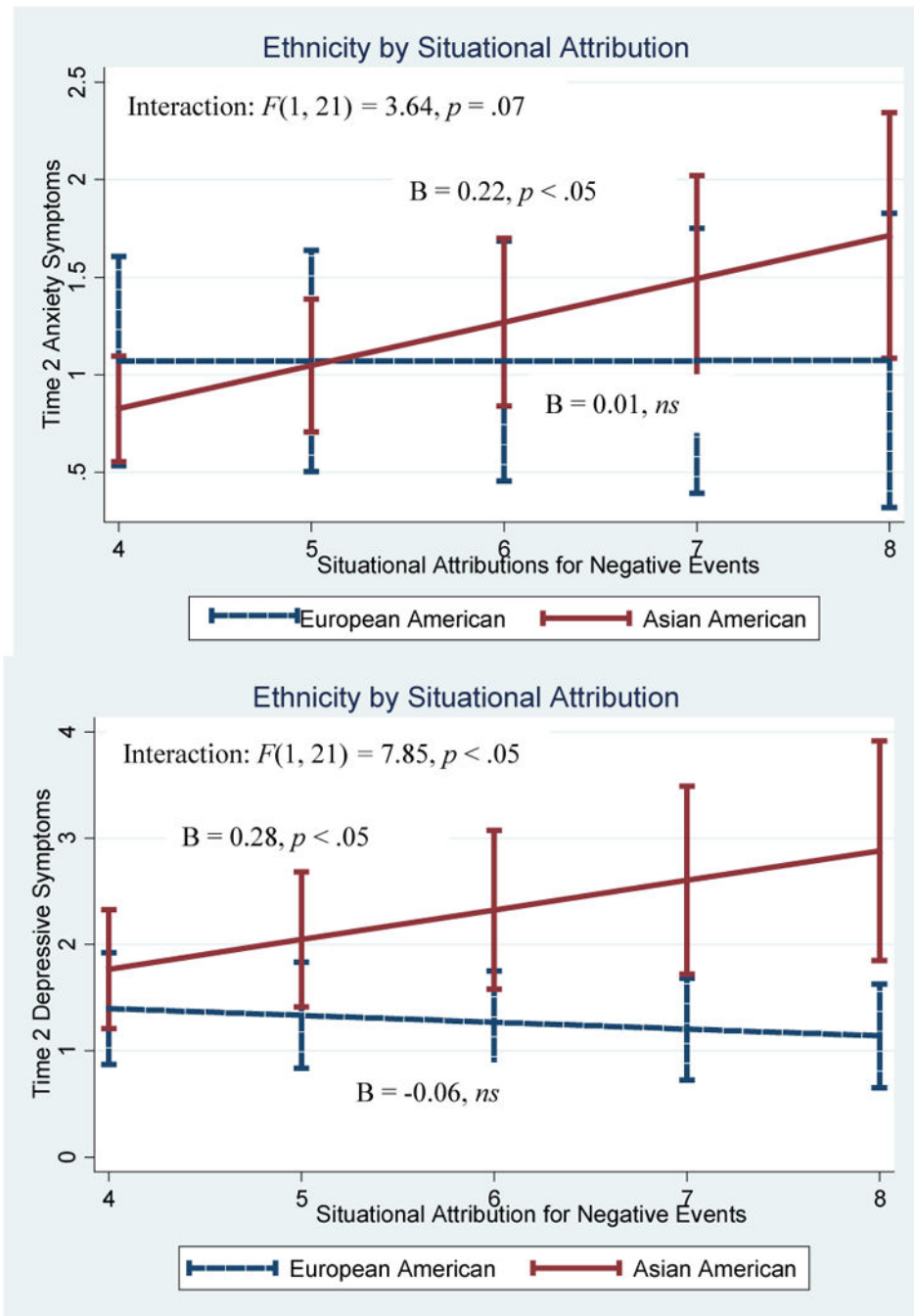
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**Figure 1.** Interaction of Ethnicity × Downward Social Comparison on Depressive and Anxiety Symptoms.



**Figure 2.** Interaction of Ethnicity × Persistence on Depressive and Anxiety Symptoms.



**Figure 3.** Interaction of Ethnicity × Situational Attribution on Depressive and Anxiety Symptoms.



**Table 1**

## Definitions and Examples of Self-enhancement and Self-Improvement Codes by Ethnicity

**SELF-ENHANCEMENT****Situational Attributions for Negative Events: Explaining negative personal events with external attributions***European American*

"I don't know why it is but I don't do very well in a stable environment"

*Asian American*

"Stress from school always seemed to affect the relationship, not enough time for each other, worrying about poor grades."

**Downward Social Comparison: Comparison to others doing worse than the self***European American*

"My other siblings easily drop the ball."

*Asian American*

"I can handle the stress of certain tests that people deemed too difficult."

**SELF-IMPROVEMENT****Upward Social Comparison: Comparison to others doing better than the self***European American*

"I can't help but feel uneasy and useless, not good enough when my friends seem to be getting so far ahead, yet I feel like I've backtracked 20 steps."

*Asian American*

"Looking at great men who came before me, as role models, I should strive to emulate their consistency and composure."

**Persistence: Actively Thinking about Persevering through Conflicts/Stressors***European American*

"It is amazing how I was still able to do well in high school and come here to University."

*Asian American*

"I was proud of my tenacity – I pulled through that experience and now I am a better person because of it."

Descriptive Statistics Between Asian Americans and European Americans on Essay Codes and Psychological and Physical Well-being.

**Table 2**

	Asian Americans (n=17)		European Americans (n=17)		p
	M(SD)		M(SD)		
<i>Essay Codes</i>					
Situational Attribution *	4.18(2.83)		4.76(5.74)		ns
Downward Social Comparison *	1.00(1.22)		0.65(1.00)		ns
Upward Social Comparison *	0.47(0.80)		0.53(1.18)		ns
Persistence *	2.76(2.11)		0.94(1.60)		ns
<i>Covariates</i>					
Positive Emotion Words	12.62(3.50)		11.57(3.49)		ns
Negative Emotion Words	12.71(3.44)		13.61(4.49)		ns
Age	20.24(1.15)		21.29(4.55)		ns
Objective Threat of the Event	2.63(0.67)		2.79(0.61)		ns
	Time 1 M(SD)	Time 2 M(SD)	Time 1 M(SD)	Time 2 M(SD)	
Depressive Symptoms	-0.33(0.52)	0.03(1.00)	-0.07(0.79)	0.29(1.04)	ns
Anxious Symptoms	-0.07(0.70)	-0.29(0.52)	-0.01(0.62)	0.46(1.29)	ns
Physical Symptoms	98.06(20.22)	102.24(25.39)	108.12(30.03)	107.06(24.13)	ns

Note.

\* Means and standard deviations of Essay Codes are the number of line blocks (i.e., 5 lines / block). LIWC, Linguistic Inquiry and Word Count (LIWC) Program. Independent samples t-tests showed that all study variables were not significantly different between ethnic groups.

Zero-order Correlations between Essay Codes and Psychological and Physical Well-being for European Americans (n =17) and Asian Americans (n =17)

Variable	1	2	3	4	5	6	7	8	9	10
1. Situational Attributions	–									
2. Downward Social Comparison	.50* (.38)	–								
3. Upward Social Comparison	-.10 (-.09)	-.05 (.15)	–							
4. Persistence	-.07 (-.22)	-.20 (-.36)	.55** (.18)	–						
5. T1 Depressive Sxs	.22 (.23)	.16 (.65)**	-.12 (-.15)	-.06 (-.35)	–					
6. T1 Anxious Sxs	-.39 (.30)	-.32 (.60)*	.03 (-.13)	-.01 (-.32)	.44 (.82)**	–				
7. T1 Physical Sxs	-.36 (.30)	-.09 (-.23)	-.23 (.14)	-.44 (-.11)	.02 (.38)	.38 (.39)	–			
8. T2 Depressive Sxs	-.16 (.31)	-.32 (.63)*	.49* (-.16)	.46 (-.47)	.31 (.48)	.50* (.40)	-.01 (.31)	–		
9. T2 Anxious Sxs	.05 (.52)*	-.40 (.66)**	.48* (-.10)	.46 (-.38)	.22 (.71)**	.22 (.68)**	.09 (.27)	.74** (.79)**	–	
10. T2 Physical Sxs	-.36 (.11)	-.32 (-.27)	-.08 (-.01)	-.24 (-.41)	-.01 (.53)*	.22 (.59)*	.79** (.76)**	.15 (.39)	.38 (.32)	–

Note.

\*  $p < .05$ \*\*  $p < .01$ .Bolded correlations are significantly different at  $p < .05$ . Results inside parenthesis are for Asian Americans.