Harmonious Relations: Relational Interdependence Moderates Affective Reactivity to Interpersonal Stressors

Jeanean B. Naqvi1 and Vicki S. Helgeson1

Abstract

Negative social interactions have been linked to worse psychological health. However, individuals’ perceptions of negative interactions may depend on relational interdependent self-construal or how much they define the self in terms of their close relationships. The current analysis examined whether the effect of three different stressors on daily mood is moderated by having a relational self-construal. Participants (N = 833) from a national, community-based study reported relational self-construal, the experience of three types of stressors, negative affect, and positive affect on 8 consecutive days. Compared to less relationally interdependent individuals, more relationally interdependent individuals experienced a greater increase in negative affect from the prior day when an interpersonal conflict occurred but a lesser increase in negative affect from the prior day when an interpersonal conflict was avoided. These results suggest that the type of interpersonal stressor determines whether self-construal is a risk factor or protective factor for psychological health.

Keywords

self-construal, affect, negative interaction, interpersonal conflict, relational interdependence

He felt now that he was not simply close to her, but that he did not know where he ended and she began.
—Leo Tolstoy (1875–1877)

There are different ways that relationships factor into an individual’s personal identity, an idea that is reflected in the concept of relational interdependent self-construal (Cross & Madson, 1997). One such way of thinking about the self and relationships is represented by the quote above, which demonstrates the perspective of an individual who is high in relational interdependent self-construal. These individuals tend to perceive the self primarily in terms of its connection and interrelatedness with others, seeking to maintain harmonious relationships with those they are close to in order to preserve that connection (Cross & Madson, 1997; Cross & Morris, 2003). There is also the other side of the spectrum, which is demonstrated by individuals who are low in relational interdependent self-construal. These individuals tend to think of the self as “bounded” and unique from others (Geertz, 1974), emphasizing autonomy and independence in their relationships with other people (Cross & Madson, 1997).

Given that relational interdependence (also referred to as relational self-construal) pertains to an individual’s perceptions of their interrelatedness and connection with others, relational interdependence might be a particularly important moderating factor when examining the effect of interpersonal interactions on psychological health. Individuals who are more relationally interdependent may be particularly affected by negative interactions with close others because they are highly sensitive to the feelings and responses of others (Cross & Madson, 1997). In contrast, individuals who are less relationally interdependent may be less affected by negative interactions with close others because they are more attuned to their own internal states and wishes.

Unfortunately, very few studies have examined whether relational self-construal moderates the effect of negative interactions on health—rather, gender is often used as a proxy for relational self-construal because women are often more relationally interdependent than men (Cross et al., 2011; Cross & Madson, 1997). However, several studies suggest that negative interactions may be more harmful to those who are higher on relational self-construal. For example, feeling misunderstood in interpersonal interactions was more strongly linked to decreased life satisfaction for women than men (Lun et al., 2008), and conflict discussions result in more cardiovascular reactivity for women than men (Bloor et al., 2004; Smith 1 Department of Psychology, Carnegie Mellon University, Pittsburgh, PA, USA

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These results may be explained in part by the idea that engaging in interpersonal conflict is at odds with the values central to relational interdependence (e.g., maintaining interrelatedness and harmony). In terms of psychological health, experiencing an interpersonal conflict might lead to greater negative affective reactivity, or worsening of affect, for individuals who are more relationally interdependent.

Explicit disagreements are not the only type of interpersonal stressor that individuals experience, however. Potential disagreements, or disagreements that an individual has chosen to avoid, can also be a source of interpersonal tension, as they indicate a point of conflict that is being suppressed (Charles et al., 2009). One study of a related construct—collective self-construal—found that individuals who were less interdependent experienced greater negative emotion when they avoided conflict with their partner, which was mediated by feeling less authentic or true to themselves (Impett et al., 2013). In contrast, individuals who were more interdependent were buffered against the effect of conflict avoidance on their emotions, and they did not feel less authentic during conflict avoidance. Similarly, avoiding an interpersonal conflict may be less stressful for those who are high in relational interdependence because they prefer to regulate their own behavior for the sake of maintaining interrelatedness and harmony (Cross & Madson, 1997). For people who are generally more relationally interdependent, the act of avoiding may help attenuate any negative affective reactivity that would have occurred if they had instead chosen to engage in interpersonal conflict.

Although there are myriad studies that have examined gender differences in the link between interpersonal interactions and health (Cross et al., 2011; Kiecolt-Glaser & Newton, 2001), few studies have focused on the role of individual differences in relational self-construal in the link between negative interactions and psychological health. In the current study, we examined whether individual differences in relational self-construal would moderate the effect of interpersonal stressors on psychological health on a daily basis. We predicted that the link between daily interpersonal stressors and daily mood would be moderated by relational interdependence because of its focus on maintaining connectedness and harmony with close others. We examined affective reactivity to three types of stressors: interpersonal conflict, avoidance of interpersonal conflict, and work/school stressors (which were included solely for purposes of comparison to the other two stressors). Three main hypotheses were tested:

**Hypothesis 1:** On days when individuals experience an interpersonal conflict, individuals will experience worse mood than on days when they do not experience an interpersonal conflict. This effect will be stronger for individuals high in relational interdependence than for individuals low in relational interdependence.

**Hypothesis 2:** On days when individuals choose to avoid an interpersonal conflict, individuals will experience worse mood than on days when they do not avoid an interpersonal conflict. This effect will be weaker for individuals high in relational interdependence than for individuals low in relational interdependence.

**Hypothesis 3:** On days when individuals experience a work/school stressor, individuals will experience worse mood than on days when they do not experience a work/school stressor regardless of their level of relational interdependence.

### Method

#### Sample

The study of Midlife in the United States (MIDUS) was originally initiated in 1995 to examine the effects of psychosocial and behavioral factors on health and well-being across the life span. Data were obtained from the second wave of the MIDUS study, and more information about the data and how to access it can be found at http://midus.wisc.edu (MIDUS II; Ryff et al., 2017). A random subsample of 2,022 MIDUS II participants was selected to participate in the National Study of Daily Experiences II (NSDE II; 2004–2009). During the NSDE II, participants completed measures of stress and physical and emotional well-being on a daily basis for 8 consecutive days. Of these 2,022 participants, 1,011 individuals participated in the MIDUS Biomarker Project (2004–2009). During the Biomarker Project, participants completed measures of psychosocial factors and physiological outcomes including a measure of relational self-construal. A total of 180 participants were excluded from the analyses due to missing demographic information for one or more of the covariates (race, gender, income, education level, age, employment/school status) or missing data for relational self-construal, leaving a final sample of 831. Given that the measure of relational self-construal was collected during the second wave of the MIDUS study, we restricted the analyses to data collected during MIDUS II.

The final sample of participants was 55 years of age on average (range: 34–83) and had a median education level of an associate’s or vocational degree, with an average total household income of USD$59,293. About 55% of participants were currently employed or attending school, and 27% of participants were retired. Participants were primarily White (93%). There were 55% women, 66% of which were married at the time of the study, and 45% men, 80% of which were married at the time of the study. A total of 87% of households had at least one child. We conducted a simulation-based sensitivity analysis (Lane & Hennes, 2018), which showed that our design had sufficient statistical power of $(1 - \beta = .80\%$ to detect two-way interactions between relational interdependence and interpersonal conflict occurrence at $\beta = .025$, the avoidance of interpersonal conflict at $\beta = -.026$, and work/school conflict occurrence at $\beta = .026$. 
Measures

Relational interdependent self-construal. Level of relational interdependent self-construal was measured during the Biomarker Project using the Relational-Interdependent Self-Construal Scale (Cross et al., 2000). This measure included 10 items (e.g., “When I think of myself, I often think of my close friends or family also”) and used a 7-point scale, with 1 = strongly disagree and 7 = strongly agree (α = .86).

Daily stressors. Type of stressor was measured during the NSDE II using the Daily Inventory of Stressful Events, which consists of seven different types of stressors (Almeida et al., 2002). The three most common stressors identified were of interest to the present article. Interpersonal conflict was measured by the question “Did you have an argument or disagreement with anyone since this time yesterday?” Avoided interpersonal conflict was measured by the question “Since this time yesterday, did anything happen that you could have argued about but you decided to let pass in order to avoid a disagreement?” Work/school stressor was measured by the question “Since this time yesterday, did anything happen at work or school (other than what you already mentioned) that most people would consider stressful?” These variables were coded as 0 = did not occur today and 1 = did occur today.

Daily negative affect. Negative affect was measured using a 21-item scale developed for the NSDE II (Almeida & Kessler, 1998; Mroczek & Kolarz, 1998; Watson et al., 1988). Questions were asked using the stem “How much of the time today did you feel...” and measured emotions like sadness, anxiety, hopelessness, and anger. Responses were made on a 5-point scale with 0 = none of the time and 4 = all of the time (α = .84).

Daily positive affect. Positive affect was measured using a 13-item scale developed for the NSDE II (Mroczek & Kolarz, 1998; Watson et al., 1988). Questions were asked using the stem “How much of the time today did you feel...” and measured emotions like cheerfulness, contentment, belonging, and confidence. This measure used a 5-point scale with 0 = none of the time and 4 = all of the time (α = .94).

Covariates. Sociodemographic variables included as covariates in all analyses were age (centered at the sample mean = 55.43), race (0 = White, 1 = Black, and 2 = Other), gender (0 = male and 1 = female), highest education level completed (0 = less than high school, 1 = high school graduate/GED, 2 = college or vocational degree, and 3 = postgraduate training), income (centered at the sample mean = USD$59,292.72), and employment/school status (0 = not employed and not attending school and 1 = employed or attending school).

Overview of the Analysis

Multilevel modeling was used to account for the lack of independence of observations in the data. The data were arranged in “person-days,” nesting type of stressor and affect within person. These models examined lagged effects—more specifically, whether the type of stressor predicted same-day affect, controlling for previous-day affect. Models included a within-person model at Level 1 to examine the association between daily stressor and daily affect, a between-person model at Level 2 to examine the association between relational interdependence and daily affect, and a cross-level interaction that examines whether the between-person effect for relational interdependence moderates the within-person effect of daily stressor. Separate models were run to evaluate each of the three daily stressors of interest (interpersonal conflict, avoided interpersonal conflict, and work/school stressor). Disregarding covariates, the general models used for each type of stressor and affect were as follows:

Level 1:  
\[ Affect_\text{di} = \beta_{0i} + \beta_{1i}(Affect_{di-1} - \bar{Affect}_i) + \beta_{2i}(\text{Stressor}_{di}) + e_{di}. \]

Level 2:  
\[ \text{Intercept} : \beta_{0i} = \gamma_{00} + \gamma_{01}(\text{Relational Interdependence}_i - \bar{\text{Relational Interdependence}}) + \gamma_{02}(\text{Stressor}_i) + U_{0i}. \]

Within – Person Affect : \( \beta_{1i} = \gamma_{10}. \)

Within – Person Stressor : \( \beta_{2i} = \gamma_{20} + \gamma_{21}(\text{Relational Interdependence}_i - \bar{\text{Relational Interdependence}}). \)

Within-person and between-person effects were calculated for each of the three stressor variables to capture deviations from the individual mean (within-person effects) and the group mean (between-person effects; Bolger & Laurenceau, 2013). The within-person effects for each of the three stressor variables were not person-mean-centered because these variables were dichotomous. The between-person effect for each stressor variable was calculated using the person mean. Relational interdependence was grand-mean-centered for interpretability. The models also controlled for within-person affect from the previous day, which was person-mean-centered. The R code used to conduct the analyses is available in the Online Supplemental Materials.

Results

Mean relational self-construal for this sample was 5.03 (SD = .96), mean negative affect was .19 (SD = .31), and mean positive affect was 2.73 (SD = .75). An interpersonal conflict happened on 9% of days, an interpersonal conflict was avoided on 15% of days, and a work/school stressor happened on 9% of days. The intraclass correlations (ICCs) for the null models for negative affect (ICC = .49) and positive affect (ICC = .75) indicated that some of the variances in daily affect were due to individual differences but that there was sufficient daily variability to permit further exploration using multilevel models. Results for the primary analyses are reported in Table 1.
Table 1. Effects of Relational Interdependence and Type of Stressor on Mood.

<table>
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<th>Interpersonal Conflict</th>
<th>Avoided Interpersonal Conflict</th>
<th>Work/School Stressor</th>
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<td>Negative Affect (β)</td>
<td>Positive Affect (β)</td>
<td>Negative Affect (β)</td>
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<td>Stressor (WP)</td>
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Note. Analyses control for race, income, education, gender, age, and employment/school status. Bolded values indicate β coefficients with p < .05 and with a confidence interval that does not include 0. All coefficients have been standardized. WP = within-persons effect; BP = between-persons effect.

Interpersonal Conflict

Negative affect. Relational interdependence was not associated with the change in negative affect from the previous day. On days in which an interpersonal conflict occurred, participants reported a significant increase in negative affect compared to days in which an interpersonal conflict did not occur. Consistent with Hypothesis 1, there was an interaction between interpersonal conflict occurrence and relational interdependence for negative affect. On days when participants experienced an interpersonal conflict, participants higher in relational interdependence reported a significant increase in negative affect compared to participants lower in relational interdependence (1 SD above the mean) reported a larger increase in negative affect compared to participants lower in relational interdependence (1 SD below the mean; see Figure 1).

Positive affect. Relational interdependence was associated with increased positive affect from the previous day. On days in which an interpersonal conflict occurred, participants reported a decrease in positive affect compared to days in which an interpersonal conflict did not occur. However, there was not a significant interaction between relational interdependence and interpersonal conflict occurrence for positive affect, which was inconsistent with Hypothesis 1.

Avoided Interpersonal Conflict

Negative affect. Relational interdependence was not associated with the change in negative affect from the previous day. On days in which an interpersonal conflict was avoided, participants reported an increase in negative affect compared to days in which participants did not have to avoid an interpersonal conflict. Consistent with Hypothesis 2, there was an interaction between avoided interpersonal conflict occurrence and relational interdependence for negative affect. On days when
participants avoided an interpersonal conflict, participants higher in relational interdependence (1 SD above the mean) reported a smaller increase in negative affect compared to participants lower in relational interdependence (1 SD below the mean; see Figure 2).

Positive affect. Relational interdependence was associated with increased positive affect from the previous day. On days in which an interpersonal conflict was avoided, participants reported a decrease in positive affect compared to days in which participants did not have to avoid an interpersonal conflict. However, there was no interaction between relational interdependence and avoided interpersonal conflict occurrence for positive affect, which was inconsistent with Hypothesis 2.

**Work/School Stressor**

Positive affect. Relational interdependence was associated with an increase in positive affect from the previous day. On days in which a work stressor occurred, participants did not report any chance of positive affect compared to days in which a work stressor did not occur. Again, consistent with Hypothesis 3, there was no interaction between work stressor occurrence and relational interdependence for positive affect.

**Discussion**

When considering the impact of negative interpersonal interactions on psychological health, relational interdependent self-construal appears to be a particularly important moderating factor. Findings from the current study supported our hypotheses that individual differences in relational interdependent self-construal would moderate the link between interpersonal stressors and negative affect. First, having an argument or disagreement with someone was linked to increased negative affect, but this link was stronger for individuals high in relational interdependence compared to individuals low in relational interdependence. Individuals with a relational self-construal define the self through its relationships with others; as such, willingly engaging in disagreement might go against one’s personal values to maintain connectedness and harmony, which could lead to greater negative affective reactivity. Second, choosing to avoid an argument or disagreement with someone was also linked to increased negative affect, but this link was weaker for individuals high in relational interdependence compared to individuals low in relational interdependence. In contrast to the previous rationale, for individuals with a relational self-construal, deciding to let an interpersonal conflict pass may be more consistent with the values of maintaining connectedness and harmony with others. Therefore, avoiding interpersonal conflict may in fact buffer against the threat to these important values, thus leading to less negative affective reactivity. Finally, relational interdependence did not moderate the link between work/school stressors and mood, supporting our hypothesis that the influence of relational self-construal on the relationship between stress and negative affect is likely limited to interpersonal stressors.

Although the stressors we examined were generally associated with a reduction in positive affect, relational interdependence did not moderate this association. In contrast to our initial hypotheses, relational interdependence was generally related to greater positive affect regardless of the type of stressor. There are several possible explanations for why positive affect did not follow the same pattern as negative affect. There is ongoing debate regarding whether these positive affect and negative affect are bipolar extremes of a single scale or independent orthogonal dimensions (Pressman & Cohen, 2005; Watson et al., 1999), which would influence whether we should expect positive affect and negative affect to follow the same pattern. There was a moderate correlation between positive affect and negative affect in the current study ($r = -.47$, $p < .001$), but correlations between these two variables vary widely in prior literature (Pressman & Cohen, 2005; Watson et al., 1999). Another possible explanation is that the positive affect scale utilized in this study included items that measured belongingness, a construct that may contain some conceptual overlap with relational self-construal. Future studies should test the relation between relational interdependence and positive affect using a measure of positive affect that does not overlap with relational self-construal.
Several limitations to the current study warrant mention. Although the MIDUS II study oversampled African Americans to enable comparisons by race (N = 592), only 2.3% (n = 19) of these African American individuals completed both the NSDE II and the Biomarker Project. A larger sample of African Americans would have enabled us to examine within-group variability among a more diverse sample. In addition, intensive longitudinal data allow us to establish a temporal sequence between daily stressors and mood but not a causal sequence regarding the moderating effect of relational interdependence on daily stressors and mood. Experimental studies that prime values of relational interdependence may be able to establish a causal sequence. Finally, we did not examine potential mechanisms of the moderating effect of relational self-construal, an area that is still relatively unexplored. Relational self-construal may impact the perceptions of an event as stressful (primary appraisal), or it may impact the perceptions of available coping options (secondary appraisal; Lazarus & Folkman, 1984).

As researchers continue to explore the nuances of the all-important link between stress and health, the current study underscores the need to consider an individual’s relational orientation in this endeavor. Our findings have implications for how individuals should deal with stress, seeming to suggest that avoidance of interpersonal conflict does not always produce negative outcomes. Rather, relational self-construal appears to be a risk factor when an interpersonal conflict occurs, but a protective factor when interpersonal conflict is avoided. Thus, the widely held conception that avoidant coping strategies are maladaptive (Carver & Scheier, 1994) may not hold for all individuals or all contexts. Our findings also have implications for therapies that try to address interpersonal conflict within the context of couples or families, demonstrating that the suggested approach to resolving interpersonal conflict should take an individual’s level of relational self-construal into account. Overall, this study serves as an important indicator of the complexity of the impact of individual factors like relational self-construal on coping with stress and health.

Authors’ Note
A preliminary report of these data was accepted to be presented at the 2020 American Psychosomatic Society Annual Meeting (canceled due to COVID-19). The authors are indebted to Melissa Zajdel, Aidan Wright, Nynke Niezink, Krista Bond, and Fiona Horner for their invaluable comments.

Author Contributions
Jeanean B. Naqvi conceived of the study, conducted the analyses, and wrote the manuscript. Vicki S. Helgeson read multiple versions of the manuscript and provided critical feedback.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Supplemental Material
The supplemental material is available in the online version of the article.

Notes
1. Here, we use the terms “relational interdependence” and “relational self-construal” to refer to the construct developed by Cross et al. (2000), which is distinct from the constructs of “interdependent self-construal” or “collective self-construal” referred to in the cultural psychological literature (e.g., Markus & Kitayama, 1991).
2. Although prior literature has found gender differences in relational self-construal, this was not the case in the current data set, F(1,829) = .83, p = .364.

References


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Handling Editor: Yuri Miyamoto