

Supplemental Material: Measure Details

Adult Attachment and Personal and Romantic Relationship Wellbeing: Forgiveness of Self and Partner as Mediators

Measures

Model of Self and Model of Other

The Experiences in Close Relationships Scale – Short Form (ECR-S; Wei et al., 2007) was used to measure model of self and model of other. Six items measure attachment avoidance (e.g., “I am nervous when partners get too close to me”) and 6 items measure attachment anxiety (e.g., “I need a lot of reassurance that I am loved by my partner”) on a 7-point Likert-scale (1 = *disagree strongly*, 7 = *agree strongly*). Items focus on individuals experiences in romantic relationships generally, not only about their specific current partner. Subscales are summed separately (range = 6-42). In the current study, Anxiety and Avoidance subscale scores were reversed so that higher scores represent a more positive model of self and positive model of other, respectively. Low correlations between the subscales ($r = .19-.28$) provide discriminant validity and each subscale has demonstrated correlations with various attachment-related constructs (Wei et al., 2007). Previous Cronbach alphas were .78 (Anxiety) and .84 (Avoidance; Wei et al., 2007).

Intrapersonal Partner-Forgiveness

The latent construct of intrapersonal partner-forgiveness was assessed through three observed variables: rumination (negative indicator), presence of positive emotions, and absence of negative emotions, each in the context of the partner’s offense.

Rumination. We used the Rumination about an Interpersonal Offense Scale (RIO; Wade et al., 2008) to assess rumination about the partner's offense. Participants respond to the 6 items (e.g., "I can't stop thinking about how I was wronged by this person") on a 5-point Likert scale (1= *strongly disagree* to 5= *strongly agree*) based on their experiences in the past 7 days and in the context of a specific relational transgression. Total scores range from 6-30, with higher scores indicating greater perseveration on the partner's offense. The RIO has positive correlations with desire to seek revenge against or avoid one's transgressor, depression, and dispositional anger and hostility, and negative correlations with dispositional forgiveness (Wade et al., 2008). Reliability coefficients in three different samples were high ($\alpha = .91 - .92$).

Forgiveness-Related Emotions. We used the Emotional Forgiveness Scale (EFS; Worthington et al., 2007) to measure presence of positive emotions and absence of negative emotions. The EFS has two 4-item subscales measuring the presence of positive emotions related to the transgressor (e.g., "I care about him or her") and a decrease in negative emotions about the offense and/or the transgressor (e.g., "I no longer feel upset when I think of him or her"). Responses (1 = *strongly disagree* to 5 = *strongly agree*) are totaled by subscale for a range of 4-20, with higher scores indicating greater positive emotions and greater resolution of negative emotions, respectively. Cronbach's alpha was high in prior research for the Presence of Positive Emotion (.80-.85) and Reduction of Negative Emotion (.76-.79) subscales, and the EFS has displayed construct validity through correlations with multiple measures of state and trait forgiveness (Worthington et al., 2007).

Interpersonal Partner-Forgiveness

The latent construct of interpersonal partner-forgiveness was assessed through observed variables of revenge (negative indicator), avoidance (negative indicator), and benevolence

toward one's romantic partner in the context of the partner's offense, measured through subscales of the Transgression Related Interpersonal Motivations (TRIM-18 Inventory; McCullough et al., 2006). Items on the 5-item Revenge subscale (e.g., "I'll make him/her pay"), 7-item Avoidance subscale (e.g., "I withdraw from him/her"), and 6-item Benevolence subscale (e.g., "I have given up my hurt and resentment") are rated from 1 (*strongly disagree*) to 5 (*strongly agree*) and reflect participants' motivations towards their partner in the context of the identified hurt. The Revenge and Avoidance subscales have previous Cronbach alphas of .90 and .86, respectively, and have demonstrated validity through a positive correlation with rumination and negative correlations with closeness and empathy (McCullough et al., 1998). The 6-item Benevolence subscale has shown good reliability ($\alpha = .90$), and correlations with empathy and emotional forgiveness support validity (Hook et al., 2015).

Intrapersonal Self-Forgiveness

The latent construct of intrapersonal self-forgiveness was assessed through observed variables of esteem restoration, self-punitiveness (negative indicator), and self-accepting beliefs following the participants' offense.

Esteem Restoration. The 5-item Esteem Restoration subscale of the Self-Forgiveness Dual Process Scale (Griffin et al., 2018) was used as an index of intrapersonal self-forgiveness. Items (e.g., "I still love myself even though I did wrong") capture self-affirming emotions following an acknowledged offense and are measured on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher summed scores (range = 7-35) indicate greater esteem restoration. Previous reliability estimates were high ($\alpha = .79-.86$; Griffin et al., 2018). The subscale has demonstrated construct validity through negative associations with rumination and self-punishment and incremental validity in predicting rumination about an offense above an existing

measure of genuine self-forgiveness (Griffin et al., 2018).

Self-Punitiveness. We used the Self-Punitiveness subscale of the Differentiated Process Scale of Self-Forgiveness (DPSSF; Woodyatt & Wenzel, 2013) to measure self-punitiveness. The 7-items (e.g., “I deserve to suffer for what I have done”) are rated on a scale from 1 (*do not agree at all*) to 7 (*strongly agree*). Higher summed scores (range = 7-49) indicate greater self-punitiveness. This subscale has negative associations with intrapersonal forgiveness (self-esteem and hope), as well as high internal consistency reliability (Woodyatt & Wenzel, 2013; $\alpha = .79-.86$).

Self-Accepting Beliefs. We used the State Self-Forgiveness Scales Beliefs subscale (SSFS; Wohl et al., 2008) to measure self-accepting beliefs post-offense. The 9-item subscale has a response stem of “As I consider what I did that was wrong, I believe I am...”, with items (e.g., “acceptable”, “rotten” [reverse-coded]). Similar to prior research (e.g., Cornish & Wade, 2015), we used 7 response options (*1 = not at all; 7 = completely*) rather than the original 4 (same anchors). The summed subscale thus had a range of 9-63, with higher scores indicating more self-accepting beliefs. This measure was found to distinguish among people reporting various degrees of self-forgiveness (Wohl et al., 2008). Cronbach's alpha was 0.94 in a study using the modified anchors (Cornish & Wade, 2015).

Interpersonal Self-Forgiveness

The latent construct of interpersonal self-forgiveness was assessed through observed variables of responsibility acceptance, amends-making, and values restoration following the participants' offense.

Responsibility. We used a measure developed by Fisher & Exline (2006) to assess the degree to which participants felt responsible for the offense. The 5 items (e.g., “I feel I was

responsible for what happened”) were assessed on a 0 (*completely disagree*) to 10 (*completely agree*) scale. Higher summed scores (range = 0-50) indicate greater perceived responsibility for the offense. Cornish et al. (2018) found high responsibility scores characteristic of genuine self-forgiveness in contrast to self-exoneration. Cronbach's alpha was previously found to be .83 for the measure (Fisher & Exline, 2006).

Amends-Making. We used a 4-item measure created for this study to assess post-offense amends-making behaviors (“I have tried to make amends,” “I have tried to heal the hurt I caused,” “I have apologized,” and “I have tried to make things right with my partner”) on a scale from 1 (*not at all*) to 7 (*completely*). Higher summed scores (range = 4-28) indicate higher amends-making.

Values Restoration. The Value Reorientation subscale of Griffin et al.’s (2018) Dual Process Scale was used to measure values restoration following participants’ offense. The 5-item (e.g., “I will try not to repeat my offense in the future”) subscale has response options of 1 (*strongly disagree*) to 7 (*strongly agree*), with higher summed scores (range = 5-35) indicating higher values reorientation. The subscale has displayed validity through positive associations with genuine self-forgiveness and negative associations with pseudo self-forgiveness (Griffin et al., 2018). The subscale has demonstrated high internal consistency in previous work ($\alpha = .82-.83$; Griffin et al., 2018).

Personal Wellbeing

We developed the latent construct of personal wellbeing through observed variables of resilience, subjective wellbeing, and anger (negative indicator).

Resilience. We used the Brief Resilience Scale (BRS; Smith et al., 2008) to measure resilience. The BRS contains 6 items (e.g., “I tend to bounce back quickly after hard times”) on a

5-point Likert scale (1= *strongly disagree* to 5= *strongly agree*). Total scores represent the mean of the 6 items and range from 1-5, with higher scores indicating greater resilience. The BRS demonstrated correlations with constructs related to resilience, both positively (e.g., active coping skills) and negatively (e.g., pessimism) and proved superior in predicting health outcomes compared to previous scales of resiliency (Smith et al., 2008). Smith et al. (2008) found good internal consistency ($\alpha = .80 - .91$).

Subjective Well-Being. We used the Subjective Well-being scale of the Clinical Outcomes in Routine Evaluation measure (CORE; Evans et al., 2000). The scale contains 4 items (e.g., “I have felt optimistic about my future”) to which individuals respond on a 5-point Likert scale (0 = *not at all* to 4 = *most or all of the time*) how often each statement has been true for them in the past week. In this study, we used a mean score, scored in the direction of higher scores indicating greater subjective wellbeing. The scale showed adequate internal consistency in both clinical ($\alpha = .75$) and nonclinical ($\alpha = .77$) samples and was able to differentiate the two groups (Evans et al., 2002).

Anger. PROMIS Emotional Distress-Anger scale v1.1 (Pilkonis et al., 2011) was used to assess self-reported anger. Participants rate the extent to which they experienced reactions described in the 5 items (e.g., “I felt annoyed”) over the past week on a scale from 1 (*never*) to 5 (*always*). The 5-item short form has demonstrated convergent validity through correlations with related MMPI-2-RF scales (Tarescavage et al., 2021).

Relational Wellbeing

We developed the latent construct of relational wellbeing through observed variables of relationship satisfaction, positive relationship qualities, and negative relationship qualities (negative indicator).

Positive and Negative Relationship Quality. We measured positive relationship qualities and negative relationship qualities with the Positive – Negative Relationship Quality scale (PN-RQ; Rogge et al., 2017). The 16-item PN-RQ includes 8 adjectives assessing positive qualities (e.g., “enjoyable”) and 8 adjectives assessing negative qualities (e.g., “empty”), each rated on a 7-point Likert scale (1 = *not at all*, 7 = *extremely*) to indicate how well each adjective describes their current relationship. Scores on positive and negative subscale are summed separately (range = 1-49 each), with higher scores indicating higher positive or negative relationship qualities, respectively. The PN-RQ has shown predictive validity in identifying changes in couples’ relationship quality over time (Rogge et al., 2017). The two scales are moderately negatively correlated ($r = -.50$; Rogge et al., 2017), showing relative independence. Cronbach’s alpha estimates were .95 for both subscales in prior research (Rogge et al., 2017).

Relationship Satisfaction. A 4-item version of the Couples Satisfaction Index (CSI-4; Funk & Rogge, 2007) was used to measure romantic relationship satisfaction as an index of relational wellbeing. The CSI-4 contains 1 item asking respondents to rate the degree of happiness in their relationship on a 7-point Likert scale (0 = *extremely unhappy* and 6 = *perfect*). The remaining 3 items (e.g., “How rewarding is your relationship with your partner?”) are rated on a 6-point Likert scale to which respondents rate from 0 = *not at all* to 5 = *completely*. Scores are summed to create a total measure of relationship satisfaction. Scores can range from 0-21, with higher scores indicative of greater levels of satisfaction. Construct validity has been established through positive correlations with existing measures of relationship satisfaction (Funk & Rogge, 2007). Cronbach’s alpha was .94 in prior research (Funk & Rogge, 2007).

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