A longitudinal investigation of marital dissolution, marital quality, and generalized anxiety disorder in a national probability sample

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ABSTRACT

Generalized anxiety disorder (GAD) is a common psychiatric disorder that is associated with high levels of distress and impairment. The present study was conducted to examine the 10-year longitudinal associations between marital dissolution, three measures of marital quality, and GAD among married participants from the Midlife in the United States (MIDUS) survey, a probability sample of American adults aged 24–74 years. Results indicated that GAD at baseline was significantly and positively associated with incidence of marital dissolution during the 10-year follow-up and marital strain (i.e., negative partner interaction) at baseline was significantly and positively associated with incidence of GAD at the 10-year follow-up. These associations remained statistically significant after adjusting for demographic characteristics and neuroticism. In comparison, marital satisfaction and marital support (i.e., positive partner interaction) at baseline were not significantly associated with incidence of GAD, GAD at baseline was not significantly associated with any of the three measures of marital quality at follow-up, and marital dissolution during follow-up was not significantly associated with incidence of GAD. These findings suggest that negative interactions with one's partner may be a risk factor for GAD and that improving marital functioning may be important for the prevention and treatment of GAD.

1. Introduction

Generalized anxiety disorder (GAD) is characterized by excessive worry about multiple events or activities that is difficult to control and that is accompanied by symptoms such as restlessness, fatigue, difficulty concentrating, irritability, muscle tension, or sleep disturbance (American Psychiatric Association, 2013). Worldwide, GAD has a lifetime prevalence of 3.7% and a 12-month prevalence of 1.8%; in the United States, GAD has a lifetime prevalence of 7.8% and a 12-month prevalence of 4.0% (Ruscio et al., 2017). Anxiety disorders are also associated with high levels of disability, with anxiety disorders being ranked as the 6th non-fatal single contributor to health loss globally (World Health Organization, 2017). Given the prevalence and impact of GAD, it is important to identify characteristics that are associated with the onset, severity, and course of this disorder. For many adults, the relationship they have with their spouse or romantic partner is one of the most, if not the most, important and long-lasting relationship they form in adulthood, and therefore it may be expected that the stability and quality of one's marriage or other intimate relationship will impact and be impacted by their mental health. The current study was conducted to

evaluate the longitudinal association between marital dissolution, marital quality, and GAD in a probability sample of American adults.

Support for the perspective that marital dissolution and marital quality may be associated with the onset, severity, and course of GAD comes from several lines of research. For example, people with GAD commonly report worrying about their relationships with others (Roemer, Molina, & Borkovec, 1997). In addition, GAD is associated with problematic interpersonal behavior, especially overly nurturant and submissive behavior, as well as cold and hostile behavior (for reviews, see Malivoire, Mutschler, & Monson, 2020; Newman & Erickson, 2010). These problematic interpersonal behaviors may contribute to poor marital quality and increased risk of marital dissolution. Alternatively, given the association between stress and GAD (e.g., Gonçalves, Pachana, & Byrne, 2011), poor marital quality may serve as an interpersonal stressor, increasing risk for GAD. For example, poor marital quality may result in feelings of uncertainty about the future of the relationship and may engender feelings of rejection, leading individuals who are prone to worry to increase their level of worry about their relationships, thereby contributing to the onset or maintenance of GAD.

Concerning the association between GAD and marital dissolution,

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which refers to marital separation or divorce, researchers have found that compared to people who are married, those who are formerly married are more likely to meet diagnostic criteria for GAD in cross-sectional studies (e.g., Grant et al., 2005; Hunt, Issakidis, & Andrews, 2002). Researchers have used retrospective recall of the timing of a marital dissolution and disorder onset to study the longitudinal association between marital dissolution and subsequent GAD. For example, a study using data from probability samples from 15 countries found that compared to people who were continuously married, those who were previously married were more likely to meet criteria for GAD first onset (Scott et al., 2010). However, the previously married group in these cross-sectional and longitudinal studies included separated, divorced, widowed, and remarried individuals, thereby making it difficult to draw firm conclusions regarding which group(s) of previously married individuals are at elevated risk for GAD. Regarding marital dissolution and subsequent GAD, a longitudinal study based on data from a probability sample of people from the Netherlands found that marital dissolution during the two years following the baseline interview was not associated with incidence of GAD in the 2–3-year interval following the baseline interview (Overbeek et al., 2006). Regarding the reverse pathway, there is limited research regarding the association between GAD and subsequent marital dissolution. In a study involving a U.S. probability sample, participants dated the age of onset of GAD (and other disorders) and age at first marriage and divorce, and results indicated that GAD was associated with a substantially higher rate of subsequent divorce (Kessler, Walters, & Forthofer, 1998). A more complex association between GAD and subsequent divorce was obtained in a study that found that lifetime diagnosis of GAD at baseline was not significantly associated with divorce during a 10-year follow-up, whereas new onsets of GAD after baseline and during follow-up were significantly and positively associated with subsequent divorce during follow-up (Mojtabai et al., 2017).

Turning to the association between GAD and marital quality, which refers to a person's evaluation of their marriage, there have been several studies based on large probability samples that have found marital quality to be lower among people with GAD relative to those without GAD in cross-sectional analyses (e.g., McLeod, 1994; Whisman, 1999; Whisman, Sheldon, & Goering, 2000). For example, one study examining the association between marital quality and DSM-IV disorders in a U.S. population-based sample of married individuals found that compared to people who did not meet diagnostic criteria for 12-month prevalence of GAD, those who did meet criteria for GAD reported lower marital quality; among the various mood, anxiety, and substance use disorders studied, GAD was one of the disorders most strongly associated with lower levels of marital quality (Whisman, 2007).

There are only a few studies that have examined the longitudinal association between marital quality and GAD. In a 2-year longitudinal study involving a probability sample of Irish married individuals, results indicated that after adjusting for baseline level of GAD symptoms, lower marital quality was associated with higher level of GAD symptoms at follow-up (Whisman, Robustelli, & Labrecque, 2018). With respect to incidence of GAD, results from a study examining the longitudinal association between marital quality and 2-year incidence of psychiatric disorders in a probability sample of participants from the Netherlands indicated that marital quality at baseline was not associated with incidence of GAD at follow-up (Overbeek et al., 2006). In comparison, a study on marital quality and incidence of psychiatric disorders in a probability sample of active-duty soldiers in the U.S. Army found that marital quality at baseline was significantly associated with incidence of GAD at the 5-year follow-up (Whisman, Salinger, Gilmour, Steele, & Snyder, 2021). The current literature, therefore, is mixed regarding the prospective association leading from marital quality to subsequent GAD; furthermore, the prospective association leading from GAD to subsequent marital quality has not been examined.

One of the challenges in drawing conclusions regarding the longitudinal association between marital quality and GAD is that studies have differed in their assessment of marital quality. Theoretical advances in the assessment of marital quality have made distinctions between (a) positive and negative dimensions of marital quality; and (b) measures of *marital satisfaction* (or related terms, such as *marital happiness*), which refer to measures of intrapersonal aspects of marital functioning (e.g., subjective evaluations), and measures of *marital adjustment*, which refer to measures of interpersonal aspects (e.g., communication) that typically also include subjective evaluations (Fincham & Rogge, 2010). In considering the specific aspects of marital quality that may be associated with GAD, it may be beneficial to consider the theoretical and empirical literature on marital quality and depression, given that observational, genetically-informed, and treatment literature supports the perspective that marital discord is a causal risk factor for depression (for a review, see Whisman, Sbarra, & Beach, 2021). GAD is highly comorbid with major depression in cross-sectional analyses (Saha et al., 2021) and people who meet criteria for major depression or GAD are at elevated risk for subsequently developing the other disorder (McGrath et al., 2020). Because of the high comorbidity between depression and anxiety, many intimate relationship characteristics and theories associated with depression are also likely to be associated with GAD (Whisman et al., 2023).

According to the marital discord model of depression (Beach, Sandeen, & O'Leary, 1990), low marital satisfaction may increase risk of depression through decreasing level of marital support, increasing level of marital strain (i.e., stress), or both. Mapping this model onto the framework discussed by Fincham and Rogge (2010), marital satisfaction and both positive and negative components of marital adjustment are hypothesized to be important for understanding depression. Similarly, these three components of marital quality – lower marital satisfaction, lower marital support, and higher marital strain – may increase risk for GAD. To date, however, all three components have not been evaluated in the same study with respect to the prevalence or incidence of GAD.

1.1. Study aims and hypotheses

The present study was conducted to evaluate potential bidirectional associations between marital dissolution, marital quality, and GAD over time in a probability sample of American adults. Regarding marital dissolution, it was hypothesized that among people who did not meet criteria for GAD at baseline, people who experienced a marital dissolution during the follow-up period would be more likely to meet criteria for GAD at follow-up relative to people who were continuously married during follow-up (Hypothesis 1). It was also hypothesized that compared to people who did not meet criteria for GAD at baseline, those who did meet criteria for GAD at baseline would be more like to experience a marital dissolution during the follow-up period (Hypothesis 2). Regarding marital quality, it was predicted that among people who did not meet criteria for GAD at baseline, poorer marital quality at baseline would be associated with greater likelihood of meeting criteria for GAD at follow-up (Hypothesis 3). Finally, it was hypothesized that compared to people who did not meet criteria for GAD at baseline, people who did meet criteria for GAD at baseline would report lower levels of marital quality at follow-up, adjusting for marital quality at baseline (Hypothesis 4).

The present study differs from prior studies examining the longitudinal associations between marital dissolution, marital quality, and GAD in several ways. First, the present study included three measures of marital quality (operationalized in terms of marital satisfaction, marital support, and marital strain). Failure to tease apart the potential impact of positive and negative aspects of relationship functioning has been identified as a limitation of much of the research on relationship quality and psychopathology (South, 2021), and the present study addressed this limitation with respect to research on GAD. Identifying the specific aspects of marital quality that are predictive of incidence of GAD may have implications for developing interventions for the prevention and treatment of GAD that target specific aspects of relationship functioning. Second, the associations between marital dissolution, marital quality,

and GAD were examined over a longer-term follow-up period (i.e., 10-year follow-up) than has been examined in prior research.

Third, in evaluating potential longitudinal associations between marital dissolution and marital quality on the one hand and GAD on the other hand, it is important to rule out potential rival explanations for such associations. That is to say, it is important to document that any obtained associations are statistically significant, over and above their shared association with potential confounds. Indeed, ruling out potential confounds (or, said differently, demonstrating that the association is nonspurious) has been identified as an important criterion for establishing causation based on correlational data (Kenny, 1979). Furthermore, in identifying potential confounds of any observed longitudinal associations between two variables, it is important to limit the search to characteristics that temporally precede both variables; variables that may follow from either variable are more appropriately viewed as mediators of the association between two variables (Ross & Mirowsky, 2013).

In testing potential confounds that may precede and therefore potentially provide an alternative explanation for any observed longitudinal associations between marital dissolution and GAD or marital quality and GAD, it is first important to consider demographic characteristics. For example, compared to men, women report lower marital satisfaction (for a meta-analysis, see Jackson, Miller, Oka, & Henry, 2014) and have a higher prevalence of GAD (e.g., Vesga-López et al., 2008). Second, it is important to consider the role of personality as a potential rival explanation for any observed association between marital dissolution, marital quality, and GAD. In particular, the personality trait of neuroticism, which refers to a relatively stable tendency to respond to threat, frustration, or loss with negative emotions (anxiety, sadness, anger) (Lahey, 2009), may be a potential confound of any observed associations among these variables. Meta-analytic studies have yielded significant associations between neuroticism and marital separation (Hedges' $g = 0.24$; Spikic & Mortelmans, 2021), marital satisfaction ($r = -0.26$; Heller, Watson, & Ilies, 2004), and GAD ($d = 1.96$; Kotov, Gamez, Schmidt, & Watson, 2010). Because demographic variables and neuroticism are individual characteristics that are linked with marital outcomes and GAD, and because they also precede these outcomes, the present study examined the degree to which any observed longitudinal associations between marital dissolution, marital quality, and GAD were incremental to their shared associations with demographic characteristics and neuroticism.

2. Methods

2.1. Participants

Participants were drawn from the Midlife in the United States survey (MIDUS), which is a longitudinal, national cohort study of English-speaking, non-institutionalized adults (Brim, Ryff, & Kessler, 2019). The survey included questions about social factors, behavior, and psychological elements. Baseline data were collected in 1995–1996 (MIDUS 1; Brim et al., 2020) and follow-up data were collected ten years later, in 2004–2006 (MIDUS 2; Ryff et al., 2021). The present study is based on the subsample of MIDUS participants who were recruited through random digit dialing. The sample included 1316 individuals (696 men, 620 women) who were married at baseline and follow-up or who were married at baseline and experienced marital dissolution (defined below) during follow-up. After weighting, the sample was 48% female and the age of participants ranged from 24 to 74 years old ($M = 44.33$, $SD = 11.96$). With respect to race, the weighted sample was 91.8% White, 4.5% Black and/or African American, 1.0% Asian or Pacific Islander, 0.3% Native American or Aleutian Islander/Eskimo, 1.7% other, and 0.7% multiracial; 3.5% of the weighted sample was Latino.

2.2. Measures

2.2.1. GAD diagnosis

The diagnosis of GAD at both waves was assessed during the phone interview using the Composite International Diagnostic Interview Short Form (CIDI-SF) (Kessler, Andrews, Mroczek, Ustun, & Hans-Ulrich, 1998), which is a fully structured diagnostic interview. Participant responses were used to generate past 12-month diagnosis of GAD. The CIDI-SF demonstrates high inter-rater reliability for GAD diagnosis (Kessler, Andrews et al., 1998).

2.2.2. Marital status

At baseline and follow-up, participants were asked if they were "married, separated, divorced, widowed, or never married" and, if married, the number of times they had been married. People who reported they were married at baseline and were separated or divorced at follow-up, or who were married at baseline and follow-up and reported more marriages at follow-up than at baseline, were classified as having experienced a marital dissolution. People who reported they were married at baseline and follow-up and who reported the same number of marriages at both assessments were classified as not having experienced a marital dissolution.

2.2.3. Marital quality

Marital satisfaction was assessed with a single-item asking, "How would you rate your marriage or close relationship these days?", which was rated on an 11-point scale, with 0 indicating *the worst possible marriage or close relationship* and 10 indicating *the best possible marriage or close relationship*. Single-item measures of relationship satisfaction have evidenced convergent validity with established multi-item measures. For example, the Relationship Assessment Scale-1, consisting of a single item from the Relationship Assessment Scale (Hendrick, Dicke, & Hindrick, 1998), correlated $r = 0.86$ with the full 7-item scale, and had similar associations to the full scale with correlates such as love and loneliness (Fülöp et al., 2020). Positive and negative aspects of participants' relationship with their partner were assessed using separate 4-item scales (Schuster, Kessler, & Aseltine, 1990; Walen & Lachman, 2000); items on both scales were rated on a 4-point scale. Factor analyses of the 8 items included in this measure provide strong evidence for a 2-factor solution (Walen & Lachman, 2000; Whisman & Li, 2015). Marital support was measured on a 4-item scale measuring supportive interactions with one's partner (e.g., "How much does your spouse or partner really care about you?"), and item scores were summed to yield a total score ($\omega = 0.86$ at baseline and 0.87 at follow-up). Marital strain was also measured on a 4-item scale measuring negative interactions with one's partner (e.g., "How often does your spouse or partner make too many demands on you?"), and item scores were summed to yield a total score ($\omega = 0.81$ at baseline and at follow-up). Whisman and Li (2015) found that the marital support and marital strain scales demonstrated good convergent validity with the Dyadic Adjustment Scale (Spanier, 1976), a widely used measure of marital quality.

2.2.4. Neuroticism

Neuroticism was assessed with four items (i.e., *moody, worrying, nervous, calm*) developed as markers for the five-factor model of personality (Goldberg, 1992). Respondents rated "how well each of the following describes you" on a 4-point rating scale, and after reverse coding *calm*, scores were summed to yield a measure of neuroticism ($\omega = 0.78$), with higher scores indicating higher levels of neuroticism.

2.3. Data analyses

The Statistical Package for Social Sciences (SPSS) program was used to conduct analyses. Post-stratification weights were used in all the analyses to ensure the study findings are consistent with population data and to make population estimates. Logistic regression analyses were

conducted to examine the longitudinal associations between marriage dissolution during follow-up and incidence of GAD at follow-up, GAD at baseline and marriage dissolution during follow-up, and marital quality at baseline and incidence of GAD at follow-up; GAD and marital dissolution were treated as categorical variables (0 = no, 1 = yes) in all analyses. Because studying predictors of incidence rates involves testing predictors for new cases of GAD that develop among people at risk (i.e., the proportion of individuals who develop GAD who initially do not have GAD), analyses involving incidence of GAD at follow-up were limited to those people who did not meet criteria for GAD at baseline. Linear regression analyses were conducted to examine the association between GAD at baseline and the three measures of marital quality at follow-up, adjusting for marital quality at baseline. If a result from any of these univariate analyses were statistically significant, multivariate analyses were conducted to test whether the associations remained statistically significant, adjusting for demographic characteristics that could be potential confounds (i.e., age, gender, race/ethnicity); then if the association remained statistically significant, follow-up analyses were conducted additionally adjusting for the potential confound of neuroticism. Finally, for analyses involving one of the indices of marital quality that yielded significant univariate and multivariate associations, the other two indices of marital quality were added to the equation to test the specificity of the association between that particular aspect of marital quality and the outcome.

3. Results

Descriptive information for the three measures of marital quality at baseline and follow-up are presented in Table 1. The 12-month prevalence of GAD at baseline was 2.8%; for people who did not meet criteria for GAD at baseline, the 12-month incidence of GAD at the 10-year follow-up was 1.5%. During the follow-up period, 12.4% of the sample experienced a marital dissolution (i.e., separation or divorce).

The results from the logistic regression analysis testing Hypothesis 1 – that individuals who separated or divorced during the follow-up period would be more likely than continuously married individuals to meet criteria for GAD at follow-up – indicated that among the 1285 individuals who did not meet criteria for GAD at baseline, marriage dissolution during follow-up was not significantly associated with incidence of GAD at follow-up, $OR = 2.34$, 95% $CI = [0.79, 6.94]$, $p = .126$.[1] These results do not support the hypothesis that marriage dissolution is associated with incidence of GAD.

The results from the logistic regression analysis testing Hypothesis 2 – that GAD at baseline would be significantly and positively associated with marriage dissolution during the follow-up period – indicated there

was a significant and positive association between GAD at baseline and dissolution during follow-up, $OR = 3.27$, 95% $CI = [1.57, 6.78]$, $p = .001$. Furthermore, the association between GAD at baseline and marital dissolution during follow-up remained statistically significant after adjusting for demographic characteristics (Table 2, Model 1) and neuroticism (Table 2, Model 2), thereby indicating that this association was not secondary to shared associations with these potential confounds. Because GAD has been associated with marital quality in cross-sectional analyses in prior research (e.g., McLeod, 1994; Whisman, 1999, 2007; Whisman et al., 2000), it is possible that the association between baseline GAD and marriage dissolution during follow-up was secondary to the association between baseline marital quality and marriage dissolution. To test whether the association between baseline GAD and marriage dissolution was statistically significant over and above their shared associations with baseline marital quality, the three measures of marital quality were added to the logistic regression analysis. Given that the three measures of marital quality are likely to co-vary, then multicollinearity (i.e., a statistical phenomenon in which two or more predictor variables are highly correlated) is a potential issue. Correlation coefficients between predictor variables > 0.80, tolerance values < 0.20, and variance inflation factor (VIF) values > 10 are commonly used for identifying multicollinearity (Midi, Sarkar, & Rana, 2010). As can be seen in Table 1, the correlations among the three measures of marital quality at baseline were below the cutoff, as were the tolerance values (all > 0.37) and VIF values (all < 2.70). After adjusting for baseline marital quality as well as demographic characteristics and neuroticism, GAD was significantly and positively associated with marital dissolution during follow-up (Table 2, Model 3), suggesting that this association is not secondary to marital quality at baseline.

The results from the logistic regression analyses testing Hypothesis 3 – that marital quality at baseline would be associated with incidence of GAD at follow-up – indicated that among the 1151 individuals who were continuously married who did not meet criteria for GAD at baseline, incidence of GAD at follow-up was not significantly associated with baseline marital satisfaction, $OR = 0.87$, 95% $CI = [0.66, 1.15]$, $p = .321$, or marital support $OR = 0.62$, 95% $CI = [0.27, 1.44]$, $p = .263$. In comparison, baseline marital strain was significantly and positively associated with the incidence of GAD, $OR = 3.98$, 95% $CI = [1.80, 8.80]$, $p < .001$. Furthermore, the association between baseline marital strain and incidence of GAD remained statistically significant after adjusting for demographic characteristics (Table 3, Model 1) and neuroticism (Table 3, Model 2), thereby indicating that this association was not

Table 1
Descriptive Information on Measures of Marital Quality at Baseline and Follow-up.

Variable	Mean	SD	1	2
Baseline				
1. Marital satisfaction	8.22	1.78		
2. Marital support	3.57	0.55	0.76 * *	
3. Marital strain	2.16	0.62	-0.62 * *	-0.60 * *
Follow-up				
1. Marital satisfaction	8.28	1.79		
2. Marital support	3.62	0.54	0.76 * *	
3. Marital strain	2.10	0.62	-0.62 * *	-0.62 * *

* $p < .05$. * * $p < .01$.

[1] Although the bivariate association was not significant, it is possible that the association might be significant after adjusting for covariates (i.e., suppressor effect). However, marriage dissolution was not significantly associated with incidence of GAD after adjusting for demographics and neuroticism.

Table 2
Logistic Regression Analyses Predicting Marital Dissolution During Follow-up.

Variable	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Age	0.95 * *	0.94, 0.97	0.95 * *	0.94, 0.97	0.95 * *	0.94, 0.97
Minority[a]	2.73 * *	1.66, 4.52	2.76 * *	1.67, 4.57	2.38 * *	1.41, 4.03
Women[b]	1.32	0.93, 1.85	1.32	0.93, 1.86	1.19	0.83, 1.69
Neuroticism			1.05	0.81, 1.37	0.97	0.74, 1.28
Marital Satisfaction					0.80 * *	0.69, 0.92
Marital Support					0.81	0.51, 1.27
Marital Strain					0.75	0.52, 1.09
GAD	2.63 *	1.23, 5.60	2.50 *	1.13, 5.54	2.89 *	1.27, 6.60

Note. All predictor variables were assessed at baseline. [a]White is the reference group. [b]Men is the reference category. OR = odds ratio. CI = confidence interval.
* $p < .05$. * * $p < .01$.

Table 3
Logistic Regression Analyses Predicting Incidence of GAD at Follow-up.

Variable	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Age	0.93 *	0.88, 0.99	0.94	0.88, 1.00	0.94 *	0.88, 1.00
Minority[a]	0.86	0.10, 7.66	0.82	0.79, 8.53	1.21	0.12, 12.79
Women[b]	7.15 *	1.53, 33.35	8.32 *	1.58, 43.89	8.50 *	1.59, 45.58
Neuroticism			9.15 **	3.13, 26.73	7.86 *	2.77, 22.29
Marital Satisfaction					1.22	0.77, 1.92
Marital Support					1.42	0.29, 6.84
Marital Strain	4.01 **	1.73, 9.28	3.82 **	1.55, 9.38	6.49 **	1.91, 22.00

Note. All predictor variables were assessed at baseline. [a]White is the reference group. [b]Men is the reference category. *OR* = odds ratio. *CI* = confidence interval. * $p < .05$. ** $p < .01$.

secondary to shared associations with these potential confounds. Finally, the association between baseline marital strain and incidence of GAD remained statistically significant after additionally adjusting for baseline marital satisfaction and marital support (Table 3, Model 3),[2] thereby providing evidence for the specificity of this association relative to other indices of marital quality.[3]

The results from the linear regression analyses testing Hypothesis 4 – that GAD at baseline would be associated with poorer marital quality follow-up, adjusting for baseline level of marital quality – indicated that after adjusting for baseline levels of the corresponding measure of marital quality, GAD at baseline did not predict follow-up levels of marital satisfaction, $B = 0.05$, $SE = 0.31$, $\beta = 0.00$, $p = .869$, marital support, $B = -0.01$, $SE = 0.09$, $\beta = -0.00$, $p = .928$, or marital strain, $B = 0.11$, $SE = 0.11$, $\beta = 0.03$, $p = .330$.[3] These results do not support the hypothesis that GAD at baseline would be associated with poorer marital quality at follow-up.

4. Discussion

The primary aims of this study were to examine the associations between marital dissolution, marital quality, and GAD over time in a probability sample of American adults. Regarding the longitudinal association between marital dissolution and GAD, results indicated that marital dissolution during follow-up was not associated with GAD at follow-up. These results are consistent with results from a probability sample of people from the Netherlands, which found that marital dissolution during the two years following the baseline interview was not associated with incidence of GAD in the 2–3-year interval following the baseline interview (Overbeek et al., 2006). However, the association

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[2] Multicollinearity analyses indicated that correlations among the three measures of marital quality at baseline were below the cutoff for multicollinearity (all < 0.75), as were the tolerance values (all > 0.42) and VIF values (all < 2.40).

[3] Given the high comorbidity between GAD and depression, it is possible that the association between marital strain and incidence of GAD is secondary to their shared association with depression. After additionally adjusting for CIDI-SF diagnosis of major depression at baseline and follow-up, baseline marital strain continued to demonstrate a significant association with incidence of GAD, *OR* = 6.05, 95% *CI* = [1.62, 22.60], *p* = .007, thereby providing evidence of the specificity of the association between marital strain and incidence of GAD.

[3] GAD was not significantly associated with marital quality at follow-up after adjusting not only for marital quality at baseline but also for demographics and neuroticism.

was in the predicted direction (i.e., marital dissolution was positively associated with incidence of GAD) in the present study, and it had a medium effect size (i.e., an OR of 2.34), suggesting that the lack of association may be due to the small number of people who experienced a marital dissolution during follow-up leading to insufficient statistical power.

In comparison to the lack of association between marital dissolution and subsequent GAD, results indicated that GAD at baseline was significantly associated with an increased probability of marital dissolution during the follow-up period. These results are similar to those obtained in a study based on retrospective recall of timing of GAD onset, which found that GAD was associated with a substantially higher rate of subsequent divorce (Kessler, Walters, & Fortofer, 1998). The current findings build on these results in indicating that this association is obtained in a prospective design and the longitudinal association is over and above the shared association with demographic characteristics and neuroticism, two potential confounds of the prospective association between GAD and subsequent marital dissolution. Furthermore, the association was also observed when additionally adjusting for marital quality at baseline. Therefore, the association is not an artifact of GAD at baseline being associated with poorer marital quality, which suggests that there may be other pathways by which GAD results in marital dissolution. As noted above, GAD is associated with problematic interpersonal behavior, especially overly nurturant and submissive behavior, as well as cold and hostile behavior (Malivoire et al., 2020; Newman & Erickson, 2010), which may in turn increase the likelihood of marital dissolution. Alternatively, it may be that similar to what has been proposed regarding people with depression (Coyne, 1976), people with GAD may worry about the security of their marriage and seek reassurance from their partner about their relationship to reduce this perceived threat but doubt the assurance received, resulting in a vicious cycle of excessive reassurance seeking that ultimately results in interpersonal rejection (i.e., ending of the relationship). Indeed, reassurance seeking has been hypothesized to play a major role in GAD (Woody & Rachman, 1994), and has been associated with anxiety in people with anxiety disorders, including GAD (e.g., Rector, Kamkar, Cassin, Ayearst, & Laposa, 2011). Future research is needed to evaluate the degree to which characteristics such as problematic interpersonal behavior or excessive reassurance seeking explain how GAD may increase risk for marital dissolution. In particular, given evidence that there is heterogeneity in interpersonal problems across people with GAD (Salzer et al., 2008), it would be interesting to examine if risk for marital dissolution differs among interpersonal subtypes of individuals with GAD derived from cluster analysis of interpersonal problems.

Turning next to the findings for marital quality, neither marital support nor marital satisfaction were significantly associated with incidence of GAD. Consistent with the diathesis-stress model of psychopathology, it may be that marital support is associated with GAD in the context of ongoing stressful life events; that is, rather than having a direct association with GAD, marital support may buffer the negative association between stress and GAD. In comparison, results indicated that marital strain (i.e., perceived negative interactions or exchanges with one's partner) at baseline was significantly and positively associated with incidence of GAD at follow-up. These results are consistent with the results of studies which found that marital distress was positively associated with increases in symptoms of GAD in a probability sample of adults in Ireland (Whisman et al., 2018) and incidence of GAD in a probability sample of active-duty Army soldiers (Whisman, Salinger et al., 2021), whereas they are at odds with a study that did not find a significant association between marital quality and incidence of GAD in a probability sample of adults from the Netherlands (Overbeek et al., 2006). It is difficult to make comparisons between these studies as they differed in samples, in the length of time between baseline and follow-up assessment, and in their assessment of marital quality. The current findings are noteworthy in that this is the first study that has used three measures of marital quality. The pattern of results points to an area of

relationships that may be particularly important to study in future research on relationship quality and GAD, specifically that of negative aspects of relationships, such as marital strain.

The findings regarding marital strain and incidence of GAD complement the results from a study involving predictors of treatment outcomes for a treatment-seeking sample of people with GAD who received individual cognitive-behavior therapy, which found that partner hostility observed during a pre-treatment videotaped interaction between the patient and their partner discussing the patient's worries was associated with worse end-state functioning (Zinbarg, Lee, & Yoon, 2007). These authors suggested several pathways by which hostile or negative interactions with one's partner, including demands and criticisms, may predict treatment outcome, which may also apply to the development of GAD as examined in the present study. Hostile or negative interactions with one's partner may activate or reinforce negative evaluations or core beliefs about the self, which may generate or maintain symptoms; hostile or negative interactions with one's partner may also serve as psychosocial stressors that interact with underlying diatheses to generate or maintain symptoms. The current findings also build on prior research evaluating marital quality as a risk factor for GAD in finding that the longitudinal association from marital strain to subsequent incidence of GAD was over and above their shared association with demographic characteristics and neuroticism, two potential confounds of this association. Furthermore, this association remained significant when additionally adjusting for perceived marital support and marital satisfaction, thereby providing evidence for the specificity of the association between perceived marital strain and incidence of GAD. Finally, the association between marital strain and incidence of GAD remained significant when additionally adjusting for major depression diagnosis at baseline and follow-up (see Footnote 1). These findings complement the results from a study which found the prospective association between marital discord and GAD symptoms remained significant when adjusting for quality of relationships with family and friends and symptoms of depression (Whisman et al., 2018). Taken together, these studies suggest that the association between marital strain and GAD is not secondary to other characteristics. Finally, GAD at baseline was not significantly associated with any of the three measures of marital quality at follow-up after adjusting for the level of the corresponding measure of marital quality at baseline. Although future research is needed to replicate these findings before firm conclusions can be made, these results suggest a unidirectional pathway of influence, leading from marital quality to GAD and not the reverse pathway.

In interpreting the results of the study, it is important to consider several strengths and limitations. Strengths of the study include the use of a large, probability sample of American adults, which is likely to yield findings that are highly generalizable to married individuals living in the United States. In addition, the use of three measures of marital quality allowed evaluating the specific aspects of marital quality that may be associated with GAD, which is important insofar as failure to distinguish between positive and negative aspects of relationship functioning has been identified as a limitation of much of the research on intimate relationships and psychopathology (South, 2021). The study also had several limitations. First, marital satisfaction was assessed with a single-item measure, whereas the use of a multi-item measure with well-established psychometric properties would provide a stronger test of the association between marital satisfaction and GAD. Second, there was a long (i.e., 10-year) interval between baseline and follow-up assessment, and because there have been relatively few studies that have examined the longitudinal association between marital dissolution, marital quality, and GAD, it is difficult to know the window of time in which these variables are most likely to influence one another. In future research, it would be informative to collect repeated assessments of these constructs to provide a stronger test of their longitudinal association over varying periods of time. Third, the low base rates of GAD at baseline and follow-up and marital dissolution during follow-up resulted in low statistical power for evaluating the study hypotheses. As

discussed above regarding the association between marital dissolution and incidence of GAD, there may be some associations that are clinically meaningful despite not meeting criteria for statistical significance. Fourth, there are some limitations of the sample with respect to demographic characteristics. Because this study included a mainly White sample, future research should expand to include larger proportions of members from underrepresented race and ethnic minority groups. There is the potential for research to explore how culture, discrimination, and differences in socioeconomic status can impact relationships and their functioning, and the ways these variables may moderate the association between relationship functioning and psychopathology. Future research may also explore the association between relationship quality and GAD in couples who are in less established relationships, such as newlywed couples, cohabiting couples, or dating couples. Finally, the study focused on individuals in different-sex relationships, and future research is needed evaluating the association between relationship dissolution, relationship quality, and GAD in sexual minority individuals.

This study provides important advances to understanding the nature of the association between marital functioning and GAD. In finding a longitudinal association between marital strain and GAD, the results suggest that marital strain may be a risk factor for the development of GAD. If replicated, these results may have public-health implications in suggesting that couple-based interventions that reduce relationship discord through reducing negative interactions between partners may be helpful in the prevention and treatment of GAD. This perspective has been advanced in the literature (e.g., Whisman et al., 2023), although most of these interventions have not been evaluated in clinical trials. For example, Benson, Doss, and Christensen (2018) adapted an online relationship program (OurRelationship.com) to include mindfulness exercises, acceptance of internal experiences (e.g., anxiety), engagement in value-driven behavior, and addressing relationship patterns related to GAD, and Priest (2013) described how emotionally focused therapy for couples may be adapted to alleviate anxiety, worry, and relationship distress in couples in which one partner has GAD. Furthermore, given that negative aspects of marital quality have been shown to predict poorer outcome to individual-based treatments of GAD (Durham, Allan, & Hackett, 1997; Zinbarg et al., 2007), reducing negative interactions between partners may also result in better outcomes for other treatments for GAD.

5. Conclusions

In conclusion, results from this probability sample of American adults indicate that perceived marital strain at baseline was associated with incidence of GAD at 10-year follow-up and that GAD at baseline was associated with incidence of marriage dissolution during the 10-year follow-up period. These results highlight the importance of investigating the potential risk that the negative aspects of relationships can have for GAD and the potential risk that GAD can have in contributing to marital dissolution. Findings from this study are particularly noteworthy in indicating that these associations remained statistically significant after adjusting for the potential confounds of demographic characteristics and neuroticism, as well as other measures of marital quality. As such, the findings support the need for continued research on the longitudinal association between intimate relationship functioning and GAD, including the potential benefit of interventions that target reducing negative interactions between partners in the prevention and treatment of GAD.

for-profit sectors.

Declarations of Interest

None.

References

American Psychiatric Association. (2013). Anxiety disorders. Diagnostic and Statistical Manual of Mental Disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596.

Beach, S.R., Sandeen, E.E., & O'Leary, K.D. (1990). Depression in marriage: A model for etiology and treatment. Guilford Press.

Benson, L. A., Doss, B. D., & Christensen, A. (2018). Online intervention for couples affected by generalized anxiety disorder. *The European Journal of Counselling Psychology, 7*(1), 1–13. https://doi.org/10.5964/ejcop.v7i1.108

Brim, O.G., Baltes, P.B., Bumpass, L.L., Cleary, P.D., Featherman, D.L., Hazzard, W.R., Kessler, R.C., Lachman, M.E., Markus, H.R., Marmot, M.G., Rossi, A.S., Ryff, C.D., & Shweder, R.A. (2020). Midlife in the United States (MIDUS 1), 1995–1996. Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR02760.v19.

Brim, O.G., Ryff, C.D., & Kessler, R.C. (Eds.). (2019). How healthy are we?: A national study of well-being at midlife. University of Chicago Press.

Coyne, J. C. (1976). Toward an interactional description of depression. *Psychiatry, 39*(1), 28–40. https://doi.org/10.1080/00332747.1976.11023874

Durham, R. C., Allan, T., & Hackett, C. A. (1997). On predicting improvement and relapse in generalized anxiety disorder following psychotherapy. *British Journal of Clinical Psychology, 36*(1), 101–119. https://doi.org/10.1111/j.2044-8260.1997.tb01234.x

Fincham, F. D., & Rogge, R. (2010). Understanding relationship quality: Theoretical challenges and new tools for assessment. *Journal of Family Theory & Review, 2*(4), 227–242. https://doi.org/10.1111/j.1756-2589.2010.00059.x

Fülöp, F., Bőthe, B., Gál, É., Cachia, J. Y. A., Demetrovics, Z., & Orosz, G. (2020). A two-study validation of a single-item measure of relationship satisfaction: RAS-1. *Current Psychology*, 1–13. https://doi.org/10.1007/s12144-020-00727-y

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4*(1), 26–42. https://doi.org/10.1037/1040-3590.4.1.26

Gonçalves, D. C., Pachana, N. A., & Byrne, G. J. (2011). Prevalence and correlates of generalized anxiety disorder among older adults in the Australian National Survey of Mental Health and Well-Being. *Journal of Affective Disorders, 132*(1–2), 223–230. https://doi.org/10.1016/j.jad.2011.02.023

Grant, B. F., Hasin, D. S., Stinson, F. S., Dawson, D. A., Ruan, W. J., Goldstein, R. B., Smith, S. M., Saha, T. D., & Huang, B. (2005). Prevalence, correlates, co-morbidity, and comparative disability of DSM-IV generalized anxiety disorder in the USA: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychological Medicine, 35*(12), 1747–1759. https://doi.org/10.1017/S0033291705006069

Heller, D., Watson, D., & Ilies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin, 130*(4), 574–600. https://doi.org/10.1037/0033-2909.130.4.574

Hendrick, S. S., Dicke, A., & Hendrick, C. (1998). The Relationship Assessment Scale. *Journal of Social and Personal Relationships, 15*(1), 137–142. https://doi.org/10.1177/0265407598151009

Hunt, C., Issakidis, C., & Andrews, G. (2002). DSM-IV generalized anxiety disorder in the Australian National Survey of Mental Health and Well-Being. *Psychological Medicine, 32*(4), 649–659. https://doi.org/10.1017/S0033291702005512

Jackson, J. B., Miller, R. B., Oka, M., & Henry, R. G. (2014). Gender differences in marital satisfaction: A meta-analysis. *Journal of Marriage and Family, 76*(1), 105–129. https://doi.org/10.1111/jomf.12077

Kenny, D.A. (1979). Correlation and causality. New York: Wiley.

Kessler, R. C., Andrews, G., Mroczek, D., Ustun, B., & Hans-Ulrich, W. (1998). The World Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF). *International Journal of Methods in Psychiatric Research, 7*(4), 171–185. https://doi.org/10.1002/mpr.47

Kessler, R. C., Walters, E. E., & Forthofer, M. S. (1998). The social consequences of psychiatric disorders, III: Probability of marital stability. *American Journal of Psychiatry, 155*(8), 1092–1096. https://doi.org/10.1176/ajp.155.8.1092

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin, 136*(5), 768–821. https://doi.org/10.1037/a0020327

Lahey, B. B. (2009). Public health significance of neuroticism. *American Psychologist, 64*(4), 241–256. https://doi.org/10.1037/a0015309

Malivoire, B. L., Mutschler, C., & Monson, C. M. (2020). Interpersonal dysfunction and treatment outcome in GAD: A systematic review. *Journal of Anxiety Disorders, 76*, Article 102310. https://doi.org/10.1016/j.janxdis.2020.102310

McGrath, J. J., Lim, C. C. W., Plana-Ripoll, O., Holtz, Y., Agerbo, E., Momen, N. C., Mortensen, P. B., Pedersen, C. B., Abdulmalik, J., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Bromet, E. J., Bruffaerts, R., Bunting, B., de Almeida, J. M. C., de Girolamo, G., de Vries, Y. A., Florescu, S., & De Jonge, P. (2020). Comorbidity within mental disorders: A comprehensive analysis based on 145990 survey respondents from 27 countries. *Epidemiology and Psychiatric Sciences, 29*, Article E153. https://doi.org/10.1017/S2045796020000633

McLeod, J. D. (1994). Anxiety disorders and marital quality. *Journal of Abnormal Psychology, 103*(4), 767–776. https://doi.org/10.1037/0021-843X.103.4.767

Midi, H., Sarkar, S. K., & Rana, S. (2010). Collinearity diagnostics of binary logistic regression model. *Journal of Interdisciplinary Mathematics, 13*(3), 253–267. https://doi.org/10.1080/09720502.2010.10700699

Mojtabai, R., Stuart, E. A., Hwang, I., Eaton, W. W., Sampson, N., & Kessler, R. C. (2017). Long-term effects of mental disorders on marital outcomes in the National Comorbidity Survey ten-year follow-up. *Social Psychiatry and Psychiatric Epidemiology, 52*, 1217–1226. https://doi.org/10.1007/s00127-017-1373-1

Newman, M. G., & Erickson, T. M. (2010). Generalized anxiety disorder. In J. G. Beck (Ed.), *Interpersonal processes in the anxiety disorders: Implications for understanding psychopathology and treatment* (pp. 235–259). American Psychological Association. https://doi.org/10.1037/12084-009.

Overbeek, G., Vollebergh, W., de Graaf, R., Scholte, R., de Kemp, R., & Engels, R. (2006). Longitudinal associations of marital quality and marital dissolution with the incidence of DSM-III-R disorders. *Journal of Family Psychology, 20*(2), 284–291. https://doi.org/10.1037/0893-3200.20.2.284

Priest, J. B. (2013). Emotionally focused therapy as treatment for couples with generalized anxiety disorder and relationship distress. *Journal of Couple & Relationship Therapy, 12*(1), 22–37. https://doi.org/10.1080/15332691.2013.749763

Rector, N. A., Kamkar, K., Cassin, S. E., Ayearst, L. E., & Laposa, J. M. (2011). Assessing excessive reassurance seeking in the anxiety disorders. *Journal of Anxiety Disorders, 25*(7), 911–917. https://doi.org/10.1016/j.janxdis.2011.05.003

Roemer, L., Molina, S., & Borkovec, T. D. (1997). An investigation of worry content among generally anxious individuals. *The Journal of Nervous and Mental Disease, 185*(5), 314–319. https://doi.org/10.1097/00005053-199705000-00005

Ross, C. E., & Mirowsky, J. (2013). Theory and modeling in the study of intimate relationships and health. *Journal of Health and Social Behavior, 54*(1), 67–71. https://doi.org/10.1177/0022146512474431

Ruscio, A. M., Hallion, L. S., Lim, C., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Andrade, L. H., Borges, G., Bromet, E. J., Bunting, B., Caldas de Almeida, J. M., Demyttenaere, K., Florescu, S., de Girolamo, G., Gureje, O., Haro, J. M., He, Y., Hinkov, H., Hu, C., de Jonge, P., & Scott, K. M. (2017). Cross-sectional comparison of the epidemiology of DSM-5 generalized anxiety disorder across the globe. *JAMA Psychiatry, 74*(5), 465–475. https://doi.org/10.1001/jamapsychiatry.2017.0056

Ryff, C. D., Almeida, D. M., Ayanian, J. Z., Carr, D. S., Cleary, P. D., Coe, C., Davidson, R. J., Krueger, R. F., Lachman, M. E., Marks, N. F., Mroczek, D. K., Seeman, T. E., Seltzer, M. M., Singer, B. H., Sloan, R. P., Tun, P. A., Weinstein, M., & Williams, D. R. (2021). Midlife in the United States (MIDUS 2), 2004-2006. *Inter-University Consortium for Political and Social Research [distributor]*, 2021-09-15. https://doi.org/10.3886/ICPSR04652.v8

Saha, S., Lim, C. C. W., Cannon, D. L., Burton, L., Bremner, M., Cosgrove, P., Huo, Y., & McGrath, J. J. (2021). Co-morbidity between mood and anxiety disorders: A systematic review and meta-analysis. *Depression and Anxiety, 38*(3), 286–306. https://doi.org/10.1002/da.23113

Salzer, S., Pincus, A. L., Hoyer, J., Kreische, R., Leichsenring, F., & Leibing, E. (2008). Interpersonal subtypes within generalized anxiety disorder. *Journal of Personality Assessment, 90*(3), 292–299. https://doi.org/10.1080/00223890701885076

Schuster, T. L., Kessler, R. C., & Aseltine, R. H. (1990). Supportive interactions, negative interactions, and depressed mood. *American Journal of Community Psychology, 18*(3), 423–438. https://doi.org/10.1007/BF00938116

Scott, K. M., Wells, J. E., Angermeyer, M., Brugha, T. S., Bromet, E., Demyttenaere, K., de Girolamo, G., Gureje, O., Haro, J. M., Jin, R., Karam, A. N., Kovess, V., Lara, C., Levinson, D., Ormel, J., Posada-Villa, J., Sampson, N., Takeshima, T., Zhang, M., & Kessler, R. C. (2010). Gender and the relationship between marital status and first onset of mood, anxiety and substance use disorders. *Psychological Medicine, 40*(9), 1495–1505. https://doi.org/10.1017/S0033291709991942

South, S. C. (2021). Pathology in relationships. *Annual Review of Clinical Psychology, 17*(1), 577–601. https://doi.org/10.1146/annurev-clinpsy-081219-115420

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*(1), 15–28. https://doi.org/10.2307/350547

Spikic, S., & Mortelmans, D. (2021). A preliminary meta-analysis of the Big Five Personality traits' effect on marital separation. *Journal of Divorce & Remarriage, 62*(7), 551–571. https://doi.org/10.1080/10502556.2021.1993018

Vesga-López, O., Schneier, F. R., Wang, S., Heimberg, R. G., Liu, S. M., Hasin, D. S., & Blanco, C. (2008). Gender differences in generalized anxiety disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Journal of Clinical Psychiatry, 69*(10), 1606–1616. https://psycnet.apa.org/doi/10.4088/JCP.v69n1011.

Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships, 17*(1), 5–30. https://doi.org/10.1177/0265407500171001

Whisman, M. A. (1999). Marital dissatisfaction and psychiatric disorders: Results from the National Comorbidity Survey. *Journal of Abnormal Psychology, 108*(4), 701–706. https://doi.org/10.1037/0021-843X.108.4.701

Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology, 116*(3), 638–643. https://doi.org/10.1037/0021-843X.116.3.638

Whisman, M. A., Beach, S. R. H., & Davila, J. (2023). Couple therapy for depression or anxiety. In J. L. Lebow, & D. K. Snyder (Eds.), *Clinical handbook of couple therapy* (6, pp. 576–594). Guilford Press.

Whisman, M. A., & Li, A. (2015). Assessment of positive and negative relationship adjustment in marriage. *Personal Relationship, 22*(4), 679–691. https://doi.org/10.1111/pere.12103

Whisman, M. A., Robustelli, B. L., & Labrecque, L. T. (2018). Specificity of the association between marital discord and longitudinal changes in symptoms of depression and generalized anxiety disorder in The Irish Longitudinal Study on Ageing. *Family Process, 57*(3), 649–661. https://doi.org/10.1111/famp.12351

Whisman, M. A., Salinger, J. M., Gilmour, A. L., Steele, B. A., & Snyder, D. K. (2021). Love and war: Prospective associations between relationship distress and incidence of psychiatric disorders in active-duty Army personnel. *Journal of Abnormal Psychology, 130*(1), 3–8. https://doi.org/10.1037/abn0000642

Whisman, M. A., Sbarra, D. A., & Beach, S. R. H. (2021). Intimate relationships and depression: Searching for causation in the sea of association. *Annual Review of Clinical Psychology, 17*(1), 233–258. https://doi.org/10.1146/annurev-clinpsy-081219-103323

Whisman, M. A., Sheldon, C. T., & Goering, P. (2000). Psychiatric disorders and dissatisfaction with social relationships: does type of relationship matter. *Journal of Abnormal Psychology, 109*(4), 803–808. https://doi.org/10.1037/0021-843X.109.4.803

Woody, S., & Rachman, S. (1994). Generalized anxiety disorder (GAD) as an unsuccessful search for safety. *Clinical Psychology Review, 14*(8), 743–753. https://doi.org/10.1016/0272-7358(94)90040-X

World Health Organization. (2017). Depression and other common mental disorders: Global health estimates. World Health Organization.

Zinbarg, R. E., Lee, J. E., & Yoon, K. L. (2007). Dyadic predictors of outcome in a cognitive-behavioral program for patients with generalized anxiety disorder in committed relationships: a "spoonful of sugar" and a dose of non-hostile criticism may help. *Behaviour Research and Therapy, 45*(4), 699–713. https://doi.org/10.1016/j.brat.2006.06.005