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The Association between Relationship Distress and Psychopathology is Consistent across Racial and Ethnic Groups

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Abstract

The association between intimate relationship discord and DSM-IV Axis I psychiatric disorders has been described in studies that oversampled White participants; however, the racial and ethnic differences in marital distress and divorce as well as in prevalence rates of some forms of psychopathology led us to hypothesize that the association between relationship discord and psychopathology would vary across races and ethnicities. Relationship quality and psychopathology were assessed in three national surveys (the National Comorbidity Survey Replication, the National Latino and Asian American Study, and the National Survey of American Life), for a total sample size of 10,057. We found that the log odds of being diagnosed with both narrow-band (e.g., major depressive disorder) and broad-band disorders (e.g., mood disorder) were negatively associated with relationship quality consistently across 11 different racial and ethnic groups. We discuss the implications of the cross-cultural reliability of the association between relationship discord and psychopathology in the context of etiological models and culturally competent practices.

Keywords

racial and ethnic groups; marriage; satisfaction; discord; mental disorders; psychopathology; marital distress

Whisman (2007) found that higher marital quality was associated with lower risk of being diagnosed with all but one of the most prevalent Axis I psychiatric disorders (from the *Diagnostic and Statistical Manual of Mental Disorders, 4th ed.; DSM-IV*; American Psychiatric Association, 1994). Indeed, it appears that psychiatric disorders are more strongly associated with intimate relationship quality than with the quality of other relationships, such as family and friends (e.g., Whisman, Sheldon, & Goering, 2000), and that relationship distress often precedes the onset of psychopathology (e.g., Overbeek et al., 2006). The consequences of the association between marital discord and psychopathology is

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Table 1 is in supplementary online-only material.

Figures 1-16 are in the supplementary online-only material.

made all the more stark by examining the association between relationship discord and suicidal ideation (Langhinrichsen-Rohling, Snarr, Slep, Heyman, & Foran, 2011) and completion (Stander, Hilton, Kennedy, & Robbins, 2004). Thus, it seems that intimate relationship quality plays an important role in understanding psychopathology.

Despite the robust replications of the association between marital quality and mental health, it is unclear whether the magnitude of the association is cross-cultural. For example, Whisman's (2007) findings were limited because the population-based survey used in his study (the National Comorbidity Survey Replication, NCS-R; Kessler et al., 2004) oversampled non-Hispanic Whites. This unintentional sampling problem is consistent with most of the research literature examining the association between intimate relationship quality and mental health, which has sampled predominantly White participants (cf. Hollist, Miller, Falceto, & Fernandes, 2007).

While the problem of racially and ethnically homogenous sampling is endemic to psychology, the problem is of particular concern in this domain because there are documented racial and ethnic differences in the prevalence of common DSM-IV psychiatric disorders (Breslau et al., 2006), levels of intimate relationship quality (Adelmann, Chadwick, & Baerger, 1996), and rates of relationship dissolution (Bramlett & Mosher, 2002). The presence or absence of the marital quality-psychopathology association in various ethnic and racial groups has implications beyond clinical psychology because improved marital functioning among specific racial and ethnic groups has been proposed as part of the solution to issues associated with psychopathology by researchers, policy makers, and the media (e.g., Administration for Children and Families, 2005; O'Reilly, 2013; for a discussion of these issues, see Johnson, 2012). Therefore, we briefly outline racial and ethnic differences in psychopathology and relationship quality.

With regard to differences in prevalence rates of psychopathology, some ethnic groups have a lower-than-expected lifetime risk of developing common Axis I disorders compared to Whites. For example, Hispanics have a lower risk of depression, dysthymia, generalized anxiety disorder, and social phobia than non-Hispanic Whites (Breslau, Kendler, Su, Gaxiola-Aguilar, & Kessler, 2005); in addition, African Americans have the same or lower risk of affective disorders compared with Whites (Breslau et al., 2006). The lower rates of some types of psychopathology among Hispanics and African Americans (and other ethnic minorities) is especially interesting in light of evidence that they are exposed to higher levels of stress (e.g., Wilson, 2009).

In addition to differences in the risk of psychopathology, there are also substantial racial and ethnic differences in the average quality of intimate relationships. The most striking example of these differences is that, compared to other racial groups, African Americans characterize their spouses more negatively, report lower marital satisfaction, are more likely to dissolve their marriages (although, their risk of separation or divorce dropped to that of Whites when controlling for marital quality), and are less likely to marry (e.g., Bryant, Taylor, Lincoln, Chatters, & Jackson, 2008; Martin, Hamilton, Osterman, Curtin, & Mathews, 2013).

The fact that some racial and ethnic groups, most notably African Americans, have lower prevalence rates of some forms of psychopathology as well as higher rates of marital discord and divorce would appear to contradict the findings from predominantly White samples that psychopathology and marital discord are positively associated (Whisman, 2007). Therefore, we tested whether the strength of the association between relationship quality and DSM-IV psychiatric diagnoses differed among 11 racial and ethnic groups. We expected to find differences between some of the groups, specifically we hypothesized that the association would be weaker for African Americans than for Whites.

Methods

Samples

The data were comprised of the following three nationally representative surveys: the National Survey of American Life (NSAL; Jackson et al., 2004), the National Latino and Asian American Study (NLAAS; Alegria et al., 2004), and the NCS-R (Kessler et al., 2004). See Figure 1 (in supplemental online-only material) for the sample sizes and a description of the racial, ethnic, and gender make up of the samples. Because we were interested in relationship quality, only the participants who were cohabitating with an intimate partner or married were included. In addition, only those who responded to every item pertaining to our relationship quality scale were included in the principal analyses ($N = 10,057$). Brief descriptions of each of the three samples follow.

The NSAL is a multistage probability study of Black populations compared to White populations living in the same communities. The NSAL sampled English-speaking adults ages 18 and older who were African American, Afro-Caribbean, or White (non-Hispanic), with an overall response rate of 72.3%. Black participants were identified as African Americans if they did not have ancestral ties to the Caribbean and as Afro-Caribbean if they self-identified as having Caribbean ancestry. The mean age of the NSAL sample was 41.5 years ($SD = 14.3$; for a detailed discussion of the NSAL sample, see Jackson et al., 2004).

The NLAAS is similar to the NSAL but oversampled Latinos and Asian Americans. The target populations included four Latino populations (Cuban, Mexican, Puerto Rican, and other), with a response rate of 75.5%; four Asian American populations (Filipino, Vietnamese, Chinese, and other), with a response rate of 65.6%; and a control sample of non-Hispanic, non-Asian Whites (not included in our analyses). The mean age of the NLAAS sample was 42.1 years ($SD = 13.5$; for a detailed discussion of the NLAAS sample, see Alegria et al., 2004).

The NCS-R is a probability sample of English-speaking adults age 18 and older in the United States, with a 70.9% response rate. Face-to-face interviews were conducted between 2001 and 2003, and a randomly selected subset of married individuals was asked additional questions about their marriage (with a 99% completion rate for this section). This subset comprised the only NCS-R data we included in our analyses. The mean age of the NCS-R was 46.1 years ($SD = 15.4$; for a detailed discussion of the NCS-R sample, see Kessler et al., 2004).

Measures

Relationship quality—A scale was developed from a pool of questions in each dataset to measure relationship quality. These items asked about different aspects of the respondents' current intimate relationships (e.g., amount of time spent arguing). Many of these items are represented on the Dyadic Adjustment Scale (DAS; Spanier, 1976) as well as the Couples Satisfaction Index (CSI), a measure of relationship satisfaction that includes only the items with the best psychometric properties from many relationship satisfaction measures (Funk & Rogge, 2007).

The relationship quality scale for the NCS-R was comprised of 22 items. Fourteen of these items were from the DAS. One item, assessing the overall quality of the relationship, was rated on a 10-point Likert scale (0 = “worst possible” and 10 = “the best”). The remaining items assessed participants' satisfaction with various aspects of their relationship (e.g., “How much does your partner/spouse really care about you?”). Thirteen of these items were rated on a 4-point Likert scale and eight items were rated on a 5-point Likert scale.

The relationship quality scale for the NLAAS was comprised of nine items. One item, assessing the overall quality of the relationship, was rated on a 10-point Likert scale (0 = “worst possible” and 10 = “the best”). The eight remaining items assessed specific aspects of the relationship (e.g., “How much does your partner understand the way you feel?”) and were rated on a 4-point Likert-type scale.

The relationship quality scale for the NSAL was comprised of three items. One item, assessing the overall quality of the current relationship, was rated on a 4-point Likert scale. The remaining two items, which asked about relationship problems and how much they affected the participant, were rated on a 3-point Likert scale.

For each relationship quality scale, some items were recoded so that higher values represented higher levels of relationship quality. All items were standardized and averaged. A constant was added to make the minimum score zero. Inter-item reliability for all of the scales was satisfactory: $\alpha = .90$, $.85$, and $.62$, for the NCS-R, NLAAS, and NSAL, respectively. Each alpha was different from the other as tested with the Feldt (1969) test, but this was most likely a result of differences in the number of items (Osburn, 2000).

Psychiatric diagnoses—Psychiatric diagnoses were based on the World Health Organization's World Mental Health Survey Initiative version of the Composite International Diagnostic Interview (Kessler & Üstün, 2004), which generated 12-month diagnoses based on DSM-IV Axis-I criteria. Organic exclusion rules were used in making diagnoses. Diagnostic hierarchy rules were used in making all diagnoses, with the exception of substance use disorders.

Financial strain—Financial strain was measured in each dataset with one item that asked about the amount of difficulty paying monthly bills. This item was rated on a five-point Likert scale and was recoded so that higher values reflected greater financial strain (e.g., 1 = “not at all difficult”, 5 = “extremely difficult”).

Data Analyses

Logistic regression was used to evaluate the association between relationship quality and 12-month psychiatric diagnoses, with the likelihood of a psychiatric diagnosis being regressed onto relationship quality after controlling for age, sex, and financial strain. Analyses were performed separately for each sample because of the different relationship quality scales. The analyses were then replicated using standardized scores of the one-item measure of relationship quality that was used in all three surveys. Similar to Whisman (2007), the exponential of the logistic coefficient was computed for each analysis (expressed as an odds ratio) as well as the Logit d . Psychiatric diagnoses were measured in terms of specific disorders (e.g., generalized anxiety disorder) as well as classes of disorders (e.g., any anxiety disorder). As we were also interested in the strength of the association between relationship quality and psychiatric diagnoses for each ethnicity, the above analyses were then repeated for each ethnicity that was oversampled in their respective survey (e.g., African Americans in the NSAL).

Results

In each dataset, increased relationship quality was associated with a decreased risk of being diagnosed with all broad-band classifications (i.e., any disorder, any anxiety disorder, any mood disorder, and any substance use disorder) controlling for gender, age, and financial strain. This association was also found in the majority of the specific diagnoses within each broad-band class of disorders (across the three samples exceptions emerged in different samples for panic disorder, agoraphobia, and drug abuse/dependence). The magnitude of the associations did not differ across the three samples, as indicated by the nonoverlapping 95% confidence intervals of the odds ratios. Overall, the sample level results were similar to Whisman's (2007) results (see Table 1 in online-only material for details).

Next, we performed the above analyses separately for each ethnicity that was oversampled in their respective dataset (e.g., African Americans in the NSAL). To save journal space, only effect sizes (Logit d) for each association are presented for these analyses (see Tables 2, 3 and 4, see also Figures 2-16 in the supplementary online-only materials). The odds of being diagnosed with broad-band psychiatric disorders (i.e., any anxiety disorder, any mood disorder, any substance use disorder, or any disorder) as a function of relationship quality did not vary across races or ethnicities, as demonstrated by examining whether the 95% confidence intervals of the odds ratios overlapped. In addition, there were no inter-race or inter-ethnic differences (using the same procedure) for narrow-band disorders when there were more than 20 participants in each of the cells. As a check on potential sample effects, we separately examined the association in Whites from both the NCS-R and the NSAL, which did not differ from each other on any broad- or narrow-band disorders (see Figures 2-16 in the supplementary online-only materials).

Finally, the above analyses were performed again using a one-item measure of relationship quality (the item asking about overall satisfaction with the relationship) that was common to each survey and that allowed the analyses to be run after combining the three samples. The results paralleled those obtained using the full-scale measures of relationship quality. Specifically, greater relationship quality was associated with a significantly lower risk of

being diagnosed with all broad-band classifications of psychiatric disorders. Greater relationship quality was also associated with all narrow-band disorders except specific phobias and agoraphobia without panic attacks. As with the prior analyses, the one-item measure of relationship quality yielded no cross-race nor cross-ethnic differences for either broad-band classifications or narrow-band classifications with more than 20 participants being diagnosed with the disorder.

Discussion

The aim of this study was to replicate and extend Whisman's (2007) examination of the association between intimate relationship quality and Axis I psychopathology by measuring the association across ethnically and racially diverse samples. Our findings were nearly identical to Whisman's findings using the same dataset he used, the NCS-R, but with a more comprehensive measure of relationship quality. We also extended his findings by describing cross-race and cross-ethnicity consistency in the odds of being diagnosed with psychiatric disorders as a function of relationship quality in two additional samples. In summary, the data we presented did not support our hypothesis that the magnitude of the association would be weaker for African Americans, rather the data support the likelihood that the association between relationship quality and mental illness is cross-cultural.

The correlational and cross-sectional aspects of the data preclude drawing conclusions about the causal direction of the association. It will require prospective data to determine whether relationship quality offers partial "protection" from psychopathology or whether psychologically healthy individuals are more likely to be "selected" into satisfying intimate relationships. Although there are longitudinal studies that support the selection model with physical health (e.g., Lipowicz, 2014) and that highlight the contagion effects of psychopathology within an intimate relationship (Joutsenniemi, Moustgaard, Koskinen, Ripatti, & Martikainen, 2011), there are also studies that describe the protective effects of marriage on mental health (e.g., Horn, Xu, Beam, Turkheimer, & Emery, 2013). Therefore, it is quite likely that causality between relationship discord and psychopathology is bidirectional. The data we presented, while not addressing causality, offer no reason to believe that the direction of the effect will vary by race or ethnicity. Indeed, there are cross-cultural studies that describe potential mechanisms by which relationship functioning may moderate the association between race-specific stressors, such as perceived discrimination, and mental health (e.g., Chung and Epstein, 2014; McNeil, Fincham, & Beach, 2014).

Beyond etiology, we also found no reason to question the cross-cultural efficacy of couple therapy as a treatment for depression (Gupta, Coyne, & Beach, 2003), alcoholism (e.g., McCrady, Epstein, Cook, Jensen, & Hildebrandt, 2009), and other disorders (e.g., Daiuto, Baucom, Epstein, & Dutton, 1998). Therefore, the consistency of the association across races and ethnicities may inform clinicians wanting to use evidence-based care in a culturally competent practice (for a review of cultural competence in treating mental illness, see Huey, Tilley, Jones, & Smith, 2014).

Our results should be interpreted in light of the methodological limitations. First, as we noted previously, the data we presented are cross-sectional and correlational, thus subject to

issues of response bias and preventing causal conclusions from being drawn. Second, it is possible that the scales from the different samples captured different aspects of intimate relationship quality. We addressed this limitation by replicating the results by using a single-item measure of relationship quality that was common to each dataset, describing the similarity of the results of White participants in both the NSAL and NCS-R, and describing the internal reliability of each scale. None of these findings suggest that measurement differences across samples adversely impacted the findings. Third, the low prevalence rates of some disorders may be an indication of underreporting in these samples and limited our ability to draw conclusions about many of the specific disorders. This was particularly true for prevalence rates of substance use disorders, which were well below those reported by others (e.g., Hasin, Stinson, Ogburn, & Grant, 2007). As such, we urge caution in interpreting the findings regarding substance use.

Despite these limitations, the current study had several strengths. First and foremost, the large and diverse samples allowed us to expand on Whisman's (2007) findings while answering a frequently repeated call for research that informs cultural competence (e.g., Huey et al., 2014). Second, we were able to evaluate the association between relationship quality and specific diagnoses of psychiatric disorders as opposed to general psychological distress. Third, we were able to improve upon the relationship quality scale used in Whisman's study by adding nine additional items to the analyses using the NCS-R. These strengths give us more confidence in the replicability and generalizability of our findings.

In conclusion, relationship quality was associated with broad-band and most narrow-band classifications of common DSM-IV Axis I psychological disorders. This effect was consistent across races and ethnicities. Although our results suggest that there may be no cross-cultural differences in the etiology of the association or in the efficacy of treating psychopathology with couple therapy, longitudinal and treatment outcome studies are required to test these ideas.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 2
Associations (Logit *d*) between Relationship Quality and Likelihood of an Anxiety Diagnosis

	Any Anxiety DO	GAD	Panic DO	PTSD	Social Phobia	Specific Phobia	Agoraphobia
Overall samples							
NSAL	-0.28**	-0.27**	-0.31**	-0.23**	-0.27**	N/A	-0.24**
NLAAS	-0.27**	-0.30**	-0.22*	-0.27**	-0.30**	N/A	-0.18
NCS-R	-0.24**	-0.37**	-0.18	-0.36**	-0.17**	-0.21**	0.08
Ethnicity/Race							
NSAL							
African American	-0.28**	-0.31	-0.28**	-0.24**	-0.30**	N/A	-0.18*
Afro-Caribbean	-0.31**	-0.29*	-0.36**	-0.24**	-0.26**	N/A	-0.41*
NLAAS							
Chinese	-0.73 ^A	-0.25 ^A	-0.75 ^A	-0.07 ^A	0.00 ^A	N/A	----
Filipino	-0.39 ^A	----	-0.54 ^A	-1.77 ^A	-0.69 ^A	N/A	-0.65 ^A
Vietnamese	0.14 ^A	-0.34 ^A	0.35 ^A	0.28 ^A	0.14 ^A	N/A	----
All Other Asian	-0.41*	-0.24 ^A	-0.75 ^A	-0.67 ^A	0.12 ^A	N/A	----
Cuban	-0.15	-0.30 ^A	-0.15 ^A	-0.07 ^A	-0.45** ^A	N/A	0.01 ^A
Mexican	-0.30*	-0.29 ^A	-0.28 ^A	-0.15 ^A	-0.29*	N/A	-0.13 ^A
Puerto Rican	-0.31*	-0.02 ^A	-0.08 ^A	-0.25 ^A	-0.24 ^A	N/A	0.12 ^A
All other Hispanic	-0.26*	-0.62 ^A	0.12 ^A	-0.36 ^A	-0.44** ^A	N/A	-0.39 ^A
NSAL & NCS-R							
White (NSAL)	-0.24**	-0.17	-0.39**	----	-0.23**	N/A	-0.15
White (NCS-R)	-0.28**	-0.44**	-0.17**	-0.43**	-0.13**	-0.17*	0.21

Note. Dashes indicate that fewer than five participants reported being diagnosed with this disorder, so the analysis was not included in the results.

^AResults obtained with an $n < 20$ participants who reported being diagnosed with this disorder. N/A = this diagnosis was not assessed in this study; NSAL = National Survey of American Life; NLAAS = National Latino and Asian American Study; NCS-R = National Comorbidity Survey Replication; DO = disorder; GAD = generalized anxiety disorder; PTSD = posttraumatic stress disorder.

* $p < .05$,

** $p < .01$, two-tailed.

Table 3
Associations (Logit *d*) between Relationship Quality and Likelihood of a Mood Diagnosis

	Any Mood DO	MDD	Dysthymia	Bipolar I or II
Overall samples				
NSAL	-0.34 **	0.29 **	0.22 **	-0.43 **
NLAAS	-0.35 **	-0.41 **	-0.54 **	N/A
NCS-R	-0.37 **	-0.22 **	-0.24 **	-0.56 **
Ethnicity/Race				
NSAL				
African American	-0.33 **	-0.27 **	-0.22 **	-0.31 **
Afro-Caribbean	-0.38 **	-0.33 **	0.23	-0.55
NLAAS				
Chinese	-0.57 ** ^A	-0.90 * ^A	-1.62 * ^A	N/A
Filipino	0.40 ^A	-0.33 ^A	-0.76 ^A	N/A
Vietnamese	-0.85 ^A	1.33 ** ^A	-1.06 ^A	N/A
All Other Asian	-0.27 ** ^A	-0.73 ** ^A	-1.23 * ^A	N/A
Cuban	-0.14	-0.14	-0.38 ^A	N/A
Mexican	-0.33 **	-0.31 **	-0.53 * ^A	N/A
Puerto Rican	-0.38 *	-0.31 * ^A	-0.07 ^A	N/A
All other Hispanic	-0.55 ** ^A	-0.61 ** ^A	-0.55 ** ^A	N/A
NSAL & NCS-R				
White (NSAL)	-0.34 **	-0.40 **	-0.39 **	0.44
White (NCS-R)	-0.38 **	-0.25 **	-0.18	-0.38 *

Note. Dashes indicate that fewer than five participants reported being diagnosed with this disorder, so the analysis was not included in the results.

^AResults obtained with an $n < 20$ participants who reported being diagnosed with this disorder. NSAL = National Survey of American Life; NLAAS = National Latino and Asian American Study; NCS-R = National Comorbidity Survey Replication; DO = disorder; MDD = major depressive disorder; N/A = this diagnosis was not assessed in this study.

* $p < .05$,

** $p < .01$, two-tailed.

Table 4
Associations (Logit *d*) between Relationship Quality and Likelihood of a Substance-use or Any Axis-I Diagnosis

	Any Substance use DO	Alcohol use DO	Drug use DO	Any Disorder
Overall samples				
NSAL	-0.19**	-0.25**	-0.23*	-0.31**
NLAAS	-0.50**	-0.56**	-0.12	-0.27**
NCS-R	-0.33**	-0.46**	-0.29*	-0.45**
Ethnicity/Race				
NSAL				
African American	-0.12	-0.18*	-0.22*	-0.39**
Afro-Caribbean	-0.27	-0.57	-0.10	-0.39**
NLAAS				
Chinese	-0.99 ^A	-1.17 ^A	----	-0.40* ^A
Filipino	-0.27 ^A	-0.63 ^A	----	-0.22 ^A
Vietnamese	0.20 ^A	0.31 ^A	----	-0.26 ^A
All Other Asian	----	----	----	-0.40
Cuban	-0.48 ^A	-0.68	0.22 ^A	-0.28*
Mexican	-0.50* ^A	-0.45 ^A	0.21 ^A	-0.30**
Puerto Rican	-0.87* ^A	-0.70* ^A	----	-0.87
All other Hispanic	-0.76 ^A	0.76 ^A	----	-0.26*
NSAL & NCS-R				
White (NSAL)	----	----	----	-0.33**
White (NCS-R)	-0.40*	-0.54**	-0.29	-0.28**

Note. Dashes indicate that fewer than five participants reported being diagnosed with this disorder, so the analysis was not included in the results.

^A Results obtained with an $n < 20$ participants who reported being diagnosed with this disorder. NSAL = National Survey of American Life; NLAAS = National Latino and Asian American Study; NCS-R = National Comorbidity Survey Replication; DO = disorder.

* $p < .05$,

** $p < .01$, two-tailed.