Complex Assessment of Relationship Quality within Dyads

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Abstract

Aims: Higher quality relationships have been linked to improved outcomes; however, measurement of relationship quality often ignores its complexity and the possibility of co-occurring positivity and negativity across different contexts. The goal of this paper is to test the added benefit of including multiple dimensions, contexts, and perspectives of relationship quality from both individuals in predicting marital functioning.

Methods: The Social Relationships Index assessed positive and negative dimensions of relationship quality under neutral, positive, and support seeking-contexts for 183 heterosexual married couples.

Results: Models showed that the inclusion of multiple dimensions of relationship quality across all three contexts improved prediction of marital functioning for both women and men.

Conclusion: The use of multidimensional, multi-contextual relationship quality assessments is highly recommended.

Keywords

Actor-Partner Interdependence Model; context; spouses; relationship quality

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Social relationships can have broad influence on our lives, impacting both psychological and physical health, and even mortality (Berkman, Glass, Brissette, & Seeman, 2000; Holt-Lunstad, Smith, & Layton, 2010; Rook, Luong, Sorkin, Newsom, & Krause, 2012; Uchino, Holt-Lunstad, Smith, & Bloor, 2004). Kiecolt-Glaser and Newton (2001) outline the mechanisms involved in this process, such that direct and indirect pathways lead from relationship quality to marital functioning, to psychological and behavioral factors, to biological systems and health. A meta-analysis by Holt-Lunstad and colleagues (2010) indicated the strongest effects of social relationships on health outcomes have been seen when multidimensional assessments were used, especially when compared to studies that use a simple binary measure of social integration, such as "living alone" or not. Holt-Lunstad et al. also noted that there was a lack of consideration to relationship *quality* in much of previous research. The assumption that all relationships are wholly positive likely means their findings of the protective effects of relationships are conservative (Holt-Lunstad et al., 2010). As such, the authors urge researchers studying social relationships to use multiple or more complex measures.

Using two dimensions of relationship quality provides more predictive power and specificity than solely relying on one dimension (Fincham, & Linfield, 1997; Mattson, Paldino, & Johnson, 2007; Uchino, Holt-Lunstad, Uno, & Flinders, 2001). Figure 1 illustrates the general conceptual framework by incorporating both positivity and negativity, and the Social Relationship Index (SRI; Campo et al., 2009) is a particularly useful measure as it assesses both positivity and negativity across a variety of contexts for any given social relationship. Specifically, when using the SRI, participants rate their relationship partner based on how helpful (i.e., positive) and upsetting (i.e., negative) the partner is in a neutral context (routine daily interactions), a positive context (when a partner is excited, happy, or proud), and a support-seeking context (when a partner is in need of understanding, advice, or a favor). In each of these contexts, relationships can be categorized as supportive, aversive, indifferent, or ambivalent. Supportive relationships are those rated high in positivity *and* low in negativity; this tracks with the extreme "good" end of a unidimensional measure. Aversive relationships are those rated low in positivity *and* high in negativity; this tracks with the extreme "bad" end of a unidimensional measure. However, a two-dimensional approach allows for more nuance in relationship quality than is captured on one dimension. Specifically, indifferent relationships are those rated low in both positivity *and* negativity while ambivalent relationships are those rated high in both positivity *and* negativity. We primarily discuss supportive and ambivalent relationships below; it is rare for indifferent or aversive ties to be found in important, successful relationships, such as romantic partners (Uchino, Holt-Lunstad, Uno & Flinders, 2001).

Using the SRI and its two-dimensional conceptual framework of measuring relationship positivity and negativity has resulted in a number of interesting findings regarding social networks and their relevance to health. First, social networks are comprised of approximately equivalent numbers of supportive and ambivalent relationships (Uchino et al., 2004). Next, supportive and ambivalent relationships have unique impacts on a variety of psychological and physical outcomes (Birmingham, Uchino, Smith, Light, & Sanbonmatsu, 2009; Holt-Lunstad, Uchino, Smith, & Hicks, 2007; Uchino et al., 2012; Vaughn, Drake, & Haydock, 2016). That is, including ambivalence in models of health provides better

prediction above and beyond models with purely positive (supportive) and purely negative (aversive) measures (Herr et al., 2019; Holt-Lunstad et al., 2010).

In addition to multiple dimensions of relationship quality (i.e., positivity and negativity), researchers often fail to adequately account for different contexts in their assessment of relationships. Although there may be stable individual differences in relationship characteristics, such as social support (Sarason, Sarason, & Shearin, 1986), different situations may elicit different patterns of behavior from the same actor (Mischel & Shoda, 1995), which can result in unique outcomes. By evaluating different contexts, the SRI captures an even more nuanced assessment of how stressful situations and opportunities for capitalization operate within a relationship. For instance, Uchino et al. (2013) found relationship quality in a support-seeking context was the most consistent predictor of inflammation compared to a positive context or neutral/daily interaction context. In contrast, positive emotions that couples exhibited during a positive discussion task, but not a conflict task, predicted longitudinal relationship satisfaction (Graber, Laurenceau, Miga, Chango, & Coan, 2011). Research has even identified differences in cardiovascular outcomes based on relationship quality in neutral situations (Holt-Lunstad et al., 2007).

Measuring relationship quality is complex, requiring attention to multiple dimensions and multiple contexts and reports from multiple people. Without this complexity, research studies focused on close relationships can lose power to identify important effects. However, researchers must balance predictive gains with statistical penalties for redundant measures. Further, researchers also must be mindful of participant burden associated with long questionnaires. To date there is no empirical guidance on the appropriate statistical level of complexity for relationship quality measures.

Therefore, the primary aim of this paper is to explore the added predictive benefit of including multiple dimensions, contexts, and reports of relationship quality from both individuals within a dyad (i.e., wife and husband in a married couple). While there are many robust measures of relationship quality, the SRI is used as our relationship quality measure for this analysis because of its ability to capture positivity and negativity in multiple contexts across both individuals in a dyad in discrete items. We use marital functioning as our outcome for this analysis based on the conceptual framework used in Kiecolt-Glaser and Newton's review of pathways leading from marital relationships to physical health (2001). In this framework, relationship quality leads directly to relationship functioning, which ultimately influences biological systems and physical health outcomes. However, it is worth noting that relationship quality and marital functioning are distinct constructs (cf. communication, Fincham & Bradbury, 1987). We hypothesize that data from both husbands and wives will add predictive value, data across relationship dimensions (i.e., positivity, negativity, ambivalence) will add predictive value, and data across context will add predictive value when assessing relationship functioning. We will also explore how much predictive value adding additional information (multiple dimensions and contexts) about relationship quality to a dyadic model assessing relationship functioning.

Method

Participants

Secondary analyses were conducted on a merged set of three datasets collected from married couples. Details on individual datasets are available elsewhere: Dataset #1 included 56 couples (Birmingham, Wadsworth, Hung, Li & Herr, 2019), Dataset #2 included 32 couples (Kaseda, Birmingham, Kirwan et al, 2017), and Dataset #3 included 95 couples (Uchino, Bosch, Smith, et al, 2013). Data were collected in each dataset in the same fashion and the three datasets were merged to increase statistical power. For inclusion of study data in analysis, relationship quality data collected from the SRI and marital functioning data (detailed below) had to be collected from both spouses within the same couple prior to any study tasks. Individual study inclusion criteria varied, but all included generally healthy adult couples (e.g., no cardiovascular disease). All studies were approved by an Institutional Review Board at the corresponding location.

Data from 183 heterosexual married couples (366 individuals) were analyzed. Overall, couples had been married an average of 15.70 years ($SD = 23.36$; range 1.60–54.25 years). Husbands were on average slightly older ($M = 42.64$, $SD = 5.92$) than wives ($M = 40.48$, $SD = 5.79$ years old). Ninety-one percent of individuals were white and well-educated, with 60% having obtained at least a college degree.

Measures

Participants completed a demographic information questionnaire and the Locke-Wallace Marital Adjustment Test (MAT; Locke & Wallace, 1959), a widely-used 15-item questionnaire designed to capture marital functioning across a number of broad areas including general happiness, areas of agreement/disagreement, and communication preferences ($\alpha = .80$). This questionnaire has been shown to discriminate couples with high levels of distress (O'Leary & Turkewitz, 1978). Most MAT scores were above the 100-point threshold for distressed couples (less than 24%) indicating most couples were non-distressed, though there was variability. Wife scores ranged from 44 to 156 ($M = 117.70$, $SD = 23.80$) while husband scores ranged from 35 to 158 ($M = 117.31$, $SD = 24.56$) which is comparable to other studies (Kouros & Cummings, 2010; South, Turkheimer, & Oltmanns, 2008).

Participants also completed the Social Relationships Index (SRI; Campo et al., 2009). As described above, this measure is ideal for the predictors in this analysis because it was designed to assess relationship quality on multiple dimensions and using multiple discrete contexts. The SRI assesses the perception of an individual within three differently-valenced contexts. These include a neutral context of routine daily interactions, a positive context, such as when one is happy, excited, or proud, and a support-seeking context, such as when one needs understanding, advice, or a favor. The SRI can be directed to assess a particular individual, such as one's spouse or numerous members within a larger social network. For all three datasets, participants answered the items about their spouse. Respondents are asked to separately rate an individual in terms of how helpful and upsetting they are (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *moderately*, 5 = *very*, 6 = *extremely*) within each of three

contexts (totaling six items). These items took the form: "[When you need support such as advice, understanding or a favor/During routine daily interactions/When you are excited, happy, or proud], how [helpful/upsetting] is your spouse?"

Spousal ambivalence was calculated using the Griffin formula (Thompson, Zanna, & Griffin, 1995): $(P + N)/2 - |P - N|$, where P = Positivity (i.e., helpful score) and N = Negativity (i.e., upsetting score). Ambivalence scores are higher if both positivity and negativity scores are both high (e.g., ratings of 6 and 6 would yield a score of 6). The SRI has moderate to high test-retest reliability and generalizability across contexts (rs range from .59 to .72), as well as good convergent and discriminant validity (Campo et al., 2009).

Results

Descriptive Data

See Table 1 for means, standard deviations, and measures of nonindependence for all variables of interest for wives and husbands. Generally, spouses were rated as moderately to very positive (means range between 4.37 and 5.01) and a little negative (means range between 2.05 and 2.33). Table 2 presents the correlations among all variables within the wives (below the diagonal) and within the husbands (above the diagonal), while Table 3 presents the correlations between the wives and husbands.

Analytic Strategy

To incorporate both spouses within the same model, the Actor-Partner Interdependence Model (APIM) framework (Kenny, 1996) was tested in M*plus* (Muthén & Muthén, 2016). *Actor effects* are the effects of one's own ratings of relationship quality on their own marital functioning while *partner effects* are the effects of one's partner's ratings of relationship quality on their own marital functioning. Using spouses in this study, an *actor effect* would be the wife's rating of relationship quality predicting the wife's marital functioning, while a *partner effect* would be the husband's rating of relationship quality predicting the wife's marital functioning. To explore the common (versus unique) effects of relationship positivity, negativity, and ambivalence on marital functioning, separate models for each positivity, negativity, and ambivalence across all three contexts were first tested independently (see Figure 2 for one example model using positivity). These analyses offer the ability to determine the predictive capability of data from each member of the dyad across different contexts.

Then, to explore the unique effects of positivity, negativity, and ambivalence, all variables (positivity, negativity, ambivalence across all three contexts) were included in the same, comprehensive model. These analyses offer the ability to determine the predictive capability of data on different aspects of relationship dimensionality (positive, negative, ambivalent) from each member of the dyad.

Next, to explore the common (versus unique) effects of context on martial functioning, separate models for the neutral, positive, and support-seeking contexts using all three relationship quality measures were first tested independently (see Figure 3 for one example

using neutral context). These analyses offer the ability to determine the predictive capability of data from each member of the dyad across different dimensions of relationship quality.

Then to explore the unique effects of neutral, happy, and support-seeking context, all variables (positivity, negativity, and ambivalence across all three contexts) were included in the same, comprehensive model. These analyses offer the ability to determine the predictive capability of data on context (neutral, positive, support-seeking) from each member of the dyad.

Actor Partner Interdependence Models

Common effects models testing all relationship quality dimensions separately.
—Results of the APIM analyses showed significant associations of relationship positivity, negativity, and ambivalence in separate models outlining each of the three contexts, displayed in the top half of Table 4.

Actor effects.: Statistically significant actor effects were found for negativity and ambivalence in the neutral (negativity B = −.15; ambivalence B = −.19, ps < .05) and support contexts (negativity B = −.38; ambivalence B = −.33, ps < .001) as well as for positivity in the support context for wives (B = .32, p < .001), such that wives' positive, negative, and ambivalent perceptions of their relationship with their husbands predicted their own perception of marital functioning. Actor effects were found for husbands' ratings of positivity in the neutral (B = .18, p < .05) and support contexts (B = .28, p < .001), for negativity in all three contexts (neutral B = −.38, p < .001; happy B = −.15, p < .05; support B = −.20, p < .01), and for ambivalence in the neutral (B = −.33, p < .001) and happy contexts (B = −.19, p < .01), such that husbands' positive, negative, and ambivalent perceptions of their relationship with their wives predicted their own perception of marital functioning.

Partner effects.: Statistically significant partner effects were found for positivity (B = .18, p < .05), negativity (B = −.24, p < .01), and ambivalence (B = −.20, p < .01) in the neutral context for wives, such that wives' positive, negative, and ambivalent perceptions of their relationships with their husbands predicted husbands' perception of marital functioning. Statistically significant partner effects were found for only negativity in the support context for husbands (B = −.17, p < .05). The positivity (only) model explained 22.6% of the variance in marital functioning for wives and 25.5% for husbands. The negativity (only) model explained 47.9% of the variance in marital functioning for wives and 48% for husbands. The ambivalence (only) model explained 41.2% of the variance in marital functioning for wives and 38.4% for husbands.

Unique effects models testing all dimensions together.
—Results of the comprehensive model, which included all three elements across all three contents assessed concurrently, are displayed in the bottom half of Table 4 (all statistically significant paths are included in Figure 4).

Actor effects.: Statistically significant actor effects were found for negativity in the happy (B = −.54, p < .01) and support contexts (B = −.47, p < .001) as well as for ambivalence in

the happy context for wives (B = .51, *p* < .05). Actor effects were found for negativity in the neutral (B = −.34, *p* < .01) and support contexts for husbands (B = −.28, *p* < .01).

Partner effects.: Statistically significant partner effects were found for positivity in the support context (B = −.18, *p* < .01) and negativity in the neutral context for wives (B = −.40, *p* < .001). Partner effects were found for negativity (B = −.34, *p* < .05) and ambivalence for the neutral context for husbands (B = .28, *p* < .05). This comprehensive model explained 58.4% of the variance in marital functioning for wives and 65.3% of the variance for husbands. Overall, adding different dimensions and contexts for both raters of relationship quality all increase the predictive ability with respect to marital functioning within a couple.

Common effects models testing all contexts separately.—Results of the APIM analyses showed significant associations of neutral, happy, and support-seeking context in separate models using relationship positivity, negativity, and ambivalence, displayed in the top half of Table 5.

Actor effects.: Statistically significant actor effects were found for wives in all three contexts using relationship negativity (neutral B = −.34; *p* < .05; happy B = −.59; *p* < .01, support-seeking B = −.48; *p* < .001), such that wives' negative perceptions of their relationship with their husbands predicted their own perception of marital functioning across all three contexts. Actor effects were also found for husbands in all three contexts using relationship negativity (neutral B = −.78; *p* < .001; happy B = −.78; *p* < .01, support-seeking B = −.70; *p* < .001), such that husbands' negative perceptions of their relationship with their wives predicted their own perception of marital functioning across all three contexts. Additionally, actor effects were found for husbands' ratings of positivity in the happy context (B = .16, *p* < .05) and ambivalence in the support-seeking context (B = .33, *p* < .01), such that husbands' positive and ambivalent perceptions of their relationship with their wives predicted their own perception of marital functioning.

Partner effects.: Statistically significant partner effects were found for wives in the neutral and support-seeking contexts using their husbands' ratings of negativity (neutral B = −.40, *p* < .01; support-seeking B = −.31, *p* < .05), such that husbands' negative perceptions of their relationships with their wives predicted wives' perception of marital functioning. Statistically significant partner effects were found for husbands in the neutral context using their wives' ratings of both positivity and negativity (positivity B = .13, *p* < .05; negativity B = −.36, *p* < .01), such that wives' positive and negative ratings of their relationship with their husbands predicted their husbands' perception of marital functioning. The neutral (only) model explained 39% of the variance in marital functioning for wives and 46.5% for husbands. The happy (only) model explained 29.2% of the variance in marital functioning for wives and 29.9% for husbands. The support-seeking (only) model explained 41.9% of the variance in marital functioning for wives and 37.1% for husbands.

Unique effects models testing all contexts together.—Results of the comprehensive model, which included all three elements across all three contents assessed concurrently, are displayed in the bottom half of Table 5 (all statistically significant paths are

included in Figure 4). This was the same comprehensive model described above, highlighting the context effects (rather than the dimensionality effects).

Actor effects.: Statistically significant actor effects were found for wives in the happy and support-seeking contexts using negativity (happy B = −.54, p < .01; support-seeking B = −.47, p < .001) and in the happy context using ambivalence (B = .51, p < .05). Actor effects were found for husbands in the neutral and support-seeking contexts using negativity (happy B = −.34, p < .01; support-seeking B = −.28, p < .01).

Partner effects.: Statistically significant partner effects were found for wives in the neutral context using their husbands' ratings of negativity (B = −.40, p < .001) and in the support context using their husbands' ratings of positivity (B = −.18, p < .01). Partner effects were found for husbands in the neutral context using their wives' ratings of negativity (B = −.34, p < .05) and ambivalence (B = .28, p < .05). This comprehensive model explained 58.4% of the variance in marital functioning for wives and 65.3% of the variance for husbands. Overall, adding different dimensions and contexts for both raters of relationship quality all increase the predictive ability with respect to marital functioning within a couple.

Discussion

The primary goal of this secondary analysis was to explore the added benefit of including multiple dimensions, contexts, and reports of relationship quality from both individuals in predicting marital functioning in adult couples. In examining the separate models of positivity, negativity, and ambivalence, and in examining the separate models of neutral, happy, and support-seeking contexts, each dimension and each context mattered for the prediction of marital functioning for both women and men. Consistent with hypotheses, ratings of positivity and negativity were predictive of marital functioning, ratings within the happy, neutral, and support context were predictive of marital functioning, and ratings from both wives and husbands were predictive of marital functioning. These results highlight 1) the importance of measuring both dimensions of relationship quality as well as incorporating ambivalence (Cacioppo & Berntson, 1994; Fincham & Rogge, 2010; Herr et al., 2019),2) the importance of different contextual factors when linking relationship quality to outcomes (Graber et al., 2011; Holt-Lunstad et al., 2007; Uchino et al., 2013),and 3) that studying both spouses within a marriage adds to the predictive ability for both spouses as actor and partner effects were found for both wives and husbands (c.f., Carr, Cornman, & Freedman, 2016, Carr, Freedman, Cornman, & Schwarz, 2014).

In examining the larger comprehensive model, each dimension and each context continued to improve the prediction of marital functioning for both women and men. More variance in marital functioning was explained when all pieces of information were included in the model for both wives and husbands relative to the separate models – either examining dimensions or contexts. However, when that common variance was removed by adding all of the pieces simultaneously, the truly distinctive relationships between relationship quality and marital functioning are highlighted.

While overall our findings demonstrate that factors relevant to dimension, context, and the dyad are all important, our findings also align with other work suggesting that positivity, negativity, and ambivalence produce some redundancies (Herr et al., 2019). As such, this can provide more evidence-based guidance about what dimensions and aspects are most important to measure that researchers can consider in light of their own research priorities. For example, when participant burden may be an issue, researchers may consider limiting assessments to only the negative dimension or focusing on certain contexts based on whether they are more interested in husband or wives' responses, based on our findings discussed in more detail below. However, as expected from extensive literature on marital interdependence (Kenny, 1996; Kenny, Kashy, & Cook, 2006), there does seem to be benefit from assessing aspects of relationship quality from both wives and husbands to predict their own and their partners' marital function.

In terms of assessing context, our findings indicate that aspects of relationship quality in each happy, neutral, and support contexts are important for predicting wives' perception of marital function, but only neutral and support contexts are important for predicting husbands' perception of marital function. These findings echo other research that suggests that the structure of relationship quality, though not the construct, may differ between husbands and wives, with more variance occuring in the structure of wives' relationship quality (Beam, Marcus, Turkheimer & Emery, 2018). Interestingly, only negative and ambivalent ratings within the happy context were significant, suggesting that wives' perception of their husbands' *failure* to effectively capitalize on events (i.e., negative or ambivalent perceptions vs. positive) is driving the importance of this context for women. An enthusiastic response to happy events has shown to be important predictor for both spouses relationship and individual well-being in other work (Gable, Reis, Impett & Asher, 2004; Horn, Milek, Brauner & Maercker, 2017). The negative perception may serve to underline the absence of this important resource for wives, but not husbands.

Finally, our results on dimensionality show that while there were significant impacts of positive and ambivalent ratings, negative ratings across multiple contexts showed more relationships with marital functioning for both husbands and wives. This finding is inconsistent to the lens of positivity used in many unidimensional relationship quality measures (e.g., How good is your relationship compared to most?; Funk & Rogge, 2007; Henrick, 1988). This finding is also consistent with evidence that negativity in relationships may be more impactful on the relationship (Birmingham, Uchino, Smith, Light, & Butner, 2015; Cutrona, 1996). However, this is not to say that ratings of positivity are not helpful in the predictive model. Specifically, wives' ambivalence does impact her own and her husband's rating of marital functioning, suggesting a unique influence of the interaction of positivity and negativity on both partners. Other work has suggested that ambivalent relationships are characterized by emergent properties that arise from co-occurring positive and negative aspects, such as unpredictability; this source of stress unlikely to be captured only by ratings of negativity (Ross, Rook, Winczewski, Collins & Dunkel Schetter, 2019; Uchino et al, 2012). This unpredictability is also a key factor in the experiences that shape anxiously-attached relationships and can deleteriously impact relationship functioning (Feeney & Fitzgerald, 2019).

This study is limited by the relatively homogenous sample and the cross-sectional design. A more diverse sample could explore moderating factors, such as length of relationship, age, or distress. These relationship processes might be more stable in couples who have been together longer, but might play out differently in couples where one or both members are currently distressed. Additionally, other factors could be measured and tested for inclusion in other relationship quality models, including other dimensions, contexts, and time (Finkel, Simpson, & Eastwick, 2017; Jackson, Miller, Oka, & Henry, 2014). Although the goal of the current study was to demonstrate how multiple dimensions, contexts, and reports of relationship quality from both individuals better predict marital functioning, future research could apply this work on the impact of relationship quality assessments to more down-stream outcomes such as psychological or physical health. The current study used the outcome of marital functioning with the assumption that it was the most proximal outcome in the conceptual model; however, positivity and negativity may differentially impact different outcomes (Birmingham et al., 2009; Mattingly, Lewandowski, & McIntyre, 2014; Roberson, Lenger, Norona, & Olmstead, 2017), and thus they may carry different weight in diverse predictive situations. Other assessments could be done in a similar fashion to determine the equilibrium of adding new information and better predicting outcomes. Models would likely differ based on the particular outcome and context under study (Boerner, Jopp, Carr, Sosinsky, & Kim, 2014) but more research could help determine patterns to models.

The current findings demonstrate that including more information on relationship quality dimensionality and context is beneficial in prediction of marital functioning. Specifically, these findings suggest that the most benefit comes from dyadic, rather than individual, assessment of relationship quality, assessment of multiple contexts, primarily neutral and support-seeking, and assessment of ratings of the negativity dimension. Other researchers have called for the use of more multi-dimensional, contextual, and dyadic research in relationship quality (Fincham & Beach, 2010; Holt-Lunstad et al., 2010), but there is still a need for these elements to be seen more consistently in research. Until this occurs, we may not be fully realizing the effects of relationships on health (Holt-Lunstad et al., 2010), and miss opportunities to understand how relationships impact health, thus obscuring opportunities for couples' interventions. Assessing multiple aspects of relationships provides a more precise assessment of marital functioning, and likely other phenomena. Considering the SRI is only 12 items per person, the participant burden is relatively low for the added predictive capability. In fact, the SRI could be easily adapted for use in a daily diary setting and this opens avenues of research to discover specific mechanisms behind these findings, leading to important research and clinical findings.

Acknowledgments

References

Beam CR, Marcus K, Turkheimer E, & Emery RE (2018). Gender differences in the structure of marital quality. Behavior genetics, 48(3), 209–223. [PubMed: 29569187]

Berkman LF, Glass T, Brissette I, & Seeman TE (2000). From social integration to health: Durkheim in the new millennium. Social Science & Medicine, 51(6), 843–857. doi:S0277953600000654 [pii] [PubMed: 10972429]

Birmingham W, Uchino BN, Smith TW, Light KC, & Sanbonmatsu DM (2009). Social ties and cardiovascular function: An examination of relationship positivity and negativity during stress. International Journal of Psychophysiology, 74(2), 114–119. doi:10.1016/j.ijpsycho.2009.08.002 [PubMed: 19682506]

Birmingham WC, Uchino BN, Smith TW, Light KC, & Butner J (2015). It's Complicated: Marital ambivalence on ambulatory blood pressure and daily interpersonal functioning. Annals of Behavioral Medicine, 49(5), 743–753. doi:10.1007/s12160-015-9709-0 [PubMed: 25964001]

Birmingham WC, Wadsworth LL, Hung M, Li W, Herr R (2019). Ambivalence in the early years of marriage: Impact on ambulatory blood pressure and relationship processes. Annals of Behavioral Medicine. 2019 4 22 pii: kaz017 10.1093/abmkaz017 [Epub ahead of print]

Boerner K, Jopp DS, Carr D, Sosinsky L, & Kim SK (2014). "His" and "her" marriage? The role of positive and negative marital characteristics in global marital satisfaction among older adults. Journals of Gerontology: Series B, Psychological Sciences and Social Sciences, 69(4), 579–589. doi:10.1093/geronb/gbu032

Cacioppo JT, & Berntson GG (1994). Relationship between attitudes and evaluative space: A critical review, with emphasis on the separability of positive and negative substrates. Psychological Bulletin, 115(3), 401–423. doi:10.1037/0033-2909.115.3.401

Campo RA, Uchino BN, Holt-Lunstad J, Vaughn A, Reblin M, & Smith TW (2009). The assessment of positivity and negativity in social networks: the reliability and validity of the social relationships index. Journal of Community Psychology, 37(4), 471–486. doi:10.1002/jcop.20308

Carr D, Cornman JC, & Freedman VA (2016). Marital quality and negative experienced well-being: An assessment of actor and partner effects among older married persons. Journals of Gerontology: Series B, Psychological Sciences and Social Sciences, 71(1), 177–187. doi:10.1093/geronb/gbv073

Carr D, Freedman VA, Cornman JC, & Schwarz N (2014). Happy marriage, happy life? Marital quality and subjective well-being in later life. Journal of Marriage & Family, 76(5), 930–948. doi:10.1111/jomf.12133 [PubMed: 25221351]

Cutrona CE (1996). Social support as a determinant of marital quality In Pierce GR, Sarason BR, & Sarason IG (Eds.), Handbook of Social Support and the Family (pp. 173–194). Boston, M.A.: Springer US.

Feeney J, & Fitzgerald J (2019). Attachment, conflict and relationship quality: Laboratory-based and clinical insights. Current opinion in psychology, 25, 127–131. [PubMed: 29753972]

Fincham FD, & Beach SRH (2010). Marriage in the new millennium: A decade in review. Journal of Marriage and Family, 72(3), 630–649. doi:10.1111/j.1741-3737.2010.00722.x

Fincham F, & Bradbury T (1987). The assessment of marital quality: A reevaluation. Journal of Marriage and Family, 49(4), 797–809. doi:10.2307/351973

Fincham FD, & Linfield KJ (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? Journal of Family Psychology, 11(4), 489–502. doi:10.1037/0893-3200.11.4.489-502

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

Finkel EJ, Simpson JA, & Eastwick PW (2017). The psychology of close relationships: Fourteen core principles. Annual Review of Psychology, 68(1), 383–411. doi:10.1146/annurev-psych-010416-044038

Funk JL & Rogge RD (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. Journal of Family Psychology, 21, 572–583. [PubMed: 18179329]

Gable SL, Reis HT, Impett EA, & Asher ER (2004). What Do You Do When Things Go Right? The Intrapersonal and Interpersonal Benefits of Sharing Positive Events. Journal of Personality and Social Psychology, 87(2), 228–245. 10.1037/0022-3514.87.2.228 [PubMed: 15301629]

Graber EC, Laurenceau J-P, Miga E, Chango J, & Coan J (2011). Conflict and love: Predicting newlywed marital outcomes from two interaction contexts. Journal of Family Psychology, 25(4), 541–550. doi:10.1037/a0024507 [PubMed: 21744960]

Hendrick SS (1988). A generic measure of relationship satisfaction. Journal of Marriage and the Family, 50, 93–98.

Herr RM, Van Harreveld F, Uchino BN, Birmingham WC, Loerbroks A, Fischer JE, & Bosch JA (2019). Associations of ambivalent leadership with distress and coristol secretion. Journal of Behavioral Medicine, 42, 265–275. doi:10.1007/s10865-018-9982-z [PubMed: 30367333]

Holt-Lunstad J, Smith TB, & Layton JB (2010). Social relationships and mortality risk: a meta-analytic review. PLoS Medicine, 7(7), e1000316. doi:10.1371/journal.pmed.1000316 [PubMed: 20668659]

Holt-Lunstad J, Uchino BN, Smith TW, & Hicks A (2007). On the importance of relationship quality: The impact of ambivalence in friendships on cardiovascular functioning. Annals of Behavioral Medicine, 33(3), 278–290. doi:10.1007/BF02879910 [PubMed: 17600455]

Horn AB, Milek A, Brauner A & Maercker A (2017). Less Positive Sharing in the Couple Mediates the Link Between Depression and Relationship Quality: A Dyadic Longitudinal Study. Journal of Social and Clinical Psychology, 36(7), 535–553. 10.1521/jscp.2017.36.7.535

Jackson JB, Miller RB, Oka M, & Henry RG (2014). Gender differences in marital satisfaction: A meta-analysis. Journal of Marriage and Family, 76(1), 105–129. doi:10.1111/jomf.12077

Kaseda E, Birmingham WC Kirwan CB, Nielson SJ, Anderson M, Blackhurst Z, Aaron S, Braithwaite SR (2017). Emotional Processing in Supportive Marriages: Increased Amygdala Activation in an fMRI Investigation. Oral presentation at the annual conference for the American Psychosomatic Society 3 2017. Seville, Spain.

Kenny DA (1996). Models of non-independence in dyadic research. Journal of Social and Personal Relationships, 13(2), 279–294. doi:10.1177/0265407596132007

Kenny D, Kashy D, & Cook W (2006). The analysis of dyadic data. New York: Guilford.

Kiecolt-Glaser JK, & Newton TL (2001). Marriage and health: His and hers. Psychological Bulletin, 127(4), 472–503. [PubMed: 11439708]

Kouros CD, & Cummings EM (2010). Longitudinal associations between husbands' and wives' depressive symptoms. Journal of Marriage and the Family, 72(1), 135–147. doi:10.1111/j.1741-3737.2009.00688.x [PubMed: 21603113]

Locke HJ, & Wallace KM (1959). Short marital-adjustment and prediction tests: Their reliability and validity. Marriage and Family Living, 21(3), 251–255. doi:10.2307/348022

Mattingly BA, Lewandowski GW, & McIntyre KP (2014). "You make me a better/worse person": A two-dimensional model of relationship self-change. Personal Relationships, 21(1), 176–190. doi:10.1111/pere.12025

Mattson RE, Paldino D, & Johnson MD (2007). The increased construct validity and clinical utility of assessing relationship quality using separate positive and negative dimensions. Psychological Assessment, 19(1), 146–151. doi:10.1037/1040-3590.19.1.146 [PubMed: 17371129]

Mischel W, & Shoda Y (1995). A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. Psychological Review, 102(2), 246–268. [PubMed: 7740090]

Muthén B, & Muthén L (2016). Mplus Users Guide. Seventh Edition. Los Angeles, CA: Muthén & Muthén.

O'Leary KD, & Turkewitz H (1978). Methodological errors in marital and child treatment research. Journal of Consulting and Clinical Psychology, 46(4), 747–758. [PubMed: 670519]

Roberson PNE, Lenger KA, Norona JC, & Olmstead SB (2017). A longitudinal examination of the directional effects between relationship quality and well-being for a national sample of U.S. men and women. Sex Roles. 78(1–2), 67–80. doi:10.1007/s11199-017-0777-4

Rook KS, Luong G, Sorkin DH, Newsom JT, & Krause N (2012). Ambivalent versus problematic social ties: Implications for psychological health, functional health, and interpersonal coping. Psychological Aging, 27(4), 912–923. doi:10.1037/a0029246

Ross KM, Rook K, Winczewski L, Collins N, Dunkel Schetter C. Close relationships and health: The interactive effect of positive and negative aspects. Soc Personal Psychol Compass. 2019; 13:e12468 10.1111/spc3.12468

Sarason IG, Sarason BR, & Shearin EN (1986). Social support as an individual difference variable: Its stability, origins, and relational aspects. Journal of Personality and Social Psychology, 50(4), 845–855. doi:10.1037/0022-3514.50.4.845

South SC, Turkheimer E, Oltmanns TF (2008) Personality disorder symptoms and marital functioning. Journal of Consulting and Clinical Psychology, 76(5), 769–780. doi:10.1037/a0013346 [PubMed: 18837594]

Tardy C (1985). Social support measurement. American Journal of Community Psychology, 13(2), 187–202. doi:10.1007/BF00905728

Thompson MM, Zanna MP, & Griffin DW (1995). Let's not be indifferent about (attitudinal) ambivalence. Attitude strength: Antecedents and consequences,4, 361–386.

Uchino BN, Bosch JA, Smith TW, Carlisle M, Birmingham W, Bowen KS, … O'Hartaigh B (2013). Relationships and cardiovascular risk: Perceived spousal ambivalence in specific relationship contexts and its links to inflammation. Health Psychology, 32(10), 1067–1075. doi:10.1037/a0033515 [PubMed: 23914811]

Uchino BN, Cawthon RM, Smith TW, Light KC, Mckenzie J, Carlisle M, . . . Bowen K (2012). Social relationships and health: Is feeling positive, negative, or both (ambivalent) about your social ties related to telomeres? Health Psychology,31(6), 789–796. doi:10.1037/a0026836 [PubMed: 22229928]

Uchino BN, Holt-Lunstad J, Smith TW, & Bloor L (2004). Heterogeneity in social networks: A comparison of different models linking relationships to psychological outcomes. Journal of Social and Clinical Psychology, 23(2), 123–139.

Uchino BN, Holt-Lunstad J, Uno D, & Flinders JB (2001). Heterogeneity in the social networks of young and older adults: Prediction of mental health and cardiovascular reactivity during acute stress. Journal of Behavioral Medicine, 24, 361–382. doi:10.1023/A:1010634902498 [PubMed: 11523333]

Vaughn AA, Drake RR, & Haydock S (2016). College student mental health and quality of workplace relationships. Journal of American College Health, 64(1), 26–37. doi: 10.1080/07448481.2015.1064126 [PubMed: 26151646]
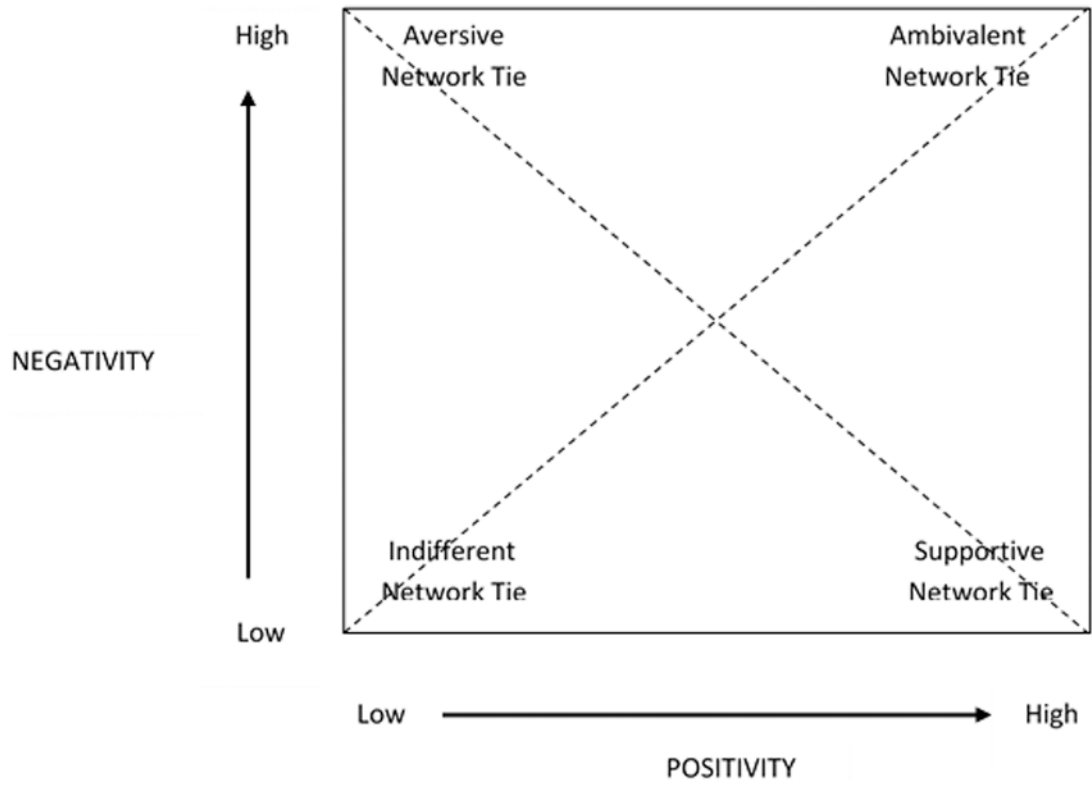
Figure 1.
Framework incorporating the positive and negative aspects of social relationships.
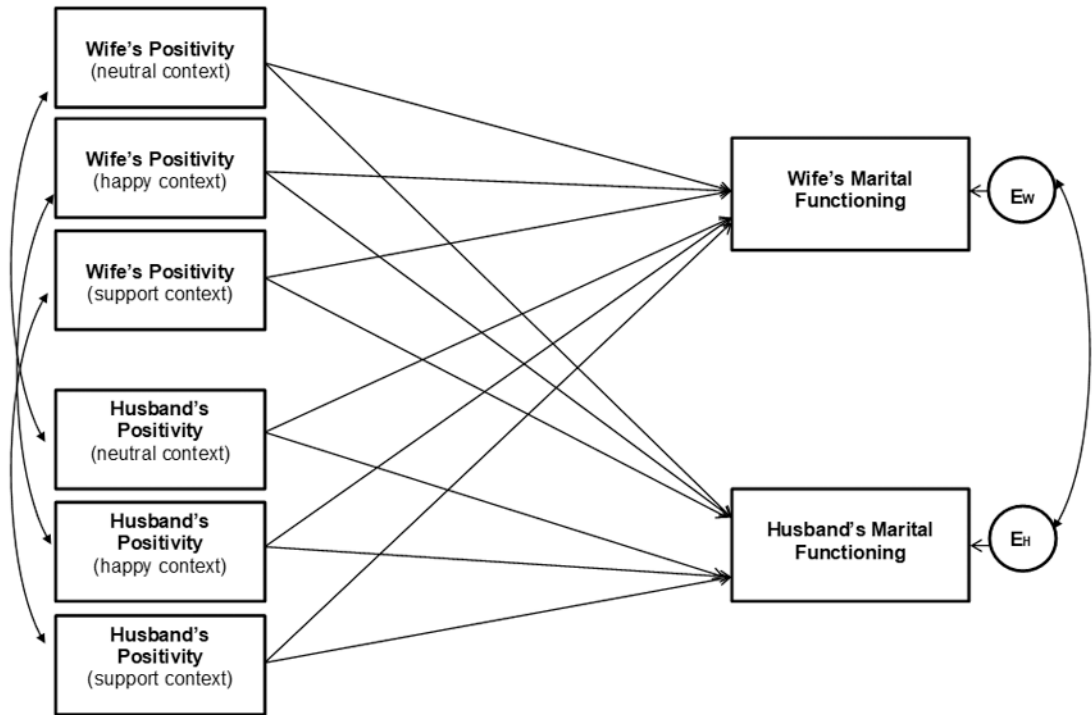
Figure 2.
Actor Partner Interdependence Model of relationship positivity (across all three contexts) and marital functioning.
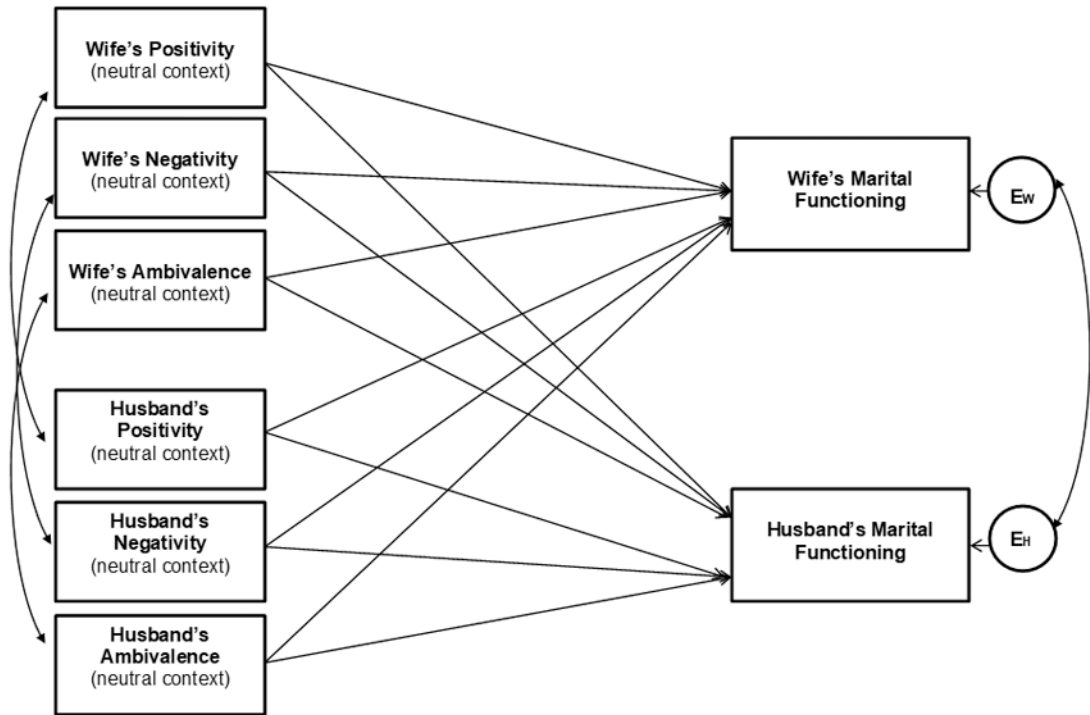
Figure 3.
Actor Partner Interdependence Model of neutral context (across all three dimensions) and and marital functioning.
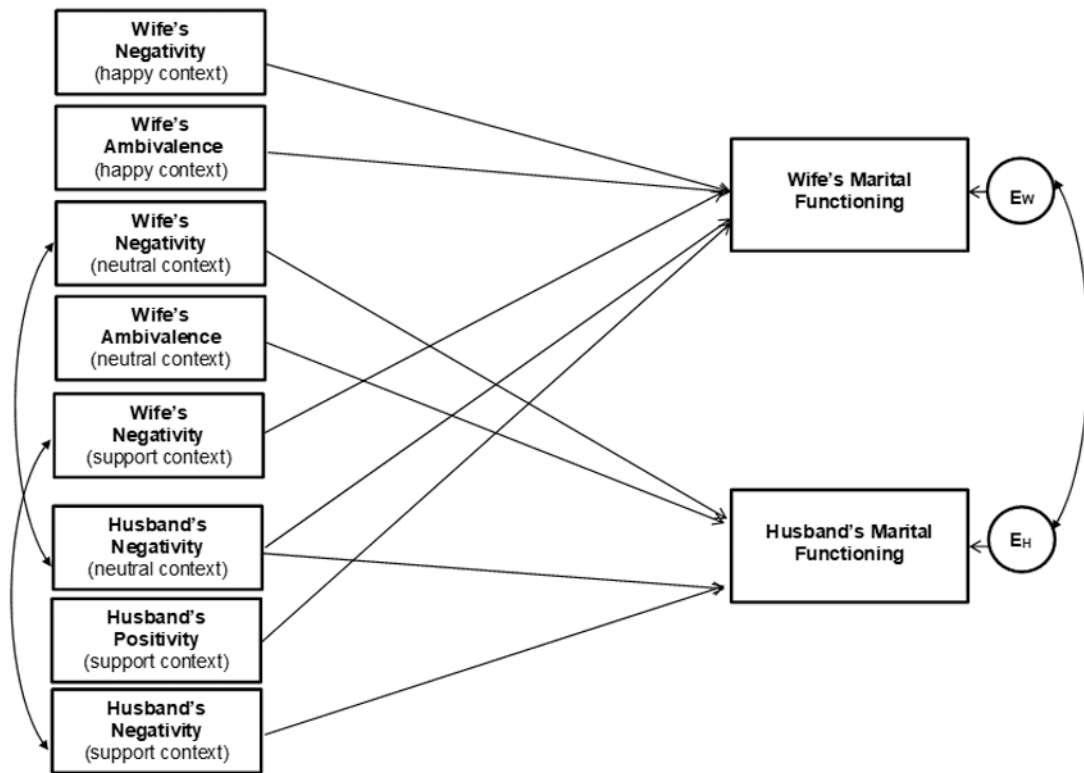
Figure 4.
Actor Partner Interdependence Model of relationship positivity (across all three contexts) and marital functioning.

While the comprehensive model included nine predictors for the wife (positivity, negativity, and ambivalence across all three contexts) as well as for the husband, only the statistically significant paths are included in this figure (p < .05). Positivity = helpful score. Negativity = upsetting score. Ambivalence = (P + N)/2 - |P − N|, where P = Positivity and N = Negativity.

Table 1.

Descriptive Statistics (Including Measures of Nonindependence) Comparing Relationship Quality and Martial Functioning between Wives and Husbands

	Wife	Husband		
	M (SD)	M (SD)	t	r
SRI Positivity-Neutral	4.37 (0.87)	4.37 (0.86)	−0.07	.19**
SRI Negativity-Neutral	2.27 (1.03)	2.22 (0.93)	−0.54	.20**
SRI Ambivalence-Neutral	1.07 (1.42)	1.00 (1.41)	−0.58	.24***
SRI Positivity-Happy	4.87 (0.88)	4.92 (0.81)	0.56	.22**
SRI Negativity-Happy	2.20 (1.19)	2.30 (0.99)	1.04	.28***
SRI Ambivalence-Happy	0.74 (1.77)	0.92 (1.54)	1.23	.30***
SRI Positivity-Support	4.98(1.01)	5.01 (1.06)	0.32	.38***
SRI Negativity-Support	2.15 (1.09)	2.05 (1.10)	−1.07	.28***
SRI Ambivalence-Support	0.54 (1.55)	0.36 (1.68)	−1.31	.34***
Martial Functioning	117.70 (23.80)	117.31 (24.56)	−0.20	.43***

Note. M = mean; SD = standard deviation; t = paired-samples t-test; r = Pearson correlation as a measure of nonindependence between both members of the dyad; SRI = Social Relationships Index. SRI positivity and negativity scores range from 1 to 6. SRI ambivalence scores range from −2.5 to 6 where scores are higher if both positivity and negativity values are simultaneously high. Marital Functioning scores range from 0 to 158 with higher scores representing greater satisfaction.

**
$p < .01$

***
$p < .001$.

Table 2

Within-Partner Correlations among Measures of Marital Functioning and Relationship Quality for Wives (Below Diagonal) and for Husbands (Above Diagonal)

	1	2	3	4	5	6	7	8	9	10
1. Marital Functioning		.35**	-.61**	-.53**	.27**	-.47**	-.44**	.42**	-.55**	-.43**
2. SRI Positivity-Neutral	.22**		-.42**	-.50**	.47**	-.23**	-.28**	.39**	-.28**	-.25**
3. SRI Negativity-Neutral	-.51**	-.19*		.92**	-.18*	.51**	.48**	-.34**	.59**	.49**
4. SRI Ambivalence-Neutral	-.50**	-.35**	.89**		.17*	.49**	.47**	-.26**	.51**	.48**
5. SRI Positivity-Happy	.27**	.59**	-.25**	-.35**		-.32**	-.47**	.41**	-.24**	-.22**
6. SRI Negativity-Happy	-.46**	-.18*	.62**	.60**	-.31**		.96**	-.33**	.43**	.38**
7. SRI Ambivalence-Happy	-.44**	-.25**	.58**	.62**	-.44**	.95**		-.37**	.44**	.43**
8. SRI Positivity-Support	.41**	.51**	-.30**	-.33**	.56**	-.30**	-.36**		-.58**	-.56**
9. SRI Negativity-Support	-.58**	-.18*	.62**	.58**	-.23**	.54**	.55**	-.46**		.88**
10. SRI Ambivalence-Support	-.53**	-.28**	.55**	.59**	-.32**	.59**	.58**	-.51**	.86**	

Note. SRI = Social Relationships Index.

*
$p < .05$

**
$p < .01$.

Table 3

Between-Partner Correlations among Measures of Marital Functioning and Relationship Quality

Wife		Husband									
		1	2	3	4	5	6	7	8	9	10
1. Marital Functioning		.43 **	.32 **	−.44 **	−.40 **	.28 **	−.34 **	−.35 **	.25 **	−.40 **	−.38 **
2. SRI Positivity-Neutral		.22 **	.19 **	−.20 **	−.19 *	.07	−.18 *	−.18 *	.21 **	−.15 *	−.15 *
3. SRI Negativity-Neutral		−.33 **	−.27 **	.20 **	.18 *	−.23 **	.24 **	.28 **	−.30 **	.36 **	.36 **
4. SRI Ambivalence-Neutral		−.31 **	−.29 **	.22 **	.24 **	−.26 **	.28 **	.33 **	−.30 **	.33 **	.35 **
5. SRI Positivity-Happy		.20 **	.26 **	−.20 **	−.22 **	.22 **	−.22 **	−.24 **	.29 **	−.22 **	−.23 **
6. SRI Negativity-Happy		−.34 **	−.22 **	.27 **	.24 **	−.25 **	.28 **	.30 **	−.31 **	.34 **	.33 **
7. SRI Ambivalence-Happy		−.32 **	−.26 **	.27 **	.27 **	−.26 **	.26 **	.30 **	−.30 **	.33 **	.35 **
8. SRI Positivity-Support		.30 **	.26 **	−.28 **	−.28 **	.29 **	−.31 **	−.34 **	.38 **	−.39 **	−.39 **
9. SRI Negativity-Support		−.28 **	−.32 **	.22 **	.22 **	−.24 **	.16 *	.20 **	−.30 **	.28 **	.30 **
10. SRI Ambivalence-Support		.35 **	−.33 **	.27 **	.24 **	−.29 **	.19 **	.23 **	−.36 **	.33 **	.34 **

Note. SRI = Social Relationships Index

*
$p < .05$

**
$p < .01$.

Table 4.

Actor and Partner Effects in the Relationship between Relationship Quality (Positivity, Negativity, and Ambivalence across All Three Contexts) and Marital Functioning for Wives and Husbands

	Wife's Marital Functioning						Husband's Marital Functioning					
	Neutral Context		Happy Context		Support Context		Neutral Context		Happy Context		Support Context	
	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner
Separate Models												
Positivity		.18*			.32***		.18*				.28***	
Negativity	−.15*	−.24**			−.38***		−.38***		−.15*		−.20**	
Ambivalence	−.19*	−.20**			−.31***		−.33***		−.19**			−.17*
Comprehensive Model												
Positivity						−.18**						
Negativity		−.40***	−.54**		−.47***		−.34**	−.34*			−.28**	
Ambivalence			.51*					.28*				

Note. Only statistically significant (standardized) effects are presented in the table.

*
p < .05

**
p < .01

***
p < .001

Table 5.

Actor and Partner Effects in the Relationship between Context (Neutral, Happy, and Support-Seeking across All Relationship Quality) and Marital Functioning for Wives and Husbands

	Wife's Marital Functioning						Husband's Marital Functioning					
	Positivity		Negativity		Ambivalence		Positivity		Negativity		Ambivalence	
	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner	Actor	Partner
Separate Models												
Neutral			−.34 *	−.40 **				.13 *	−.78 ***	−.36 **		
Happy			−.59 **				.16 *		−.78 **			
Support-Seeking			−.48 ***	−.31 *					−.70 ***		.33 **	
Comprehensive Model												
Neutral				−.40 ***					−.34 **	−.34 *		.28 *
Happy			−.54 **		.51 *							
Support-Seeking		−.18 **	−.47 ***						−.28 **			

Note. Only statistically significant (standardized) effects are presented in the table.

*
  $p < .05$

**
  $p < .01$

***
  $p < .001$