Family Relations Interdisciplinary Journal of Applied Family Studies

ncfr catalyzing research, theory and practice

Jonathan G. Kimmes *Kansas State University*

Jared A. Durtschi *Kansas State University**

Charity E. Clifford and Darin J. Knapp *Kansas State University***

Frank D. Fincham *Florida State University****

The Role of Pessimistic Attributions in the Association Between Anxious Attachment and Relationship Satisfaction

*Attributions—the explanations spouses give to each other's behavior—have been consistently linked to relationship satisfaction, but little is known about the origins of attributional tendencies. In this study, an actor–partner interdependence model was tested to examine the relationships among pessimistic attributions, anxious attachment, and relationship satisfaction, using married couples (*N = *767) from The German Family Panel Analysis of Intimate Relationships and Family Dynamics (*pairfam*; Huinink et al., 2011). For husbands and wives, higher levels of anxious attachment predicted more pessimistic attributions 2 years later. These pessimistic attributions, in turn, predicted their own later relationship satisfaction. Husbands' pessimistic attributions also predicted lower wives' relationship satisfaction. Pessimistic attributions fully mediated the relationship between anxious attachment and relationship satisfaction within spouses. It may be beneficial when intervening with couples to facilitate improvement in their attachment security and thereby promote more optimistic attributions and higher relationship satisfaction.*

Many theories involving relationship development identify attributions as a key variable in understanding romantic relationships and as a target of change in marital therapy (e.g., Gordon & Baucom, 1998; Heene, Buysse, & Van Oost, 2007). *Attributions*, in the context of romantic relationships, can be defined as the evaluative judgments that spouses make regarding the explanation for each other's behaviors; however, the factors that beget attributions have not received a great deal attention in the literature. The connection between attributions and relationship satisfaction has been firmly established (see review by Fincham, 2001), yet without an

Marriage and Family Therapy Program, Kansas State University, 139 Campus Creek Complex, Campus Creek Rd., Manhattan, KS 66506 (jonathankimmes@k-state.edu).

*Marriage and Family Therapy Program, Kansas State University, 209 Campus Creek Complex, Campus Creek Rd., Manhattan, KS 66506.

**Marriage and Family Therapy Program, Kansas State University, 139 Campus Creek Complex, Campus Creek Rd., Manhattan, KS 66506.

***Florida State University Family Institute, 310 Longmire Building, Florida State University, Tallahassee, FL 32304.

Key Words: anxious attachment, attributions, couples, dyadic processes, relationship satisfaction.

understanding of why people in marriages make certain attributions about their spouses' behavior, attempts to enhance relationship satisfaction through altering attributional processes may be futile.

We propose that appraisals of a spouse's behavior are contingent on working models that were built from early attachment experiences. Early attachment experiences with one's primary caregiver shape tendencies involving the perceptual and attentional processing of social information in adulthood. Bowlby (1980) highlighted the importance of early attachment for how people experience subsequent relationships and quoted Goethe's oft-used aphorism that "We see only what we know" (p. 44). Indeed, relational experiences may be filtered through a lens that was shaped long before a person enters a particular relationship. If this is the case, then clinicians who work with married couples need not focus exclusively on their clients' attributions in order to strengthen relationships; that is, helping clients process social information more clearly may require modification of the lens of attachment. Thus, the aim of this study was to determine whether attachment sets the stage for future attributions, which are a central determinant of relationship satisfaction in married couples.

An Integrated Theory of Attachment and Attributions

The connection between attributions and attachment theory hinges on the concept of working models: the long-lasting affective–cognitive structures that shape expectations, attitudes, and beliefs involving both the self and others in social experiences (Bowlby, 1973, 1982; Van Emmichoven, VanIJzendoorn, De Ruiter, & Brosschot, 2003). Attachment theorists posit that working models are formed through the infant–primary caregiver relationship that revolves around the infant's needs for protection, security, and care. If the child's needs are not met consistently, then the child may develop negative working models of the self and of others (Bowlby, 1988; Mikulincer & Shaver, 2012). In other words, individuals' interactions with their primary caregivers in infancy and early childhood influence their implicit expectations, attitudes, and beliefs involving both the self and others.

In adulthood, attachment bonds often take the form of romantic love (Mikulincer & Shaver, 2012) and, as a consequence, individuals' romantic relationships tend to mirror the child–caregiver attachments from which their working models were built (Mikulincer & Shaver, 2005). Stated differently, working models dictate the development of a traitlike attachment style in adult relationships, resulting in characteristic patterns of relational expectations, perceptions, and emotions (Dykas & Cassidy, 2011). Adults who have an anxious attachment style tend to respond in reactive, overlearned ways in close relationships because their relational information is skewed to fit in with preexisting maps of relational experience (Roberts, 2006).

If pessimistic attributions or negatively skewed explanations that individuals produce in response to their partners' behaviors are symptomatic of a deeper problem involving attachment, then, in addition to working directly to modify attributions, clinicians may benefit couples by addressing attachment-oriented issues. To date, research has not fully explored the possibility that attachment insecurity may be an antecedent of pessimistic attributions, such that pessimistic attributions may mediate the association between attachment and relationship satisfaction. Furthermore, this mediation relationship has not been analyzed with a dyadic model, longitudinally, or specifically with married couples. In this study we tested a dyadic, longitudinal mediation model using a large sample of married couples so as to garner insight into the relationships among attachment, attributions, and relationship satisfaction.

Anxious Attachment and Relationship Satisfaction

An extensive body of research has linked adult attachment to the nature of romantic relationships. Although a comprehensive review of the attachment literature is beyond the scope of this article, several thorough reviews on adult attachment and relationship functioning are available (e.g., Cassidy & Shaver, 2008; Li & Chan, 2012). In general, attachment orientations can be measured along two dimensions: (a) anxious attachment and (b) avoidant attachment (Mikulincer & Shaver, 2005); in this study, however, we focused only on anxious attachment because of the lack of an adequate measure of avoidant

attachment in the data set. *Anxious attachment* refers to the degree to which one worries that a partner will not be available and supportive in times of need, which often results in heightened concern and vigilance regarding the level and tenuousness of closeness with one's romantic partner (Mikulincer & Shaver, 2012). Anxious attachment has been empirically linked with romantic relationships in theoretically predictable ways. For example, a partner higher in anxious attachment is more likely to experience increased conflict (Feeney, Noller, & Callan, 1994), more vocal and physical signs of distress during conversations about personal problems (Guerrero, 1996), and lower relationship quality/closeness (Campbell, Simpson, Boldry, & Kashy, 2005). This connection between anxious attachment and relationship functioning has been studied using longitudinal designs (e.g., Campbell et al., 2005), observational methods (e.g., Guerrero, 1996), and dyadic data analysis (e.g., Pearce & Halford, 2008). Taken together, the literature on adult attachment leaves little doubt that attachment plays a key role in adult romantic relationships.

Attributions and Relationship Satisfaction

Fincham (2001) noted that empirical support for the relationship between attributions and marital satisfaction is "possibly the most robust, replicable phenomenon in the study of marriage" (p. 7). Indeed, research over the past few decades provides a substantial body of evidence for the connection between attributions and relationship satisfaction (for reviews, see Bradbury & Fincham, 1990, and Fincham, 2001). Numerous attempts have ruled out third-variable explanation for this association. Thus, for example, attributions account for unique variance in satisfaction even when controlling for factors such as anger (Leonard & Senchak, 1993), depression (Fincham & Bradbury, 1993), negative affectivity (Karney, Bradbury, Fincham, & Sullivan, 1994), and marital violence (Fincham, Bradbury, Arias, Byrne, & Karney, 1997). It is important to note that the connection between attributions and relationship satisfaction has been observed longitudinally (e.g., Fincham & Bradbury; 1993; Karney & Bradbury, 2000) and with dyadic models (e.g., Durtschi, Fincham, Cui, Lorenz, & Conger, 2011; Karney et al., 1994).

Given the substantial body of evidence that attributions are associated with relationship satisfaction, there is some confusion regarding underlying causes of specific attributions in romantic relationships. A number of researchers have demonstrated a link between adult attachment and attributions (Collins, Ford, Guichard, & Allard, 2006; Gardner, Busby, Burr, & Lyon, 2011; Mikulincer, 1998, Study 2; Pearce & Halford, 2008). It is interesting that although Heene, Buysse, and Van Oost (2005) found that attributions and adult attachment were linked to attributions and marital adjustment, they did not test whether attributions mediated the link between attributions and attachment. Moreover, Heene et al. ultimately argued that "Marital therapy may include a major focus on spouses' attributions and the therapeutic benefits of reframing those attributions" (p. 434). It may be prudent, however, to consider the therapeutic benefits of addressing the working models of attachment if they are what attributions stem from. By identifying the roots of attributional tendencies, more effective interventions aimed at altering attributional processes can be established, providing clinicians with new ways to enhance relationship satisfaction.

Processing of Relational Experiences

Attachment and attributions are associated with relationship satisfaction, and they are inextricably linked to each other as well. Operating mostly outside of conscious awareness, the working models of attachment influence attention in such a way that individuals tend to focus on aspects of the self, the other, and the romantic relationship that confirm their preexisting working models (Dykas & Cassidy, 2011; Mikulincer & Shaver, 2005). For example, insecurely attached individuals have their attention "skewed toward partner behavior that might reflect rejections, abandonment, or disapproval, as these are the relationship outcomes that an insecurely attached person fears and seeks to prevent or avoid" (Pearce & Halford, 2008, p. 157). Thus, it seems that the consequences of biased attentional and perceptual processes for insecurely attached individuals include pessimistic attributions for their partners' behavior (Lawler-Row, Younger, Piferi, & Jones, 2006).

It is theoretically congruent that anxious attachment may precede spouse's pessimistic explanatory tendencies for partner behavior.

When partners are anxiously attached, for example, they tend to be less skilled in accurately decoding their spouse's emotions and are more likely to negatively evaluate their partner (Burnette, Davis, Green, Worthington Jr., & Bradfield, 2009). This could conceivably lead to more pessimistic attributions. Higher attachment anxiety is also linked with higher salivary cortisol levels (a measure of physiological reactivity or stress) after discussing an unresolved conflict (Powers, Pietromonaco, Gunlicks, & Sayer, 2006). It is probable, therefore, that a spouse who is more anxiously attached is more physiologically reactive and therefore more likely to make pessimistic attributions for a partner.

Some researchers have found evidence that attributions mediate the relationship between attachment and couple functioning. Pearce and Halford (2008), for example, found that attributions mediated the association between attachment and self-reported communication, although this indirect effect was not found when observed communication was the outcome. It is important to note that Pearce and Halford's sample comprised only 59 Australian couples, and these mediation studies assessed their participants at only a single time point. Collins (1996) conducted a path analysis and found that an explanation pattern mediated the link between anxious attachment and conflict behavior. She later tested another path analysis showing that pessimistic attributions mediated the link between anxious attachment and conflict behavior intentions (Collins et al., 2006). These studies lend support to the hypothesis that pessimistic attributions might be the mechanism linking anxious attachment and relationship satisfaction; however, neither of these mediation studies tested relationship satisfaction as an outcome. In addition, Collins (1996) and Collins and colleagues (2006) have tested this mediation with undergraduates, who in some cases were reporting on hypothetical relationships. In another study, Sümer and Cozzarelli (2004) found that attributions mediated the relationship between attachment and relationship quality. It is noteworthy, however, that the majority of participants in their study were unmarried (94%) and that the average duration of the participants' relationships was 20 months. Moreover, because only individuals were assessed and at only a single point in time, the dyadic and temporal nature of the mediating relationship was not examined.

The present study represents, in part, an effort to begin elucidating the nature of the associations among attachment, attributions, and relationship satisfaction across time. It is important to note, however, that although establishing significant associations between these variables implies the temporal order, a demonstration of the temporal order between variables does not constitute evidence that one variable was occasioned by the other. Thus, to infer a causal relationship between variables on the basis of a longitudinal association is to commit a logical fallacy, so although in this study we sought to provide preliminary evidence of a theoretically derived model with hypothesized temporal ordering among variables, we hasten to emphasize that experimental designs are needed in order to establish evidence for causation.

Dyadic Relationships Across Time

Attachment, attributions, and relationship satisfaction are theoretically related to each other across time and between romantic partners. The attachment behaviors of one partner are expected to influence the other partner, just as the attributions of one partner are expected to influence the other partner. Because of this it is necessary to account for the interdependence between couples across time.

As Durtschi and colleagues (2011) noted, there is a paucity of research that has explored both intra- and interspousal effects involving marital attributions. Furthermore, Collins and colleagues (2006) suggested it is reasonable to expect individuals who have pessimistic attributions regarding their spouses to behave in ways that reflect those attributions. In other words, attributions in one spouse may ultimately influence the other spouse's level of relationship satisfaction. Therefore, in addition to exploring the actor path from attributions to relationship satisfaction, we elected to use an actor–partner interdependence model (APIM) to examine the association between one partner's attributions and the other partner's relationship satisfaction across time.

The Present Study

This study was developed to contribute to a growing body of research exploring attachment

and attributions in romantic relationships. More specifically, this study is unique in several ways. First, we explored attributions as a mediator between anxious attachment and relationship satisfaction in a dyadic context. Because attributions are likely to play a role in subsequent behaviors in the relationship, they are likely to play a role in relationship satisfaction both between and within partners. Thus, the use of dyadic data is important in gaining insight into how attributions in one partner relate to the other partner's satisfaction with the relationship. Second, we used longitudinal data. This is important because longitudinal data can be used to reduce shared-method variance and helped establish the temporal ordering of the key variables in this study. Third, this study was conducted using data only from married participants. We elected to use married couples because patterns of attributions may be more mercurial in dating relationships. We believe that using a sample of married couples across time will provide a reliable picture of the temporal associations among anxious attachment, pessimistic attributions, and relationship satisfaction.

Although there likely are cultural factors that distinguish German couples from American couples, there are a few reasons that suggest that Germans and Americans would be similar in terms of the constructs assessed in this investigation. In general, the difference in individualism between the United States and European nations (Western and Central) is not large (Oyserman, Coon, & Kemmelmeier, 2002). Dion and Dion (1993) suggested that individualistic nations, such as the United States and Germany, are likely to place a higher value on certain facets of marriage (e.g., psychological intimacy) compared to more collectivistic societies. In addition, measures of marital communication patterns have been found to be reliable and valid in both American and German samples; furthermore, these communication patterns are predictive of marital satisfaction in couples from each country (Bodenmann, Kaiser, Hahlweg, & Fehm-Wolfsdorf, 1998). Finally, Germans and Americans share similar norms in terms of romantic and sexual relationship development (Krahé & Berger, 2005). These similarities notwithstanding, the findings from the data set used in the present study require replication with a sample of married American couples.

Using three waves of data from a large, married German sample, we examined the relationships among anxious attachment, pessimistic attributions, and relationship satisfaction. Several hypotheses can be derived from our earlier conceptualization of the relationships among attachment, attributions, and relationship satisfaction:

> *Hypothesis 1*: At the intrapersonal level, higher insecure attachment scores at Wave 1 will predict higher levels of pessimistic attributions at Wave 3.
>
> *Hypothesis 2*: Again at the intrapersonal level, higher scores on pessimistic attributions will predict later lower relationship satisfaction scores.
>
> *Hypothesis 3*: At the interpersonal level, higher scores on pessimistic attributions in husbands and wives will predict lower relationship satisfaction in their spouses.
>
> *Hypothesis 4*: Pessimistic attributions will mediate the association between own insecure attachment and own levels of later relationship satisfaction.

Several variables were controlled for throughout the analyses. Neuroticism has been associated with maladaptive attributions and relationship quality (Karney & Bradbury, 2000); neuroticism, therefore, was a control variable in the analyses. We also decided to control for agreeableness because it is a personality trait that has been linked with less anger after transgressions (Meier & Robinson, 2004), an optimistic attributional style (Poropat, 2002), and higher levels of relationship satisfaction (Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010). It is conceivable that individuals in newly formed couples would be more likely to make optimistic attributions of their partners' behavior compared to individuals who have been in the same relationship for many years so, to ensure that the results of this study are not influenced by relationship length, marital duration also was controlled for in the analyses. Furthermore, the association between marital duration and relationship quality may not be linear across time (Vaillant & Vaillant, 1993), so we also controlled for a squared term of marital duration. Household income was another variable controlled for in the analyses, given that income is associated with romantic relationship quality (Hawkins & Booth, 2005). We also elected to control for age because older adults may make attributions that include more of an interaction among situational and dispositional factors, rather than just one or the other, compared to younger adults. Some of the participants in this study were not born in

Germany so, in an effort to account for some of the cultural differences related to country of origin, we controlled for this variable the analysis. Last, because we predicted that anxious attachment at Wave 1 and pessimistic attributions at Wave 3 will be significantly associated with relationship satisfaction at Wave 4, it was necessary include relationship satisfaction at Wave 1 and at Wave 3 as control variables in this study.

Method

Sample and Procedure

We evaluated the hypotheses in this investigation using data from the first four waves of the German Family Panel Analysis of Intimate Relationships and Family Dynamics (*pairfam*), Release 4.0 (Nauck, Brüderl, Huinink, & Walper, 2013). Funded by the German Research Foundation, the *pairfam* study is a 14-year project that began in 2008. The goal was to recruit 12,000 German-speaking individuals who were living in private households in Germany (referred to as *anchors*) from three birth cohorts (1971–1973, 1981–1983, and 1991–1993) to participate in the *pairfam* project (4,000 anchors from each cohort). Using stratified random sampling, 343 municipalities of the Federal Republic of Germany were selected. From the selected municipalities, local population registers were used to randomly select 42,074 addresses for individuals from the three birth cohorts. From the randomly selected addresses, 12,402 people (anchors) met the criteria for the study and agreed to participate, including more than 4,000 anchors from each birth cohort. The anchors completed 1-hour computer-assisted personal interviews, and each anchor received €10 (about 14 USD) upon completion of the interview. The overall response rate in the first wave of data collection was 36.9%. Participation in the first wave of data collection varied across the three birth cohorts; the response rate was 32% for the 1971–1973 birth cohort, 33% for the 1981–1983 birth cohort, and 49% for the 1991–1993 birth cohort.

Anchors who reported being in a romantic relationship were asked for permission for the research team to invite their partners to be interviewed. This process occurred yearly. At the first wave of data collection, 7,234 anchors reported that they were in a relationship, and 73% of those anchors granted permission for researchers to gather data from their partners. Of the 5,231 eligible partners, 72% (3,743) participated in the study. Data were collected from partners using paper-and-pencil questionnaires, and each partner who completed the questionnaire received a €5 (about 7 USD) ticket for a charity lottery.

Data from the fourth wave indicated that 6,999 of the original 12,402 anchors participated. Furthermore, 2,182 of the remaining anchors' partners completed the questionnaire in the fourth wave. The loss of participants between the first wave and the fourth wave of data collection was due to several factors. For example, anchors from the first wave who no longer lived in a private household, refused to be reinterviewed, or requested to have their contact data deleted contributed to the gradual reduction of the sample sizes across waves of data collection. A complete description of the design of the *pairfam* project is provided in Huinink et al. (2011).

The data from the sample used in this investigation were collected between 2008 and 2011. Because of the dyadic nature of the present study, the anchors and their partners were matched on the basis of an identification number. As noted, of 12,402 anchors, 3,743 (30%) had partners who participated in the first wave of the study. From the 3,743 couples, we retained only couples who were married at Wave 1, bringing the total number of couples to 2,145. We then removed couples who did not remain together throughout all four waves, leaving 773 couples remaining. Last, only heterosexual couples were included in the analysis; thus, the final operational sample in this study became 767 married couples, which is about 21% of the couples who participated during the first wave. The wives in the present sample were age 33.10 years ($SD = 4.69$), and the husbands were 35.85 ($SD = 5.14$). The average number of years married was 6.45 ($SD = 4.66$). Of wives included in the present study, 96.7% were born in Germany or had German citizenship, and 97.7% of husbands were born in Germany or had German citizenship.

Attrition analyses revealed that initial levels of relationship satisfaction and pessimistic attributions were not related to whether or not couples dropped out of the study. Higher initial levels of anxious attachment, however, were related to dropping out for husbands ($p < .001$) and for wives ($p < .05$). Because spouses who have higher levels of anxious attachment were more likely to discontinue involvement in

the *pairfam* study, the data used in this study may more accurately reflect securely attached spouses as opposed to spouses with more of an anxious attachment style.

Measures

Anxious Attachment (Wave 1). To measure anxious attachment, participants rated the degree to which five statements applied to their marriage (e.g., "I have the feeling that I like [partner name] more than he/she likes me" and "When I disappoint or annoy [partner name], I become afraid he/she won't like me anymore.") The items used to assess anxious attachment were originally selected by those involved in designing the *pairfam* survey from subscales of the Munich Individuation Test of Adolescence (Walper, 1997). Item responses ranged from 1 (*not at all*) to 5 (*absolutely*). Higher scores represented a greater degree of anxious attachment. For the analysis, these five items were used as indicators of the latent construct. Standardized factor loadings for these items ranged from .47 to .68 for wives and from .48 to .64 for husbands. The alpha coefficient was .71 for husbands and for wives.

Pessimistic Attributions (Wave 3). The participants were asked to indicate the degree to which two statements applied to their situation ("When we have a problem, [partner name] only thinks about his/her own needs" and "If I address a problem, it annoys him/her and he/she is angry.") The responses ranged from 1 (*not at all*) to 5 (*absolutely*). Higher scores indicated a higher degree of pessimistic attributions. Serving as indicators of the latent construct, the standardized factor loadings for the two items were .63 and .71 for wives and .63 and .68 for husbands. The alpha coefficients were .75 for husbands and .70 or wives.

Relationship Satisfaction (Wave 4). To assess relationship satisfaction, participants responded to the following question: "All in all, how satisfied are you with your relationship?" The responses ranged from 0 (*very dissatisfied*) to 10 (*very satisfied*). As DeVellis (2012) noted, including too many response categories can reduce the measure's validity if participants in the sample have difficulty making distinctions between the responses. However, with the content of the single item and the characteristics of the sample in mind, we submit that having 11 response categories is not likely to pose a significant threat to the validity or reliability of the measure of relationship satisfaction used in this study.

Control Variables. To account for extraneous variation, we controlled for relationship satisfaction at Wave 1 and at Wave 3, age, country of origin, number of years married, number of years married as a squared term, and household income. We also controlled for two personality traits—agreeableness and neuroticism—which were assessed at Wave 2 but not at Wave 1. Relationship satisfaction at Wave 1 and Wave 3 were measured in the same way as reported earlier. Age and years married were assessed in years, and monthly household income was assessed in euros. To assess neuroticism and agreeableness, the participants completed an abbreviated version of the Big Five Inventory (BFI-K; Rammstedt & John, 2005). For neuroticism, participants were asked to report the extent to which four statements applied to them (e.g., "I easily become depressed or discouraged" and "I easily become nervous and insecure"). The structure of the items was the same for assessing agreeableness (e.g., "I tend to criticize others" and "I trust others easily and believe that people are inherently good"). The responses ranged from 1 (*absolutely incorrect*) to 5 (*absolutely correct*). The mean score from the four items were used in the analysis. Higher scores represented higher neuroticism. For the items in the neuroticism measure, alpha coefficients were .65 for husbands and .72 for wives. The alpha coefficients for the agreeableness measure were .70 for husbands and .74 for wives.

Analysis Plan

An *actor effect* is a measurement of "how much a person's current behavior is predicted by his or her own past behavior" (Cook & Kenny, 2005, p. 102), and a *partner effect* is the degree to which a person's behavior is predicted by his or her partner's behavior. In this study, both intraspousal (actor) and interspousal (partner) effects were explored using a longitudinal APIM; this approach allows for a more complete understanding of dyadic processes (Kenny, Kashy, & Cook, 2006).

Empirical distinguishability between spouses was also tested before we conducted the data analysis, as recommended for all dyadic data

analysis (Kline, 2011). The procedures used to evaluate an APIM model are influenced by whether the individuals in the dyad are distinguishable in terms of the variables being tested in the model. If husbands and wives are not statistically different in their responses involving the variables within the model, then analyzing the APIM as though husbands and wives are distinguishable may result in an increased risk of Type I or Type II errors, depending on the nature of the independent variable (i.e., whether it varies between couples, within couples, or both) and the direction of nonindependence (i.e., positive or negative; Kashy & Snyder, 1995). Therefore, following the advice of Olsen and Kenny (2006) regarding APIMs, we assessed whether husbands and wives were empirically different using the omnibus test of distinguishability (I-SAT). This was done by constraining means, variances, actor covariances, and partner covariances to be equal between husbands and wives. If the I-SAT yields a significant chi-square statistic, then dyads are distinguishable. Furthermore, if the dyads are distinguishable, then all the model parameters can be freely estimated (Olsen & Kenny, 2006).

We used Mplus 7.11 (Muthén & Muthén, 1998–2012) in testing the hypotheses. In addition to the model chi-square statistic, the following goodness-of-fit indices were used as recommended by Kline (2011): the Bentler comparative fit index (CFI; Bentler, 1990), the Steiger–Lind root-mean-square error of approximation (RMSEA; Steiger, 1990), and the standardized root-mean-square residual (SRMR). A chi-square statistic with a p value greater than .05 provides support that the observed data adequately fit the hypothesized model (Kline, 2011). According to Hu and Bentler (1999), CFI values that meet or exceed .95, RMSEA values below .06, and SRMR values below .08 are evidence of acceptable fit between the hypothesized model and the observed data.

It should be noted that bootstrapping, a resampling procedure utilized for testing mediation, was used in assessing the indirect effects in the proposed model. More specifically, 2,000 bootstrap resamples were used to test the model's indirect effects. Mediation effects can be assessed by looking at the 95% confidence interval (CI), and an indirect effect is statistically significant if the 95% CI does not include 0 (Shrout & Bolger, 2002).

Missing values are primarily due to unavailability of data from a specific wave. Instead of listwise deletion, pairwise deletion, or imputation of means for missing data, we used full-information maximum-likelihood estimation in conducting the analyses. Full-information maximum-likelihood algorithms generally yield more accurate information in comparison with the aforementioned alternatives (Peters & Enders, 2002).

Results

Preliminary Analyses

The data in Table 1 show the intrapersonal and interpersonal correlations among anxious attachment, pessimistic attributions, and relationship satisfaction for husbands and wives, as well descriptive statistics for all of the variables in the study, including control variables. The first notable intrapersonal correlation in the analyses indicated that anxious attachment was significantly associated with pessimistic attributions for husbands ($r = .52$, $p < .001$) and wives ($r = .56$, $p < .001$). In addition, anxious attachment had a significant negative correlation with relationship satisfaction for husbands ($r = -.20$, $p < .001$) and wives ($r = -.17$, $p < .01$). Similarly, pessimistic attributions had a significant negative association with relationship satisfaction for husbands ($r = -.32$, $p < .001$) and wives ($r = -.36$, $p < .001$).

In terms of interpersonal correlations, pessimistic attributions in husbands had a significant negative association with wives' relationship satisfaction ($r = -.21$, $p < .001$).

Moreover, pessimistic attributions in wives had a significant negative correlation with husbands' relationship satisfaction ($r = -.11$, $p < .01$). The preliminary analyses noted are significant and are in the directions consistent with our hypotheses.

The Model

Before we tested the hypothesized model, we noted that the omnibus test of distinguishability (Olsen & Kenny, 2006) indicated that husbands and wives were empirically distinguishable, $\chi^2(75) = 852.63$, $p < .001$, so the model could be tested with all of the parameters freely estimated. Furthermore, bootstrapping procedures were used in analyzing the effects in this investigation. As evidenced by goodness-of-model fit

Table 1. *Descriptive Statistics and Correlations Between Anxious Attachment, Pessimistic Attributions, and Relationship Satisfaction (N = 767 Couples)*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. W anx. att. W1	—																		
2. H anx. att. W1	.32***	—																	
3. W attrib. W3	.56***	.21**	—																
4. H attrib. W3	.23***	.52***	.36***	—															
5. W rel. sat. W4	−.17***	−.23***	−.36***	−.26***	—														
6. H rel. sat. W4	−.14***	−.20***	−.14**	−.32***	.17***	—													
7. W rel. sat. W1	−.39***	−.29***	.21***	.12***	.23***	.14***	—												
8. H rel. sat. W1	.21***	−.30***	−.29***	−.25***	.17***	.39***	.15***	—											
9. W rel. sat. W3	−.26***	.25***	.40***	.25***	.40***	.29***	.30***	.33***	—										
10. H rel. sat. W3	−.11**	.20***	.20***	.15***	.21***	.55***	.33***	.51***	.32***	—									
11. W neurot. W2	.36***	.18	.11	.06	−.14***	−.12**	−.17***	−.12**	.14***	−.03	—								
12. H neurot. W2	.16***	.28	.03	−.03	−.11**	−.16***	−.05	−.16***	−.30***	−.26***	.00	—							
13. W agree. W2	−.14**	−.13*	−.11	−.01	.11**	.05	.12**	.09**	−.05	−.07*	.06	.07	—						
14. H agree. W2	.02	−.08	.01	−.12	.10**	.07	.07	.03	−.05	.00	.00	−.02	−.02	—					
15. W age	−.06	−.13*	.01	.08	−.06	−.03	−.02	−.01	.01	.02	.11*	.02	−.24***	.07	—				
16. H age	.07	.05	.00	.09	−.08	.02	.03	.04	−.04	−.04	.01	−.24***	.00	−.02	.64***	—			
17. Years married	.02	−.01	.03	−.03	−.03	.01	.02	−.06	−.01	.02	−.01	.01	.14**	−.03	.51***	.36***	—		
18. Years married[2]	.03	.00	.02	−.03	−.02	.02	.03	.05	−.03	0.3	−.03	.02	.17**	−.03	.43***	.32***	.95***	—	
19. House inc. W1	−.16*	−.08	−.07	.10	.08	−.03	.07	.05	−.18**	−.07*	.01	−.03	.24***	.22***	.03	.21***	−.03	−.06	—
M	1.57	1.55	1.82	1.66	7.74	7.93	8.38	8.55	8.03	8.13	2.83	2.45	3.41	3.24	33.10	35.85	6.45	62.95	3,018.35
SD range	1–5	1–5	1–5	1–5	0–10	0–10	0–10	0–10	0–10	0–10	1–5	1–5	1–5	1–5	21–48	22–67	0–19	0–361	164–13,000
α(# of items)	.71(5)	.71(5)	.75(2)	.70(2)	(1)	(1)	(1)	(1)	(1)	(1)	.72(4)	.65(4)	.74(4)	.70(4)	(1)	(1)	(1)	(1)	(1)

Note: Years married and household income (inc.) are based on wife report. W = wives; anx. att. = anxious attachment; W1 = Wave 1; H = husbands; attrib. = pessimistic attributions; W3 = Wave 3; rel. sat. = relationship satisfaction; W4 = Wave 4; neurot. = neuroticism; W2 = Wave 2; agree. = agreeableness.

*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed).

indices, there was an adequate fit between the proposed model and the observed data (Kline, 2011): $\chi^2(239) = 323.84$, $p < .001$; CFI = .95; RMSEA = .03; 90% CI [.02, .04]; SRMR = .05. The results from the APIM can be seen in Figure 1.

For husbands and wives, the actor paths from anxious attachment to pessimistic attributions were significant. Husbands' anxious attachment at Wave 1 significantly predicted husbands' pessimistic attributions 2 years later, at Wave 3 ($\beta = .50$, $p < .001$). Similarly, wives' anxious attachment significantly predicted wives' pessimistic attributions ($\beta = .42$, $p < .001$), which supports Hypothesis 1. For husbands and wives, the actor paths from pessimistic attributions to relationship satisfaction were significant. Husbands' pessimistic attributions at Wave 3 significantly predicted husbands' relationship quality 1 year later, at Wave 4 ($\beta = -.18$, $p < .01$). Likewise, wives' pessimistic attributions significantly predicted wives' relationship quality ($\beta = -.33$, $p < .001$). Support, therefore, was found for Hypothesis 2. One partner effect was found; namely, the partner path from husbands' pessimistic attributions to wives' relationship satisfaction was significant ($\beta = -.14$, $p < .05$), whereas the partner path from wives' pessimistic attributions to husbands' relationship satisfaction was not significant ($\beta = -.08$, $p = .27$). Thus, partial support was found for Hypothesis 3. The covariates that were significantly associated with wives' relationship satisfaction at Wave 4 included wives' relationship satisfaction at Wave 1 ($\beta = .15$, $p < .01$) and wives' agreeableness ($\beta = .07$, $p < .05$). For husbands, covariates significantly associated with relationship satisfaction at Wave 4 included husbands' relationship satisfaction at Wave 1 ($\beta = .29$, $p < .001$) and husbands' neuroticism ($\beta = -.08$, $p < .05$).

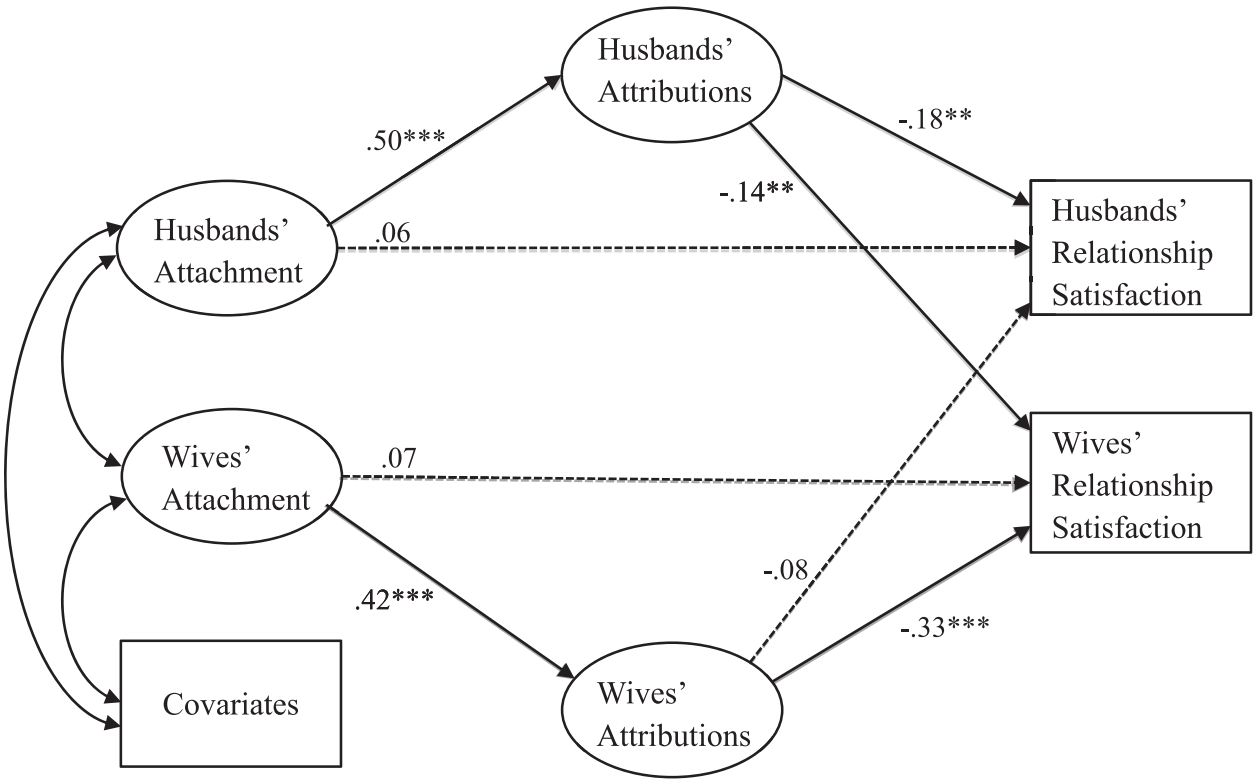
Test of Indirect Effects

The indirect effects were assessed with the use of 2,000 bootstraps to determine whether pessimistic attributions mediate the relationship between attachment and relationship satisfaction. For husbands, the actor indirect effect from anxious attachment → pessimistic attributions → relationship satisfaction was significant ($\beta = -.07$, $p < .01$, 95% CI [−.18, −.01]). In other words, a 1-*SD* unit increase in husbands' level of anxious attachment was associated with a −0.09-*SD* unit decline in relationship satisfaction 3 years later, via its prior effect on husbands' pessimistic attributions, on average, while controlling for relationship satisfaction at Wave 1 and at Wave 3, neuroticism, agreeableness, age, country of origin, number of years married, number of years married as a squared term, and household income. For wives, the same actor indirect effect was also significant ($\beta = -.09$, $p < .01$, 95% CI [−.21, −.01]). Thus, Hypothesis 4 was confirmed, for both husbands and wives, as pessimistic attributions mediated the association between anxious attachment and relationship satisfaction. The nonsignificant direct effect from attachment to relationship quality for both spouses shows that pessimistic attributions fully mediated the association between attachment and relationship quality. The effect sizes can be evaluated by examining the standardized betas. For the actor paths from anxious attachment to pessimistic attributions, the effect sizes were medium in strength, whereas the remaining effect sizes were modest. The model accounted for 39% of the variance in pessimistic attributions and 21% of the variance in relationship satisfaction in husbands. For wives, the model accounted for 35% of the variance in pessimistic attributions and 27% of the variance in relationship satisfaction.

Discussion

We conducted this study to explore the relationships among anxious attachment, pessimistic attributions, and relationship satisfaction. Several important findings were uncovered in the analyses. For husbands and wives, higher levels of anxious attachment were related to higher levels of their own pessimistic attributions 2 years later. Furthermore, higher levels of pessimistic attributions predicted lower levels of relationship satisfaction 1 year later for both husbands and wives. In addition, reports of pessimistic attributions in husbands predicted lower relationship satisfaction in wives a year later, but more pessimistic attributions in wives did not predict lower relationship satisfaction in husbands a year later. Finally, pessimistic attributions significantly mediated the association between anxious attachment and relationship satisfaction within spouses. All of the analyses

Figure 1. The Actor–Partner Interdependence Model Across 4 Years for Married Couples: Attachment, Attributions, and Relationship Satisfaction.



Note. Model depicts a standardized solution. Model fit indices are as follows: $\chi^2(239) = 323.84$, $p < .001$; comparative fit index = .95; root-mean-square error of approximation = .03; 90% confidence interval [.02, .04]; and standardized root-mean-square residual = .05. The model controlled for husbands' and wives' relationship quality at Wave 1 and at Wave 3, neuroticism at Wave 2, agreeableness at Wave 2, age, country of origin, number of years married, number of years married as a squared term, and household income, which are not shown in this figure for ease of interpretation of primary results. Solid arrows represent a significant pathway, whereas a dotted arrow represents a nonsignificant pathway.

*$p < .05$; **$p < .01$; ***$p < .001$. (two-tailed)

were completed while controlling for relationship satisfaction at Wave 1 and at Wave 3, neuroticism, agreeableness, age, country of origin, number of years married, number of years married as a squared term, and household income. These findings add to existing research by providing empirical support of the notion that anxious attachment is linked with relationship satisfaction by way of its association with pessimistic attributions in married couples across time.

The finding that anxious attachment was associated with more pessimistic attributions is consistent with the findings of previous studies (Collins et al., 2006; Mikulincer, 1998, Study 2; Pearce & Halford, 2008). The connection between anxious attachment and pessimistic attributions suggests that individuals who have higher levels of anxious attachment may develop biased attentional and perceptual processes that, to some extent, contribute to subsequent pessimistic attributions across time.

The next key finding was that higher levels of pessimistic attributions predicted discernibly lower levels of relationship satisfaction 1 year later. This result is also important in that it buttresses previous studies that indicated a significant negative relationship between pessimistic attributions and relationship satisfaction (e.g., Durtschi et al., 2011; Fincham & Bradbury, 1993; Fincham, Harold, & Gano-Phillips, 2000; Karney & Bradbury, 2000; Karney et al., 1994). On the basis of the repeatedly identified connection between pessimistic attributions and relationship satisfaction, it is apparent that pessimistic attributions may have noxious implications for relationship satisfaction over time.

It is interesting that husbands' pessimistic attributions predicted a decrease in wives' relationship satisfaction. An investigation conducted by Durtschi and colleagues (2011) offers a potential explanation for this association; they found that spouses' behavior mediated the negative relationship between pessimistic attributions and their partner's level of relationship satisfaction. In other words, attributions may predict one spouse's behaviors, which may in turn predict the other spouse's relationship satisfaction. In the current study it is possible that husbands' pessimistic attributions were reflected in their behavior toward their wives over time in such a way that wives' relationship satisfaction significantly decreased. This result is also consistent with Bradbury and Fincham's (1991) finding that pessimistic attributions may engender negative behavior cycles between the spouses, resulting in declines in relationship satisfaction for both partners. On the other hand, in the present study wives' pessimistic attributions did not predict relationship satisfaction in husbands. There are at least two possible theoretical explanations for this finding: (a) wives' pessimistic attributions are not reflected in their behaviors as much or in the same way as they are for husbands' and (b) wives' behaviors reflected their pessimistic attributions to some degree, but husbands' relationship satisfaction was not significantly altered by these behaviors. More research is needed, however, in order to gain more insight into the interpersonal nature of the association between attributions and relationship satisfaction.

The analysis also revealed that pessimistic attributions fully mediated the negative association between anxious attachment and own relationship satisfaction. Although pessimistic attributions have been shown to predict relationship satisfaction, this result illustrates the possibility that the association between pessimistic attributions and relationship satisfaction is embedded in a temporal process that begins with anxious attachment.

Limitations

The results of this study should be viewed in light of several limitations. First, the data used for this study were collected from participants living in Germany, so these results may not generalize well to other cultures. Although some research suggests that American and German married couples may be relatively similar, there is a need to replicate these findings with a sample of American married couples. Second, because participants who did not remain with the same partner over all 4 years of the data collection process were excluded from this study, the data from participants who got married after the first wave of data collection or who got divorced during the data collection process were not included in the analyses. These findings may therefore be more representative of couples who remain in their marriage over time than of couples who divorce. Third, individuals with higher levels of anxious attachment were more likely to drop out of the *pairfam* project than those who were more securely attached, so the findings may be more reflective of securely attached individuals, even though the rates of attrition were

not associated with relationship satisfaction or attributions. Fourth, attachment, attributions, and relationship satisfaction were not measured using psychometrically evaluated scales that were designed to measure those constructs. This restricts the degree to which one can be confident in the validity of the measures for the variables of interest in this study. Last, although the analyses of the longitudinal data produced findings consistent with causal associations, the data from this study cannot be used to draw conclusions regarding causality. It is possible, for example, that even though neuroticism was controlled for, there is an underlying personality trait that causes both anxious attachment and pessimistic attributions. Future research is therefore needed to explore causality among variables in this study. These limitations suggest that there is a need to replicate these findings, especially with diverse samples from the United States.

Implications and Future Directions

The findings reported here suggest that having high levels of anxious attachment may increase the tendency to interpret spousal behavior in ways that confirm the pessimistic emotional and cognitive maps of social experience that were developed in childhood. Put differently, pessimistic attributions and their impact on relationship satisfaction may be traceable to a more fundamental issue involving attachment. With this interpretation of the findings in mind, focusing primarily on pessimistic attributions in clinical settings with married couples may be tantamount to managing symptoms rather than solving the underlying problem, resulting in a less-than-optimal therapeutic progress. On a related note, it possible that progress made in therapy through focusing on attributions may be ephemeral. Changing attributions for isolated events is not the same as targeting the mechanism that converges on such attributions, so subsequent attributions are likely to be of the same flavor as the pretreatment attributions, not the reconstructed, posttreatment attributions. It may be beneficial for clinicians to assess partners for attachment issues when pessimistic attributions are a part of a presenting problem or become a theme in couples therapy. In those cases, instead of attempting to directly ameliorate pessimistic attributions, concentrating on issues involving attachment would likely be associated with more long-lasting changes in attributions. Working models of attachment are unconscious mechanisms (Dykas & Cassidy, 2011) and, as such, they may defy attempts to change them that involve insight and conscious deliberation (for a review, see Evans, 2008). It is possible that more transformative interventions in couples therapy may involve more of a focus on emotions in order to alter the latent artifacts of early attachments (Roberts, 2006).

Although the analyses of the longitudinal data produced findings consistent with causal associations, the data from this study cannot be used to draw conclusions regarding causality; therefore, future research is needed to explore causality among the variables we examined. Subsequent research could also investigate whether anxious attachment reduces the experience of favorable attributions as opposed to solely increasing pessimistic attributions. In addition, because we examined only anxious attachment in this study, further research is needed to determine whether pessimistic attributions mediate the associations between other attachment styles and relationship satisfaction. Future research might explore how various attachment-based interventions influence subsequent attributions of spousal behavior.

Conclusion

This investigation provides new insights regarding attachment and attributions as they relate to relationship satisfaction between and within spouses and may be instrumental in establishing a more complete picture of relational processes in married couples. Furthermore, these insights can inform the development of clinical interventions aimed at helping individuals have more satisfying experiences in their marriages.

In addition to providing evidence that attributions mediate the association between attachment and relationship satisfaction, we used an APIM to explore the systemic nature of attributions as they relate to relationship satisfaction. By using an APIM, we demonstrated that husbands' pessimistic attributions predicted wives' relationship satisfaction a year later, suggesting that attributions likely translate into observable behaviors that may result in a reduction in wives' relationship satisfaction. More generally, the pessimistic bias stemming from working models may result in rigid behavioral responses,

exacerbating spousal conflict, precluding positive changes in relationship dynamics, and coloring the experience of the relationship as a whole for the other partner.

The nature of the sample and the statistical approach used in our analyses bolsters the empirical and clinical relevance of this study and, in our view, the results of this investigation support the notion that pessimistic attributions are mechanisms through which anxious attachment influences relationship satisfaction. Put differently, higher levels of anxious attachment are associated with a working model that is biased in favor of pessimistic attributions, and these pessimistic attributions predict lower levels of relationship satisfaction. Without a change in the working models of attachment, information incompatible with the working models may be unconsciously ignored, distorted, or discarded. We suggest that new, positive attachment experiences serve to adjust the affective–cognitive lenses of perception. This would allow for less pessimistic attributions and fewer patterned behavioral responses and, by extension, change the dynamics of the relationship and the overall experience of the relationship for both partners. In the final analysis, in addition to focusing on directly changing attributions, it may be worthwhile for clinicians to address the more foundational attachment-oriented issues that form the lens through which people view their relational world. Indeed, facilitating a positive change to the working model of attachment may bring about an expanded view of relational experience for spouses, allowing for more flexibility in subsequent attributions and ultimately enhancing their relationship satisfaction.

References

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107,* 238–246.

Bodenmann, G., Kaiser, A., Hahlweg, K., & Fehm-Wolfsdorf, G. (1998). Communication patterns during marital conflict: A cross-cultural replication. *Personal Relationships, 5,* 343–356.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation*. New York: Basic Books.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss, sadness and depression*. New York: Basic Books.

Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, *52,* 664–678.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.

Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin*, *107*, 3–33.

Bradbury, T. N., & Fincham, F. D. (1991). A contextual model for advancing the study of marital interaction. In G. J. O. Fletcher & F. D. Fincham (Eds.), *Cognition in close relationships* (pp. 127–147). Hillsdale, NJ: Erlbaum.

Burnette, J. L., Davis, D. E., Green, J. D., Worthington, E. L., Jr., & Bradfield, E. (2009). Insecure attachment and depressive symptoms: The mediating role of rumination, empathy, and forgiveness. *Personality and Individual Differences, 46,* 276–280. doi:10.1016/j.paid.2008.10.016

Campbell, L., Simpson, J. A., Boldry, J., & Kashy, D. A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology, 88,* 510–531. doi:10.1037/0022-3514.88.3.510

Cassidy, J., & Shaver, P. R. (2008). *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.). New York: Guilford Press.

Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology*, *71,* 810–832. doi:10.1037//0022-3514.71.4.810

Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin, 32,* 201–219. doi:10.1177/0146167205280907

Cook, W. L., & Kenny, D. A. (2005). The actor–partner interdependence model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development, 29,* 101–109.

DeVellis, R. F. (2012). *Scale development: Theory and applications* (Vol. 26). Thousand Oaks, CA: Sage.

Dion, K. K., & Dion, K. L. (1993). Individualistic and collectivistic perspectives on gender and the cultural context of love and intimacy. *Journal of Social Issues, 49,* 53–69.

Durtschi, J. A., Fincham, F. D., Cui, M., Lorenz, F. O., & Conger, R. D. (2011). Dyadic processes in early marriage: Attributions, behavior, and marital quality. *Family Relations, 60,* 421–434. doi:10.1111/j.1741-3729.2011.00655.x

Dykas, M. J., & Cassidy, J. (2011). Attachment and the processing of social information across the life span: Theory and evidence. *Psychological Bulletin, 137,* 19–46. doi:10.1037/a0021367

Evans, J. S. B. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology, 59,* 255–278.

Feeney, J. A., Noller, P., & Callan, V. J. (1994). Attachment style, communication and satisfaction

in the early years of marriage. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 269–308). New York: Jessica Kingsley.

Fincham, F. D. (2001). Attributions and close relationships: From Balkanization to integration. In G. J. Fletcher & M. Clark (Eds.), *Blackwell handbook of social psychology* (pp. 3–31). Oxford, UK: Blackwell.

Fincham, F. D., & Bradbury, T. N. (1993). Marital satisfaction, depression, and attributions: A longitudinal analysis. *Journal of Personality and Social Psychology, 64,* 442–452.

Fincham, F. D., Bradbury, T. N., Arias, I., Byrne, C. A., & Karney, B. R. (1997). Marital violence, marital distress, and attributions. *Journal of Family Psychology, 11,* 367–372. doi:10.1037/0893-3200.11.3.367.

Fincham, F. D., Harold, G. T., & Gano-Phillips, S. (2000). The longitudinal association between attributions and marital satisfaction: Direction of effects and role of efficacy expectations. *Journal of Family Psychology, 14,* 267–285.

Gardner, B. C., Busby, D. M., Burr, B. K., & Lyon, S. E. (2011). Getting to the root of relationship attributions: Family-of-origin perspectives on self and partner views. *Contemporary Family Therapy, 33,* 253–272. doi:10.1007/s10591-011-9163-5

Gordon, K. C., & Baucom, D. H. (1998). Understanding betrayals in marriage: A synthesized model of forgiveness. *Family Process, 37,* 425–449.

Guerrero, L. K. (1996). Attachment style differences in intimacy and involvement: A test of the four category model. *Communications Monographs, 63,* 269–292.

Hawkins, D. N., & Booth, A. (2005). Unhappily ever after: Effects of long-term, low-quality marriages on well-being. *Social Forces, 84,* 451–471.

Heene, E. L., Buysse, A., & Van Oost, P. (2005). Indirect pathways between depressive symptoms and marital distress: The role of conflict communication, attributions, and attachment style. *Family Process*, *44*, 413–440.

Heene, E., Buysse, A., & Van Oost, P. (2007). An interpersonal perspective on depression: The role of marital adjustment, conflict communication, attributions, and attachment within a clinical sample. *Family Process, 46,* 499–514. doi:10.1111/j.1545-5300.2007.00228.x

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55.

Huinink, J., Brüderl, J., Nauck, B., Walper, S., Castiglioni, L., & Feldhaus, M. (2011). Panel analysis of intimate relationships and family dynamics (pairfam): Conceptual framework and design. *Zeitschrift für Familienforschung, 23,* 77–101.

Karney, B. R., & Bradbury, T. N. (2000). Attributions in marriage: State or trait? A growth curve analysis. *Journal of Personality and Social Psychology, 78,* 295–309.

Karney, B. R., Bradbury, T. N., Fincham, F. D., & Sullivan, K. T. (1994). The role of negative affectivity in the association between attributions and marital satisfaction. *Journal of Personality and Social Psychology, 66,* 413–424. doi:10.1037/0022-3514.66.2.413

Kashy, D. A., & Snyder, D. K. (1995). Measurement and data analytic issues in couples research. *Psychological Assessment, 7,* 338–348. doi:10.1037/1040-3590.7.3.338

Kenny, D. A., Kashy, D., & Cook, W. (2006). *Dyadic data analysis*. New York: Guilford Press.

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press.

Krahé, B., & Berger, A. (2005). Sex differences in relationship aggression among young adults in Germany. *Sex Roles, 52,* 829–838.

Lawler-Row, K. A., Younger, J. W., Piferi, R. L., & Jones, W. H. (2006). The role of adult attachment style in forgiveness following an interpersonal offense. *Journal of Counseling & Development, 84,* 493–502.

Leonard, K. E., & Senchak, M. (1993). Alcohol and premarital aggression among newlywed couples. *Journal of Studies on Alcohol*, *11*, 96–108.

Li, T., & Chan, D. K. (2012). How anxious and avoidant attachment affect romantic relationship quality differently: A meta-analytic review. *European Journal of Social Psychology, 42,* 406–419. doi:10.1002/ejsp. 1842

Malouff, J. M., Thorsteinsson, E. B., Schutte, N. S., Bhullar, N., & Rooke, S. E. (2010). The five-factor model of personality and relationship satisfaction of intimate partners: A meta-analysis. *Journal of Research in Personality, 44,* 124–127. doi:10.1016/j.jrp. 2009.09.004

Meier, B. P., & Robinson, M. D. (2004). Does quick to blame mean quick to anger? The role of agreeableness in dissociating blame and anger. *Personality and Social Psychology Bulletin, 30,* 856–867.

Mikulincer, M. (1998). Adult attachment style and individual differences in functional versus dysfunctional experiences of anger. *Journal of Personality and Social Psychology, 74,* 513–524.

Mikulincer, M., & Shaver, P. R. (2005). Attachment theory and emotions in close relationships: Exploring the attachment-related dynamics of emotional reactions to relational events. *Personal Relationships*, *12*, 149–168.

Mikulincer, M., & Shaver, P. R. (2012). Adult attachment orientations and relationship processes. *Journal of Family Theory & Review, 4,* 259–274.

Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles: Muthén & Muthén.

Nauck, B., Brüderl, J., Huinink, J., & Walper, S. (2013). *The German family panel (pairfam)* [ZA5678 Data file, Version 4.0.0]. Cologne, Germany: GESIS Data Archive.

Olsen, J. A., & Kenny, D. A. (2006). Structural equation modeling with interchangeable dyads. *Psychological Methods, 11,* 127–141. doi:10.1037/1082-989X.11.2.127

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128,* 3–72. doi:10.1037//0033-2909.128.1.3

Pearce, Z. J., & Halford, W. (2008). Do attributions mediate the association between attachment and negative couple communication? *Personal Relationships, 15,* 155–170. doi:10.1111/j.1475-6811.2008.00191.x

Peters, C. L. O., & Enders, C. (2002). A primer for the estimation of structural equation models in the presence of missing data: Maximum likelihood algorithms. *Journal of Targeting, Measurement and Analysis for Marketing, 11,* 81–95.

Poropat, A. (2002). The relationship between attributional style, gender and the five-factor model of personality. *Personality and Individual Differences, 33,* 1185–1201.

Powers, S. I., Pietromonaco, P. R., Gunlicks, M., & Sayer, A. (2006). Dating couples' attachment styles and patterns of cortisol reactivity and recovery in response to a relationship conflict. *Journal of Personality and Social Psychology, 90,* 613–628.

Rammstedt, B., & John, O. P. (2005). Kurzversion des Big Five Inventory (BFI-K). *Diagnostica, 51,* 195–206.

Roberts, T. (2006). Brain biology and couple therapy. In J. Wetchler (Ed.), *Handbook of clinical issues in couple therapy* (pp. 23–40). New York: Taylor & Francis.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7,* 422–445.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25,* 173–180.

Sümer, N., & Cozzarelli, C. (2004). The impact of adult attachment on partner and self attributions and relationship quality. *Personal Relationships, 11,* 355–371. doi:10.1111/j.1475-6811.2004.00087.x

Vaillant, C. O., & Vaillant, G. E. (1993). Is the *U*-curve of marital satisfaction an illusion? A 40-year study of marriage. *Journal of Marriage and the Family, 55,* 230–239.

Van Emmichoven, I. A. Z., VanIJzendoorn, M. H., De Ruiter, C., & Brosschot, J. F. (2003). Selective processing of threatening information: Effects of attachment representation and anxiety disorder on attention and memory. *Development and Psychopathology, 15,* 219–237.

Walper, S. (1997). *Individuation im Jugendalter: Skalenanalyse zum Münchner Individuation test. Berichte aus der Arbeitsgruppe "Familienentwicklung nach der Trennung"* [Individuation in adolescence: Scale analysis of the Munich Individuation Test. Reports from the research group "Family Development Following Divorce"]. München, Germany: Ludwig-Maximilians-Universität.