

ATTRIBUTIONAL FLEXIBILITY AND RELATIONSHIP FUNCTIONING IN AFRICAN-  
AMERICAN MARRIED COUPLES

by

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(Under the Direction of Steven R. H. Beach)

ABSTRACT

Decades of research on attributions in marriage have found that responding to negative partner behavior by making negative, conflict-promoting attributions is associated with marital distress, while making benign or benevolent attributions is associated with marital satisfaction. Although true for minor problems that occur in a relationship, blindly making benign attributions may be maladaptive in responding to recurrent, severe negative partner behavior. These attributions are unresponsive to context and may lead couples to fail to address severe problems, allowing them to grow worse over time. Rather, flexibility in assigning attributions may be important in establishing and maintaining marital satisfaction. In the current study, 430 married African-American couples completed various self-report questionnaires, and results demonstrated that both linear and quadratic components of attributional flexibility significantly predicted aspects of relationship functioning, including marital satisfaction, forgiveness, and ineffective arguing, although many findings were in the direction opposite to that hypothesized. As hypothesized regarding the quadratic relationship, better relationship outcomes were associated with those highest or lowest in attributional flexibility. Additionally, higher attributional flexibility was associated with greater situation-specific, but not dispositional,

forgiveness. The results are discussed in the context of contextual cognitive processing in marital interaction.

INDEX WORDS: Marriage, Attributions, Attributional Flexibility, Cognitive Flexibility

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## CHAPTER 1

### INTRODUCTION

The vast majority of Americans marry at some point in their lifetime (Kelly & Fincham, 1998), and most consider it an important aspect of their lives, expressing hopes for a viable, long-term relationship. Even in the happiest of marriages, however, negative experiences of one's partner will inevitably arise. At times, spouses will misunderstand each other, behave negatively toward one another, and disagree. Some of the conflicts couples experience will be minor disagreements, while others may be important issues that play a central role in determining the outcome of a marriage. It is in the way one reacts to and copes with these negative experiences that relationship quality is maintained over time.

What, then, is the best strategy to manage these negative experiences with one's spouse? Many psychologists agree that one effective means of coping with negative marital events is through benevolent cognitions, or interpreting these negative events in a way that permits individuals in a relationship to maintain positive views of the marriage and of each other (Neff & Karney, 2005). Among the many aspects of cognition that are important in marriage, attributions (the explanations that individuals make for events that occur in their marriages) represent one construct that is highly related to marital conflict and marital satisfaction. Decades of research suggest that making negative attributions when faced with negative partner behavior is associated with marital distress, while benign or benevolent attributions are associated with marital satisfaction (see Bradbury & Fincham, 1990 and Fincham, 2001 for reviews).

This may, indeed, be true for minor disagreements that arise in a relationship. However, not all conflicts that couples experience are minor. Blindly making benign attributions without consideration of context may not be the most adaptive means of managing recurrent or severe negative behavior by one's partner. Rather, flexibility in assigning attributions may be more beneficial to a couple's long-term relationship functioning. The overarching goal of the proposed study is to determine whether attributional flexibility, in addition to attributional style, may play a role in marital functioning. In arguing for the importance of examining attributional flexibility in couples, the remainder of the introduction will be organized into five primary sections. The first section will summarize much of the research to date on attributional style and marriage. It will highlight the benefits to making benign or benevolent attributions about one's partner and the costs of having a tendency to make negative attributions. The second section will propose the importance of considering context when making attributions about one's partner. In this section, I will discuss previous research suggesting potential negative consequences from making overly benign attributions as well as research suggesting that being flexible in making marital attributions may be beneficial. The third will discuss the benefits of cognitive flexibility to various psychological outcomes, highlighting recent research demonstrating the importance of explanatory flexibility to depression. In the fourth section, I will tie together the research on attributions in marriage, cognitive flexibility, and explanatory flexibility in depression to argue that attributional flexibility in couples may be more adaptive than making rigidly and uniformly benign attributions. In addition to marital satisfaction, I will discuss three aspects of marital functioning that may be influenced by attributional flexibility, including forgiveness, communication, and moderation of the relationship between negative life events and marital

satisfaction. In the final section, I will discuss the specific aims and hypotheses of the proposed study.

### *Attributions in marriage*

The association between attributions that spouses make about their marriages and their corresponding levels of marital satisfaction is strong and consistent across studies (Fincham, 1998a). It has been known for some time that distressed and non-distressed spouses make very different attributions about the events that occur within their marriages (Fincham & Bradbury, 1987). In general, maritally dissatisfied individuals have been found to make attributions for negative events that increase the impact of these events, including being more critical of one's spouse and viewing negative spousal behavior as due to enduring characteristics or traits. Distressed spouses tend to attribute negative events to stable and global factors, to causes internal to the partner, and to behavior under the partner's control. In addition, the partner is seen as having acted intentionally, as being selfishly motivated, and as being blameworthy (see Bradbury & Fincham, 1990 for a review). Thus, marital attributions have a profound impact on the initiation and maintenance of marital distress; indeed, it has been suggested that up to 63% of the variance in marital conflict may be accounted for by differences between couples in attributional processes (Davey, Fincham, Beach, & Brody, 2001).

One theoretical model that assists our understanding of how attributions might affect marital functioning is the contextual model of marital interaction, as outlined by Bradbury and Fincham (1989, 1991). This model indicates that, during a marital interaction, partner behavior is cognitively processed by the spouse, and this processing then leads to the spouse's own behavior. Processing is influenced by the spouse's *proximal context* and *distal context*. The proximal context contains transient, momentary cognitions and emotions experienced by an

individual that are used as a frame for interpreting the partner's behavior. In contrast, the distal context is comprised of more stable, enduring psychological characteristics of the individual. The proximal context is updated frequently on the basis of the spouse's cognitive processing (occurring in the processing stage) as well as reflections on his or her behavior, but it is continually influenced in this process by the distal, stable context for attribution processing. If one partner has a stable attributional bias toward somewhat more negative or somewhat more positive interpretations of their partner's behavior, this bias would be an important aspect of the distal context, exerting an ongoing pressure on the specific attributions generated in response to circumstances, and, over time, resulting in potentially profound influence on the proximal psychological environment of the relationship.

The Bradbury and Fincham (1991) framework is useful in organizing descriptive information about the relationship of a number of areas of marital cognition and behavior. Within the contextual model of marital interaction, we see that attributions are thought to directly affect one's own behavior and that spontaneous, specific attributions are affected by an underlying tendency toward more positive or negative interpretations via the distal context. Furthermore, marital attributions are posited to have a bidirectional, indirect relationship with marital satisfaction, as one's global evaluations of the relationship can serve as part of the distal context that affect specific attributions generated, while attributions affect one's behavior toward one's partner, which can then affect the partner's feelings about the relationship.

Spouses make attributions about both negative and positive events. Maritally distressed individuals tend to make attributions for positive events that lessen the impact of these events, while distressed couples tend to make attributions for negative events that increase the impact of these events (Baucom, Sayers, & Duhe, 1989). Negative consequences of overly negative

attributions for partner behavior include being more critical of one's spouse, viewing negative spousal behavior as due to enduring characteristics or traits, and responding more negatively to ambiguous or negative partner behavior (Bradbury & Fincham, 1990). Attributional styles for positive and negative events are somewhat independent, and the connection between attributional style and marital outcomes is stronger for negative attributions leading to a focus on this pattern. Thus, one would expect maritally dissatisfied individuals to attribute negative marital behaviors to causes internal to the partner, to stable factors about the partner, or to global factors that influence much of what the partner does. In addition, the partner would be seen as having acted intentionally, behaving voluntarily, being selfishly motivated, as being blameworthy, and as having less positive attitude and less love toward the individual (Fincham & Bradbury, 1992).

Numerous studies have supported each of these theorized attributional biases, particularly in the global versus specific, locus, stable versus unstable, blameworthy versus praiseworthy, and intent dimensions for negative events (see Bradbury & Fincham, 1990 for review). Specific types of attributional biases have been grouped to form higher-order attribution constructs. Fincham and Bradbury (1987) investigated the relationships of a causal attribution index (composed of attributions in the locus, global versus specific, and stable versus unstable dimensions) and a responsibility attribution index (composed of attributions in the blameworthiness, intent, and selfish versus unselfish motivation dimensions) to marital satisfaction. They found that less benign patterns of attributions on both indices were inversely related to marital satisfaction. Thus, their findings support the theoretical relationship between negative marital attributions and marital dissatisfaction.



### *Marital Attributional Style and Stability*

Attributional style is an individual's habitual manner of assigning causes to events, and it can be conceptualized as the variance in responses on a single attribution dimension across events and as the extent to which the pattern of attribution dimension responses to an event occurs across events (Horneffer & Fincham, 1995). Two studies (Horneffer & Fincham, 1995; Baucom et al., 1989) have directly examined whether consistent attributional styles exist. Both studies found that individuals vary considerably in the extent to which they display consistent attributional styles. Baucom et al. concluded that attributional styles do exist and that distressed spouses display styles that maximize negative and minimize positive partner behaviors. While Horneffer and Fincham advised against assuming that the construct of style is equally relevant for everyone, they did find that theoretically derived benign and nonbenign attributional patterns were related to marital satisfaction and marital distress, respectively.

Perhaps more important than "style" to the proposal that individual differences in attributional biases may influence marital behavior, satisfaction, and stability over time is the prediction that attributional tendencies are stable over time. In line with this view, Karney and Bradbury (2000) suggest that the importance of the role of attributions in marital interventions rests on two basic assumptions: that attributions in marriage are relatively trait-like, or stable over time, and that attributions play a causal role in the development of marital satisfaction. In their longitudinal studies of attributions, Fincham and Bradbury (1987, 1993) found that attributions are relatively stable over a one-year period. One-year stability coefficients for marital attributions across spouses and specific attribution dimensions ranged from .36 to .82. In general, they also found that initial relationship attributions are predictive of later marital

satisfaction. Thus, these results imply that relationship attributions are stable and play a causal role in changes in later marital satisfaction.

Karney and Bradbury (2000) attempted to replicate and further expand Fincham and Bradbury's results, examining whether attributions can be considered as stable, or trait-like, as compared to variable, or state-like, over time. Unlike Fincham and Bradbury, Karney and Bradbury used a hierarchical statistical approach to examine whether a model of linear change was a better fit than a model of trait-like stability for marital attributions over a four-year period. They found that spouses' attributions appeared to change as their marital satisfaction changed. However, as in the earlier work, they found that initial attributions predicted change in marital satisfaction both at a within- and between-subjects level. Between subjects, they found evidence that attributions are more likely to lead to later changes in satisfaction than the reverse.

Fincham, Harold, and Gano-Phillips (2000) also examined the longitudinal relationship between attributions and marital satisfaction. Using a cross-lagged stability model, they found stability coefficients for marital attributions over an 18-month period to be .61 for husbands and .65 for wives. They also found that initial attributions are predictive of later marital satisfaction for both spouses. Thus, their findings are very similar to those of Fincham and Bradbury and again support the basic tenets of a focus on marital attributions as outlined by Karney and Bradbury (2000).

### *Attributions and Behavior*

There is also a body of literature that suggests that attributions are associated with behavior in marital interactions. Bradbury and Fincham (1992) were the first to examine the link between attributions and behavior. They found that negative attributions in both husbands and wives were related to less effective problem-solving behaviors and higher rates of negative

behavior. They also found that, for wives, negative attributions were associated with an increased tendency to reciprocate negative partner behavior.

Miller and Bradbury (1995) also found evidence suggestive of an association between marital attributions and behavior. They discovered that poor problem-solving behavior was related to negative patterns of attributions. Bradbury, Beach, Fincham, and Nelson (1996) also sought to examine the relationship attributions and behavior in marriage. They discovered that wives' maladaptive attributions were associated with more negative and less positive behavior, although attributions and behavior were not related in husbands.

Johnson, Karney, Rogge, and Bradbury (2001) attempted to expand upon the nature of the relationship between attributions, behavior, and marital satisfaction. They tested a mediational model, in which attributions lead to changes in marital satisfaction through behavior, in addition to a moderational model, in which behaviors are thought to affect the strength of the relationship between attributions and satisfaction. They did not find evidence for a mediational relationship; however, their results supported the roles of verbal aggression, anxiety, and sadness behaviors as moderators of the attribution-satisfaction link.

The results of the studies outlined above indicate that attributions are related to behavior in marriages. There is currently a wide body of literature strongly linking marital interaction behaviors to marital satisfaction. For example, poor problem-solving skills (Johnson, Cohan, Davila et al., 2005) and negative behavior (Weiss & Heyman, 1997) have both been found to characterize discordant couples. Returning to consider Bradbury's and Fincham's (1989, 1991) theoretical model of marital interaction described above, available research strongly supports the theoretical role of attributions in marriage, with attributional style as part of the distal context

influencing attributional processing of partner behavior, which, in turn influences behavior and marital satisfaction.

*Limitations of Attributional Style: Attributions in Context*

Our discussion thus far has made a strong case for the connection between attributional style and marital functioning, with many studies to support the idea that making benign attributions for partner behavior is important in healthy marriages. What, then, is the drawback to positing the importance of uniformly assuming the best of intentions in one's partner? The primary limitation of the attribution literature as a whole is failing to take context into account. Within the contextual model of marital interaction, we see that attributions are thought to directly affect one's own behavior. For example, making benign or benevolent attributions about negative partner behavior may lead spouses to excuse each other's negative behavior, seeing no reason to bring up the issue to the other. As mentioned above, this may be advantageous for minor issues in which coping through modifying one's thoughts is sufficient. However, neglecting to discuss an important or recurrent problem may not be the best strategy for maintaining relationship quality over time. This suggests that possessing a benign attributional bias, while helpful in promoting relationship satisfaction temporarily, may degrade the quality of relationships by failing to address important issues. Karney and Bradbury (1995) also integrate context into their vulnerability-stress-adaptation model of marriage. Specifically, they emphasize the interaction between stressful life events and enduring vulnerabilities of marital partners as contributing to adaptive processes within a relationship. The nature, severity, and chronicity of problems that couples face thus play a vital role in determining adaptive processes in relationship interaction.

Study of attributional style focuses on the *content* of cognitive processes without considering how the *structure* of cognition may also affect marital function. Theory on cognition in close relationships (e.g., Karney, McNulty, & Bradbury, 2001) suggests that having more complex cognitive representations of one's partner and marriage, independent of the content, allows individuals to be more flexible when assimilating new information into relationship schema. This flexibility contributes to resiliency in marital satisfaction in response to setbacks by increasing flexibility in coping behaviors, permitting partners to use more adaptive problem-solving behaviors in various types of difficult situations. These theoretical models suggest that attributional flexibility, or flexibility in assigning attributions in various contexts, may play an important role in marital functioning.

Research findings in the marital literature support the importance of cognitive and behavioral flexibility in marriage. First, studies show that uniformly benign attributions about one's partner can be detrimental when certain types of marital problems exist. For example, McNulty, O'Mara, and Karney (2008) found that, cross-sectionally, benign attributions about negative partner behavior were associated with greater marital satisfaction in couples with more severe problems and characterized by more negative behavior. However, over time, this cognitive strategy was beneficial only to couples with fewer problems, whereas it contributed to steeper declines in satisfaction in more troubled relationships by allowing marital problems to worsen without addressing them directly. Research also suggests that, in women in abusive romantic relationships, benign attributions for negative partner behavior are associated with being less likely to leave the relationship, thus exposing them to continued violence (Katz, Arias, Beach, Brody, & Roman, 1995; Pape & Arias, 2000; Truman-Schramm, Cann, Calhoun, & Vanwallendael, 2000; Gordon, Burton, & Porter, 2004). McNulty and colleagues (2008) suggest

that thinking benevolently about one's partner leads to worsening problem severity by failing to address problems directly, which has been shown to be associated with longitudinal declines in marital satisfaction (Gottman & Krokoff, 1989; Heavey, Layne, & Christensen, 1993). These studies indicate that, in some couples, benign attributions are associated with poorer outcomes, suggesting that attributional flexibility has the potential to be more adaptive.

Second, additional research supports the importance of cognitive flexibility in marital functioning. For example, research on the connection between personality and marital functioning (Haring, Hewitt, & Flett, 2003) has found that perfectionism (a trait inherently characterized by cognitive rigidity) is associated with marital distress, with negative coping strategies mediating this relationship. Echoing the importance of cognitive flexibility in marital functioning, while viewing positive perceptions of one's relationship as more important than negative perceptions is associated with greater initial marital satisfaction, altering the perceived importance of specific positive and negative features of the relationship over time has been shown to be associated with maintaining global marital satisfaction (Neff & Karney, 2003). This study emphasizes the importance of cognitive flexibility by permitting greater responsiveness to relationship context. Attributions may be particularly important in this responsiveness to context by serving as a mechanism to integrate specific relationship experiences with global relationship evaluation, as they have been found to moderate the association between daily specific and global evaluations of a relationship (McNulty & Karney, 2001).

Thirdly, the results of several of the studies reviewed in our discussion of attributions in marriage also support the possibility that attributional flexibility, in addition to benign attributional style, may play an important role in relationship functioning. In Baucom and colleagues (1989) study of attributional style in marriage, they found that the degree to which

partners develop a coherent attributional style (a style with less variability) was correlated with marital distress. This suggests that flexibility in making attributions about the causes of negative events in relationships may be associated with greater marital satisfaction. Consistent with this finding, two studies (Bradbury & Fincham, 1992; Miller & Bradbury, 1995) have found that the association between marital attributions and behavior is moderated by marital distress, with the association between attributions and behavior being stronger in distressed couples. Notably, however, other studies have failed to replicate findings of an association between marital distress and development of a consistent attributional style (Horneffer & Fincham, 1995) and the strength of the association between marital attributions and behavior (Bradbury et al., 1996).

Taken together, theory and research hint that making benign or benevolent attributions about one's partner as a coping strategy when faced with negative partner behavior may not be uniformly adaptive, as it fails to take into account context. Benign attributions may be particularly harmful in marriages characterized by more severe and more chronic problems due to lack of motivation to address these problems, leading to worsening difficulties over time. Cognitive flexibility may play an important role in maintaining relationship functioning through promoting positive and adaptive coping strategies and problem-solving ability.

#### *Cognitive Flexibility and Psychological Adjustment*

Moving our discussion toward the global importance of cognitive flexibility to psychological adjustment, deficits in cognitive flexibility have been implicated in a wide variety of psychiatric illnesses. Cognitive flexibility includes several different components, such as set shifting, perseveration, coping flexibility, and attentional shifting. It is most commonly measured using the Wisconsin Card Sorting Test (WCST), although cognitive flexibility has also been assessed in an assortment of other ways. For example, Steinglass, Walsh, and Stern (2006)

examined cognitive flexibility using the WCST in patients diagnosed with anorexia nervosa. They found that anorexic patients made significantly more perseverative errors than healthy controls on the WCST, indicating a deficit in the set shifting aspect of cognitive flexibility. Tchanturia and colleagues (2004) also found evidence suggesting that individuals with anorexia nervosa and patients with bulimia nervosa have deficits in cognitive flexibility. Using a battery of neuropsychological tests for cognitive flexibility, they found that anorexic subjects displayed impairments in the simple alternation and perceptual shift components of cognitive flexibility, while bulimic patients showed deficits in mental flexibility and perceptual shift.

Problems with cognitive flexibility have also been found in individuals with major depressive disorder (MDD). For example, Fossati, Ergis, and Allilaire (2001) showed that depressed patients had a specific deficit in concept generation as measured with the California Card Sorting Test (a modified version of the WCST). Depressive patients as well as neurasthenia patients have been shown to display deficits in coping flexibility (Gan, Zhang, Wang, Wang, & Shen, 2005). Patients with MDD were found to be less flexible than controls when processing negative stimuli on an emotional modification of the WCST (Deveney & Deldin, 2006). In a study of attentional shifting, Compton and colleagues (2004) found that individuals with low positive affect had more difficulty flexibly shifting attention than those with high positive affect. They interpreted their results as supporting decreased cognitive flexibility in states of low positive affect. Rumination is often implicated as a maintaining factor in depression. Davis and Nolen-Hoeksema (2000) found that ruminators made more perseverative errors and failed to maintain set significantly more than nonruminators on the WCST. They concluded that rumination is characterized by an inflexible cognitive style.



Chamberlain et al. (2006) compared cognitive flexibility in patients with obsessive-compulsive disorder and trichotillomania ; they found that only those with OCD showed deficits in set shifting as measured with the Intradimensional/Extradimensional Shift Task. Difficulties with cognitive flexibility utilizing the WCST have been shown to exist in patients with alcohol dependence as well pathological gamblers (Goudriaan, Oosterlan, de Beurs, & van den Brink, 2006). Finally, in a meta-analysis of neuropsychological functioning in individuals with borderline personality disorder, Ruocco (2005) concluded that borderline patients have deficits in several domains of cognitive functioning, including cognitive flexibility. Thus, numerous studies have found evidence supporting decreased cognitive flexibility in patients with a wide variety of psychiatric illnesses. This suggests that improving cognitive flexibility in individuals may improve mental health outcomes, perhaps including marital satisfaction.

#### *Explanatory Flexibility and Depression*

Similarly to marital research, explanatory style (i.e., attributional style) has long been implicated as a causal and maintaining factor in depression. Explanatory style is conceptualized as the manner in which individuals explain causes for certain events. The reformulated learned helplessness theory (Abramson, Seligman, & Teasdale, 1978) and hopelessness theory (Abramson, Metalsky, & Alloy, 1989) both implicate a depressogenic or pessimistic explanatory style as a risk factor for experiencing depression. This depressogenic explanatory style involves the tendency to view negative events as having stable, global, and internal causes. Explanatory style is usually measured using the Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, et al., 1982), a self-report measure that includes six hypothetical negative situations as well as six hypothetical positive situations. Respondents are asked to write down the one

major cause of each event if it were to happen to them and then rate the cause on the dimensions of internality, stability, and globality.

A large body of literature suggests that the tendency to attribute negative events to stable, global, and internal causes is related to depression. For example, cross-sectional research, longitudinal studies, natural experiments, laboratory experiments, and case studies have all found evidence supporting the existence of a depressogenic explanatory style (e.g., Peterson & Seligman, 1984). Seligman (1981) stated that one of the important goals of psychotherapy for depression is to develop a more optimistic explanatory style. However, more recent theorizing suggests that a flexible approach to explaining negative events may be more adaptive than a uniformly optimistic explanatory style (Peterson & Bossio, 1991; Seligman, 1991). Hence, the concept of explanatory flexibility was introduced in the study of attributions and depression.

Explanatory flexibility has been defined as “the degree of variability that an individual displays in assigning causes to negative events. It is operationalized as the intra-individual standard deviation from the stability and globality of causes attributed to negative events on the ASQ.” (Moore & Fresco, 2007, p. 325). Individuals with high explanatory flexibility are posited to be able to generate multiple perspectives (and, thus, multiple solutions), responsive to specific contextual factors in a situation. As measures of explanatory style and explanatory flexibility are both derived from the ASQ, one might suspect that they would likely share considerable common method and error variance. However, evidence suggests that they are relatively distinct constructs, as indicated by a low degree of covariance (Moore & Fresco, 2007). In this study, explanatory flexibility was also relatively evenly distributed across individuals with high, medium, and low explanatory styles. Thus, explanatory flexibility and

explanatory style are fairly independent from one another and may be thought to affect depression in different ways.

The idea that explanatory flexibility and explanatory style might affect depression differently is supported by recent research in this area. Fresco, Rytwinski, and Craighead (2007) found that explanatory flexibility moderated the association between negative life events experienced during an eight-week period and subsequent depression. The strength of this association remained even after controlling for explanatory style as a main effect and in interaction with the number of negative life events experienced. They also found that explanatory style was only weakly associated with subsequent depression after experiencing negative life events. Thus, explanatory flexibility appears to be more important than explanatory style as a risk factor for development of depression.

Fresco, Heimberg, Abramowitz, and Bertram (2006) also investigated the relationship between negative mood, explanatory style, and explanatory flexibility. Their sample consisted of three groups: never depressed participants, currently dysphoric participants with a history of depression, and euthymic participants with a history of depression. They found that dysphoric participants with a history of depression demonstrated modest increases in explanatory style following a negative mood induction; this effect was not found in the other two groups. They also found that euthymic individuals with a history of depression, but not the other two groups, evinced drops in explanatory flexibility after induction of negative mood. These results indicate that explanatory flexibility and explanatory style are affected by negative mood in different ways, with negative mood induction causing only non-dysphoric depressed individuals to narrow their focus by attributing similar causes to negative events rather than specifically pessimistic or optimistic causes. The authors speculated about the function of this induced cognitive rigidity,

proposing that it may serve to temporarily buffer them from the effects of the negative mood at the cost of greater susceptibility to future depression. This lends further support to the importance of explanatory flexibility in depression.

Fresco, Williams, and Nugent (2006) conducted a study on the relationship between explanatory flexibility, coping flexibility, and symptoms of anxiety and depression. They conceived of coping flexibility as a measure of an individual's willingness to deploy an assortment of different coping strategies. Their findings depicted that the association of explanatory flexibility to depression and anxiety was partially mediated by coping flexibility. They interpreted their results as indicating that flexibility in assigning attributions to negative events promotes flexible coping abilities. Flexible coping, in turn, leads to lower levels of concurrent depression and anxiety. Thus, the results of research on explanatory flexibility and depression supports the incremental validity of explanatory flexibility (over explanatory style alone) in predicting depression and suggests that flexible thinking promotes flexible behavioral deployment, and flexibility in behavior leads to positive psychological adjustment.

#### *Attributional Flexibility and Marital Functioning*

Tying together the research on attributions and cognitive flexibility in marriage, cognitive flexibility in psychiatric illness, and explanatory flexibility in depression, it seems that attributional flexibility has the potential to be a unique and important predictor of marital functioning. First, research suggests that development of negative attributional styles is highly correlated with and predictive of marital distress. Moreover, development of an internally consistent (and hence, rigid and inflexible) style of making relationship attributions may be related to marital distress, although this finding is not supported uniformly across studies. Second, making uniformly benign attributions about one's partner does not take context into

account and has been demonstrated to be associated with poor outcomes in certain types of marriages. Several studies indicate that cognitive flexibility plays an important role in marital functioning, likely through promoting flexible and adaptive behavior. Third, deficits in a variety of components of cognitive flexibility are associated with many types of psychiatric illnesses and mental health problems, including pathological gambling, alcohol dependence, depression, OCD, anorexia nervosa, bulimia nervosa, neurasthenia, depressive rumination, and borderline personality disorder. Finally, explanatory flexibility is associated with development of depression, particularly by decreasing coping flexibility in response to stressful events. Thus, if we synthesize the results of studies from these various areas, attributional flexibility may be a beneficial new area of study in the marital area with important implications for marital functioning. There are several aspects of marital functioning that may be associated with attributional flexibility.

### *Marital Satisfaction*

Given the potential interest of attributional flexibility in marital functioning, marital satisfaction is a natural choice as a construct that may be associated with attributional flexibility. Indeed, marital satisfaction or adjustment is a variable common to virtually all studies of marital functioning. In considering the nature of the possible relationship between marital satisfaction and attributional flexibility, earlier in our discussion, we reviewed two studies examining whether the degree to which spouses develop internally consistent attributional styles may be associated with marital distress. As mentioned previously, one study (Baucom et al., 1989) found that development of an internally consistent attributional style in couples was associated with marital distress, while a second study (Horneffer & Fincham, 1995) failed to support this conclusion.

Why might we expect to find a relationship between these variables if Horneffer and Fincham failed to do so? How might we improve on the conceptualization of marital attributional flexibility and of the relationship between attributional flexibility and marital satisfaction? First, the version of the RAM used in Horneffer & Fincham's study asked participants to rate their attributions on only three dimensions: partner locus, stability, and globality of the cause. However, the version of the RAM we will use in this study also includes the dimensions of intent, motivation, and blame. Encouragingly, the attribution measure used by Baucom and colleagues included five attribution dimensions, more similar to the six used in the current study. We will also try several methods of calculating attributional flexibility scores (as further explained in the data analysis section, below) in order to find the best way of measuring attributional flexibility in couples.

Second, the previous studies to examine consistency of attributional style in couples looked only for evidence of a linear relationship between consistency of attributional style and marital satisfaction. It may be the case that the relationship between attributional flexibility and marital satisfaction is curvilinear. Although there are no specific studies to suggest the utility of examining a quadratic component to the relationship, there is reason to believe that this may be a viable approach. Attributional rigidity may characterize not only couples at the lowest end of the marital satisfaction spectrum, but also couples highest in marital satisfaction. As noted by Horneffer and Fincham (1995), clinical observation suggests that unhappy couples seeking marital therapy are often quite rigid in their perceptions of their partner. However, we have also seen that making uniformly benign (and, therefore, rigid) attributions may be beneficial for couples in healthy marriages with few and/or mild problems, while for more troubled couples, benign attributions can be detrimental to maintaining satisfaction (McNulty et al., 2004). Taken

together, this suggests that it may be helpful to examine a quadratic component to the relationship between satisfaction and attributions.

#### *Moderation of the Relationship between Life Events and Marital Satisfaction*

Another aspect of marital functioning that may be associated to attributional flexibility is negative life events, as attributional flexibility may serve to moderate the relationship between life events and satisfaction. A well-known phenomenon among couples researchers is that of stress spillover (Tesser & Beach, 1998), in which negative stressors in domains external to the relationship is associated with partners' thoughts, feelings, and behaviors within the relationship (Bolger, DeLongis, Kessler & Wethington, 1989; Repetti & Wood, 1997). The degree to which life stress affects the relationship is also moderated by behavior, cognition, and emotion. For example, spouses' problem-solving behavior has been found to moderate the relationship between life events and marital adjustment 18 months later (Cohan & Bradbury, 1997). Similarly, couples transitioning to parenthood (widely considered to be an extremely stressful event) tend to experience attenuated decline in marital satisfaction if they display positive problem-solving behaviors (Cox, Paley, Burchinal, & Payne, 1999) or report less behavioral negativity and greater affection (Shapiro, Gottman, & Carrere, 2000). Implicating the potential role of attributional flexibility as a potential moderator of this relationship, increases in stress have been associated with more negative perceptions of specific relationship problems and more responsibility attributions about partner behavior (Neff & Karney, 2004). Moreover, the results of this study implicate, not only cognitive *content*, but also cognitive *organization* as moderating the effect of stress on global relationship satisfaction, suggesting that stress impairs spouses' ability to separate negative specific relationship perceptions from global evaluations of the relationship.

Thus, findings in the marital area clearly indicate that attributions are important as a moderator of the relationship between negative life events and declines in relationship satisfaction and suggest that flexibility in cognitive organization may have the potential to buffer individuals from resultant declines in relationship satisfaction. Research on explanatory flexibility in depression has demonstrated that explanatory flexibility moderates the relationship between life events and subsequent depression, even after controlling for explanatory style (Fresco, Rytwinski, and Craighead, 2007). Taken together, these studies strongly suggest a potential role of attributional flexibility as a moderator between the negative life events-marital satisfaction link.

### *Forgiveness*

Although not yet mentioned in our discussion thus far, forgiveness is an important construct within the marital area that has a likely association with attributional flexibility. Although forgiveness has been the subject of much research over the past two decades, relatively few of the studies on forgiveness have examined how it operates in marriage. Several theoretical models of forgiveness have been proposed. One model suggests that a two-component motivational system may underlie forgiveness (e.g., McCullough, Rachal, Sandage, Worthington, Brown, & Hight, 1998), in which transgressions induce feelings of perceived attack associated with a motivation to avoid contact with the transgressor as well as feelings of righteous indignation corresponding with motivation to seek revenge. In this model, forgiveness is thought to correspond to a reduction in these motivations, which transform to relationship-constructive motivations. Within the marital area, Fincham & Beach (2001, 2002) have proposed that forgiveness involves a decrease in negative motivation as well as an increase in a positive motivational state associated with approach, or conciliatory, behavior. Studies have



found support for a two-dimensional model of forgiveness (retaliation and benevolence) as well as a three-dimensional model (retaliation, avoidance, and benevolence) (Fincham, Beach, & Davila, 2004).

In terms of its implications in marriage and close relationships, several studies have implicated rumination as an important factor in forgiveness. Defined as a “passive and repetitive focus on the negative and damaging features of a stressful transaction,” (Skinner, Edge, Altman, & Sherwood, 2003, p.242), rumination is inherently characterized by cognitive rigidity and inflexibility. Research has even demonstrated that ruminators are characterized by an inflexible cognitive style, with greater difficulty with executive functioning than non-ruminators (Davis and Nolen-Hoeksema, 2000). Rumination has been consistently linked to reduced forgiveness in multiple studies (e.g., Paleari, Regalia, & Fincham, 2005; Thompson, Snyder, Hoffman, et al., 2005), and within-persons increases in rumination have even been found to lead to within-persons reductions in forgiveness (McCullough, Bono, & Root, 2007).

Studies have also linked forgiveness to relationship attributions, demonstrating positive marital quality is predictive of more benign attributions, and these benign attributions both directly and indirectly facilitate forgiveness (Fincham, Paleari, & Regalia, 2002). Another study found that conflict-promoting responsibility attributions fully mediate the relation between responsibility attributions and communication behavior (Fincham, 2000). Tying these studies in to those assessing rumination suggests that attributional flexibility may be especially important in willingness to forgive one’s partner. Bolstering this claim, one study has even found that forgiveness is positively correlated with cognitive flexibility (Thompson et al., 2005), more strongly implicating attributional flexibility as associated with forgiveness in couples.

### *Ineffective Arguing*

Much of the literature reviewed thus far has tied marital attributions to behavior in marriages. Negative attributions have been linked to poor problem-solving behavior (Miller & Bradbury, 1995), verbal aggression, anxiety, and sadness behaviors (Johnson et al, 2001), and more negative and less positive behavior (Bradbury et al., 1996). Cognitive inflexibility, in the form of perfectionism, has even been found to lead to less adaptive coping strategies, which then leads to declines in marital satisfaction (Haring et al., 2003). Moreover, in our discussion of explanatory flexibility in depression, we have seen that explanatory flexibility promotes coping flexibility, leading to reductions in development of depression (Fresco, Williams, & Nugent, 2006). Considered jointly, the research has clear implications for a possible link between attributional flexibility and ineffective arguing or conflict resolution.

### *Current Study*

The current study attempts to capitalize on prior research on attributions and cognitive flexibility in marriage, cognitive flexibility in psychological disorders, explanatory flexibility in depression by proposing that attributional flexibility may be an important construct affecting various aspects of marital functioning. Much research on attributions has suggested that making benign attributions about the cause of negative behavior is uniformly adaptive. However, recent research on the importance of cognitive flexibility, limitations of benign attributions, and even on consistency in attributional style indicates that benign attributions may not be helpful as a coping strategy, particularly when faced with recurrent or severe negative partner behavior. Using a rigidly benign style in assigning attributions ignores the importance of context in any marital interaction. Studies of cognitive flexibility suggest that it is important for psychological adjustment across a variety of psychiatric illnesses. Moreover, recent research on explanatory

flexibility in depression suggests great benefit to applying to study of attributional flexibility to the marital area.

Attributional flexibility is proposed to be a stable characteristic of partners in marriages, permitting flexible interpretation of spousal behaviors particularly when faced with life stress, and thus leading to increased behavioral coping flexibility. This cognitive and behavioral flexibility is thought to be related to forgiveness processes within marriage. The current study examines the association between attributional flexibility and these various aspects of marital functioning in a sample of 484 African-American couples. Specifically, the hypotheses of the study include the following:

1. Attributional flexibility will demonstrate relative independence from attributional style in marriage, in that they will demonstrate a low degree of correlation.
2. Both attributional style and attributional flexibility will significantly predict marital satisfaction in that more benign attributions and greater attributional flexibility will be associated with greater relationship satisfaction. Moreover, attributional flexibility will add predictive value to attributional style in predicting relationship satisfaction.
3. In addition to the overall main effect, there will also be a quadratic relationship between attributional flexibility and relationship satisfaction, in that marital satisfaction will be highest in people who are either very high or very low in attributional flexibility.
4. Attributional flexibility will moderate the relationship between negative life events and relationship satisfaction. Specifically, the combination of low attributional flexibility and many negative life events will be associated with low levels of marital satisfaction. This moderation effect will remain statistically significant after controlling for attributional style.

5. Both attributional style and attributional flexibility will significantly predict forgiveness in that more benign attributions and greater attributional flexibility will be associated with greater forgiveness. Moreover, attributional flexibility will add predictive value to attributional style in predicting forgiveness.
6. Similar to forgiveness, both attributional style and attributional flexibility will significantly predict negative communication patterns in that less benign (more negative) attributions and lower attributional flexibility will be associated with more ineffective arguing. Moreover, attributional flexibility will add predictive value to attributional style in predicting ineffective arguing.

## CHAPTER 2

### METHOD

#### *Participants*

Four hundred eighty-seven married (88.3%) or engaged (11.7%), African American couples from urban and rural areas in northeast Georgia participated in the study. In order to enroll in the study, participants had to be at least twenty-one years of age, African-American or partnered with an African-American mate, and either married or engaged to be married within one year of the recruitment date. Unmarried couples were excluded from the analyses in order to increase homogeneity of the sample; thus the final sample was comprised of 430 married couples who had been married between 0 to 41 years ( $M = 9.8$ ,  $SD = 9.2$ ). The women in the sample ranged in age from 20 years to 61 years ( $M = 38.9$ ,  $SD = 9.1$ ). Fifty-six point seven % ( $n = 244$ ) had earned at least a bachelor's degree. The mean MAT score for women was 102.4 ( $SD = 28.5$ ). The men in the sample ranged in age from 21 years to 77 years ( $M = 40.6$ ,  $SD = 9.6$ ). A bachelor's degree was earned by 39.8% ( $n = 171$ ) of the men. The mean MAT score for men was 107.9 ( $SD = 25.9$ ). Table 1 provides more detailed descriptive information about study participants.

#### *Procedure*

Each participant received \$25 dollars for completing the battery of measures. Data were obtained during in-home interviews facilitated by trained field interviewers. Before collecting data, interviewers read and reviewed the project statement and consent procedures with each participant. Participants were informed that their involvement in the research was voluntary and

that they could withdraw their participation at any time. Measures were presented on a laptop computer and all items were read to participants by the interviewer as they followed along on the laptop and entered their responses on a separate keypad.

### *Measures*

#### *List of Threatening Experiences Questionnaire*

Negative life events were measured using the List of Threatening Experiences Questionnaire (LTE-Q; Brugha & Cragg, 1990). This questionnaire assessed the occurrence of 12 negative life events associated with depression onset as well as one question added by the authors. Each question asks about events that have occurred during the previous three months. An example item from this measure is, “You had a major financial crisis.” To ensure coverage of financial stress, we also added an item to assess food insecurity. Because items were scored as 0 (did not occur) or 1 (did occur), possible scores on the LTE-Q range from 0 to 13. For example, to obtain a score of 2 on the LTE-Q, a participant would have to endorse the occurrence within the previous three months of two events such as getting fired from a job, having an item lost or stolen, experiencing legal difficulties, or the death or illness of a family member.

#### *Relationship Attribution Measure*

The Relationship Attribution Measure (RAM; Fincham & Bradbury, 1992) presents respondents with four negative partner behaviors, such as “Your spouse criticizes something you say.” Respondents are asked to rate their agreement with a variety of attributions about the behaviors on a 6-point scale. The RAM includes subscales measuring locus, stability, globality, intent, motivation, and blame attributions. The RAM also yields cause (comprised of locus,

stability, and globality) and responsibility (intent, motivation, and blame) composite scores. The reliability of the RAM is high, with an average composite  $\alpha$  of .90.

#### *Marital Adjustment Test*

The Marital Adjustment Test (MAT; Locke & Wallace, 1959) is a 15-item scale that includes questions about the extent of spouse agreement across a variety of situations, such as handling family finances and demonstrations of affection. Internal consistencies for the MAT are estimated at .84 and .80 for husband and wives, respectively (Davey, Fincham, Beach, & Brody, 2001).

#### *Marital Forgiveness Scale*

The Marital Forgiveness Scale (MFS; Fincham & Beach, 2002) is a 6-item scale that assesses forgiveness in individuals as a dispositional characteristic. Three items measure willingness to forgive, and three items measure desire for retaliation. In this scale, respondents are asked to indicate their agreement using 5-point ratings with statements such as, “I think about how to even the score when my partner wrongs me,” and “When my partner wrongs me, I just accept their humanness, flaws, and failures.” The scale has strong face validity, although psychometric properties for this measure were not reported.

#### *Forgiveness-Specific Incident Scale*

The Forgiveness-Specific Incident Scale (FIS; Fincham & Beach, 2002) asks respondents to think of a specific event in which one’s mate did something to hurt or upset the respondent. Respondents are asked about the severity of the transgression and to rate their agreement using a 5-point scale with statements such as, “It was easy to feel warmly again toward my mate,” and “I found a way to make him/her regret it.” Like the MFS, the FIS has strong face validity, but no psychometric properties were reported.

*Ineffective Arguing Inventory*

The Ineffective Arguing Inventory (IAI; Kurdek, 1994) is an 8-item questionnaire that assesses a dysfunctional style of conflict resolution in couples, particularly regarding how effective arguments are in resolving differences. The IAI has good internal consistency, with  $\alpha$ 's ranging from .86 to .89, 1-year stability, and convergent, discriminate, and predictive validity (Kurdek, 1994).



## CHAPTER 3

### RESULTS

As husband and wife responses are not independent, all data were analyzed separately for husbands and for wives. Husband and wife data were also analyzed at the dyadic level by calculating the mean of a husband's and wife's score on each variable and using these variables in analyses. Thus, results of all analyses are reported for husbands, wives, and couples.

#### *Measuring Attributional Flexibility and Attributional Style*

As attributional flexibility was the primary construct of interest, measures of attributional flexibility were the first variables to be calculated. In the literature on explanatory flexibility in depression (e.g., Moore & Fresco, 2007), explanatory flexibility is operationalized as the intra-individual standard deviation from the stability and globality of causes attributed to negative events on the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). There are six hypothetical negative events included in the ASQ, with one question asking about stability and one about globality of the attributed cause for each event; thus explanatory flexibility is computed by determining the standard deviation of these 12 stable and global items for negative events.

The RAM was used in the present study to calculate attributional flexibility. As mentioned above, respondents rate causal attributions along six dimensions for four hypothetical events. Because the items on the RAM and number of scenarios are different than on the ASQ, directly applying the operational definition of explanatory flexibility to deriving attributional flexibility scores was not possible. Thus, two different methods of calculating attributional

flexibility using the RAM were utilized. First, a composite attributional flexibility score was computed by calculating the intra-individual standard deviation from the six attribution dimensions for all scenarios (a total of 24 items). Using the alternative method of calculation, two index attributional flexibility scores were computed. As the RAM yields cause (comprised of locus, stability, and globality) and responsibility (intent, motivation, and blame) index scores, a causal attributional flexibility index score and a responsibility attributional flexibility index score were computed separately (using the intra-individual standard deviation from 12 items for each score).

As there was no theoretical basis to support selecting one of these three measures as a more valid measure of attributional flexibility than the others, the strength of the correlation between the two index attributional flexibility scores determined which measurement of attributional flexibility would be used in further analyses. The causal attributional flexibility index and the responsibility attributional flexibility index were highly correlated for wives ( $r = .60$ ), for husbands ( $r = .53$ ), and for couples ( $r = .59$ ). Therefore, the composite attributional flexibility was used in further analyses. The RAM causal attributional style index and the RAM responsibility attributional index were very highly correlated ( $r = .76$  for wives,  $r = .79$  for husbands, and  $r = .80$  for couples), with a stronger relationship than the attributional flexibility indices. The degree of correlation between the RAM indices suggests that they may essentially be the same construct, so only the composite RAM attributional style will be used in regression analyses.

#### *Differentiating Attributional Flexibility from Attributional Style*

In order to test the hypothesis that attributional flexibility and attributional style in marital relationships are independent constructs, the zero-order correlations among these

variables were computed. As predicted, the correlations between the three indices of attributional flexibility and their corresponding indices were relatively modest, with correlation coefficients ranging from .19 to .30 for wives, from .22 to .34 for husbands, and .21 to .32 for couples (see Table 2). Although all correlations were statistically significant, the large sample size may have artificially inflated the  $p$ -values. With the exception of correlations between the attributional flexibility responsibility index and the attributional style responsibility, all correlation coefficients corresponded with Cohen's convention for a small-medium effect (Cohen, 1988). Furthermore, visual examination of scatterplots of these correlations reveals no apparent relationship to the naked eye (see Figures 1, 2, and 3). Thus, despite common method variance due to being derived from the RAM, attributional flexibility and attributional style appear to be independent constructs.

#### *Attributional Flexibility and Marital Satisfaction*

All predictors were centered in regression analyses to address potential problems with multicollinearity (Aiken & West, 1991). Centering was also important to test hypotheses 2 and 3, as this permitted testing for a quadratic relationship. Furthermore, all regression analyses controlled for years married, as differences may be expected between couples who have been married for a brief time and those married for many years.

Controlling for years married, regression analyses demonstrated that, as predicted, attributional flexibility significantly predicted relationship satisfaction (MAT score) for husbands ( $R^2 = .03$ ),  $F(2, 419) = 6.60, p < .005$ ; for wives ( $R^2 = .03$ ),  $F(2, 413) = 5.61, p < .005$ ; and for couples ( $R^2 = .04$ ),  $F(2, 405) = 7.7, p < .001$ . The direction of the relationship, however, was negative, contrary to the hypothesized relationship. An additional variable was created by taking the square of the centered attributional flexibility score. When entering this quadratic term into

the equation, the  $R^2$  change was significant for husbands ( $R^2$  change = .01),  $df = 1, 418, p < .05$ ; wives ( $R^2$  change = .01),  $df = 1, 412, p < .05$ ; and couples ( $R^2$  change = .02),  $df = 1, 404, p < .005$ . The direction of the curvilinear relationship was in the expected direction, with higher relationship satisfaction in those with either high or low in flexibility (see Figures 4, 5, and 6). Contrary to the hypothesis, when controlling for attributional style, neither the linear term nor the quadratic term significantly predicted relationship satisfaction after controlling for attributional style for husbands, wives, or couples.

Finally, the interactions between the linear component of attributional flexibility and attributional style as well as between the quadratic component of attributional flexibility and attributional style were examined by regressing the linear component of attributional flexibility, the quadratic component of flexibility, and the two interaction terms on marital satisfaction (entered in a single step), after controlling for length of marriage and attributional style. For husbands, the addition of the interaction terms significantly increased the predictive ability of the model ( $R^2$  change = .02),  $df = 2, 415, p < .001$ , with the interaction between the quadratic component of attributional flexibility and attributional style being marginally significant [ $\beta = .13, t(415) = 1.90, p = .059$ ] and the interaction between the linear term and attributional style being marginal [ $\beta = -.09, t(415) = -1.66, p = .098$ ]. Examining the nature of the relationship more specifically, lower attributional flexibility was associated with greater marital satisfaction for husbands making more benign attributions. For husbands with more negative attributions about their wives' behavior, an intermediate level of attributional flexibility was associated with the greatest marital satisfaction (see Figure 7). For wives and for couples, however, the addition of the two interaction terms did not significantly increase predictive ability of the model in the present sample.

*Attributional Flexibility, Negative Life Events, and Marital Satisfaction*

In order to test the hypothesis that attributional flexibility would moderate the relationship between negative life events and marital satisfaction, hierarchical regression was used. Length of marriage was entered in step 1. Attributional style was entered in step 2, followed by the linear and quadratic terms of attributional flexibility in step 3 and negative life events (as measured by LTE-Q score) in step 4. The three two-way interaction terms were entered in steps 5 through 7, with the interaction between negative life events and attributional style entered first, followed by the interactions between negative life events and the linear and quadratic components of attributional flexibility, and finally the interactions between both components of attributional flexibility and attributional style. This order was chosen to allow attributional style the greatest chance to explain variance prior to the entry of attributional flexibility. The two three-way interaction terms were added in the last step. Marital satisfaction was the dependent variable.

The results of this model for husbands, wives, and couples are shown in Tables 3, 4, and 5. The results do not support the hypothesized moderating effect of explanatory flexibility on the relationship between negative life events and marital satisfaction for husbands, wives, or couples in the present sample. In husbands, attributional style (but not flexibility) and negative life events were main effect predictors of marital satisfaction. The addition of the interactions between both the linear and quadratic terms of attributional flexibility and attributional style also increased the predictive ability of the model, with each interaction having a marginal effect on marital satisfaction. This is consistent with the results discussed in the previous section regarding the effect of these two interactions on marital satisfaction.

For wives, the only main effect predictor of marital satisfaction was attributional style, with the interaction between attributional style and negative life events also significantly adding to the predictive ability of the model. At the couple level, there was a main effect for attributional style, and the addition of life events marginally increased the predictive ability of the model. Regarding interaction effects, similarly to husbands, the interaction between attributional style and negative life events also marginally increased the predictive ability of the model. Adding the interactions between attributional style and the linear and quadratic components of attributional flexibility significantly increased the predictive ability of the model, with each interaction individually having a marginal effect. These interactions were consistent with those found in husbands in the above section.

#### *Attributional Flexibility and Forgiveness*

In order to test the hypothesis that attributional flexibility would be associated with forgiveness after controlling for attributional style, hierarchical regression was used. Using dispositional marital forgiveness (MFS score; higher score indicates greater forgiveness) as the dependent variable, number of years married was entered in step 1. Attributional style was entered in step 2 and both the linear and the quadratic components of attributional flexibility were entered in step 3, so as to allow attributional style the greatest chance to explain variance prior to the entry of attributional flexibility. The two two-way interaction term between both components of attributional flexibility and attributional style were entered in the fourth step. This order was chosen to allow attributional style the greatest chance to explain variance prior to the entry of attributional flexibility. This analysis was then repeated with situational forgiveness (FSI score) as the dependent variable, also controlling for reported severity of the transgression.

The results of the analyses using dispositional marital forgiveness as the dependent variable are shown in Tables 6, 7, and 8. For wives and couples, although not for husbands, number of years married significantly predicted marital forgiveness, with greater duration of marriage associated with greater forgiveness. For husbands, wives, and couples, attributional style was negatively associated with forgiveness, and the quadratic component of attributional flexibility was significantly related to forgiveness after controlling for length of marriage and attributional style. The nature of this relationship was similar to the relationship between the quadratic component of attributional flexibility and marital satisfaction, with higher forgiveness found in those at both the high and low ends of attributional flexibility (see Figures 8, 9, and 10). The linear component of attributional flexibility, however, was not related to marital forgiveness.

The results of the analyses using situation-specific marital forgiveness were somewhat different than those using dispositional forgiveness as the dependent variable (see Tables, 9, 10, and 11). For husbands, there were main effects of problem severity (with less severe problems being associated with greater forgiveness) and attributional style. In addition, as was the case in dispositional forgiveness, the quadratic component but not the linear component of attributional flexibility significantly predicted incident-specific forgiveness, even after controlling for length of marriage, problem severity, and attributional style. The interaction terms were not significant. For wives and couples, the predictors of situational forgiveness were the same as for husbands except the linear component, and not the quadratic component, significantly predicted situational forgiveness after controlling for number of years married, transgression severity, and attributional style. These results were consistent with hypotheses, as greater attributional flexibility was associated with greater situation-specific forgiveness.

*Attributional Flexibility and Ineffective Arguing*

Hierarchical regression was also used to test the final hypothesis that attributional flexibility would be inversely associated with ineffective arguing, after controlling for number of years married and attributional style. Potential interaction effects between the two components of attributional flexibility and attributional style were also examined. These analyses were identical to those described above for dispositional forgiveness, but used ineffective arguing (as measured by IAI score) instead of MFS score as the dependent variable.

The results of these analyses for husbands and wives and at the couple-level are depicted in Tables 12, 13, and 14. There were main effects of length of marriage (with more effective problem-solving skills associated with greater duration of the marriage), attributional style (with more negative attributional style associated with less effective arguing), as well as with the linear and quadratic components of attributional flexibility. The relationship between the two components of attributional flexibility and ineffective arguing were similar to the results found when using marital satisfaction as the dependent variable (see Figures 11, 12, and 13). Contrary to hypotheses, overall, greater attributional flexibility was associated with less effective arguing. Considering the quadratic component, for husbands and wives, being high or low in attributional flexibility was associated with more effective problem-solving; however, at the couple level, the quadratic component reflected the linear effect, with the lowest levels of attributional flexibility associated with more effective problem-solving behavior.



## CHAPTER 4

### DISCUSSION

The current study sought to determine whether attributional flexibility, in addition to attributional style, may play an important role in marital functioning. Much of the research on attributions in marriage has focused on attributional style, neglecting to consider the construct of attributional flexibility. Recent studies on cognitive flexibility in marriage have investigated how cognitive flexibility is associated with marital satisfaction (e.g., McNulty et al., 2008), but there is a gap in the literature addressing which specific aspects of marital functioning may be affected by attributional flexibility. As such, this study was an attempt to examine specific variables that may be affected by attributional flexibility and proposed that there may be a curvilinear relationship between attributional flexibility and aspects of marital functioning.

For the first hypothesis, results of correlational analyses indicate that attributional flexibility and attributional style do appear to be independent constructs. Despite the fact that they are both derived from the RAM and share considerable common method and error variance, they demonstrated a low degree of correlation in the present study. These results are consistent with research on depression indicating that explanatory flexibility and explanatory style are relatively distinct constructs (Moore & Fresco, 2007).

Analyses related to the second hypotheses revealed that attributional flexibility did significantly predict marital satisfaction, although not in the expected direction, with lower flexibility associated with higher satisfaction. Moreover, attributional flexibility did not significantly contribute to variance in marital satisfaction after controlling for attributional style.

Interaction effects were found for husbands only, indicating that an intermediate level of attributional flexibility is associated with the greatest marital satisfaction, but only for husbands making negative attributions about their wives' behavior. As a rigidly benign attributional style is, by definition, one low in flexibility, and attributional style was strongly inversely associated with marital satisfaction, results for these analyses are consistent with previous research demonstrating benign attributional styles are indicative of marital satisfaction (e.g., Fincham & Bradbury, 1987), at least cross-sectionally.

Results of the present study supported the third hypothesis that there would be a quadratic effect in addition to the overall main effect of attributional flexibility. Results revealed that adding a quadratic term significantly added predictive value to the linear component of attributional flexibility in predicting marital satisfaction. Furthermore, results were in the expected direction, with higher levels of satisfaction found in those both lowest and highest in attributional flexibility. There have been no studies other than the current study that have examined a quadratic relationship between attributional flexibility and marital satisfaction. However, results of these analyses are somewhat consistent with McNulty and colleagues' (2008) finding that benign attributional styles are beneficial for some couples but problematic and predictive of steeper declines in satisfaction over time in couples with more severe problems. In the current study, low attributional flexibility may reflect spouses with rigidly benign attributional styles and may be beneficial for couples with relatively minor difficulties. High attributional flexibility may represent those couples with more severe problems for whom benign styles are problematic.

Results of regression analyses failed to support the fourth hypothesis that attributional flexibility would moderate the relationship between negative life events and marital satisfaction.

Although life events were found to contribute to a significant proportion of variance in marital satisfaction for husbands and for couples, neither the linear nor the quadratic term of attributional flexibility affected marital satisfaction in interaction with negative life events after controlling for attributional style. These findings are unexpected, given results of complementary studies, such as results demonstrating that attributional flexibility moderates the relationship between negative life events and subsequent depression (Fresco et al., 2007) and that cognitive flexibility moderates the impact of stress on marital satisfaction (Neff & Karney, 2004). Results of the current study indicate it may be that attributional flexibility, specifically, is not related to marital satisfaction. However, this study also used a cross-sectional design, while other research has used a longitudinal design to examine these effects. It may be the case that attributional flexibility does moderate the impact of stress on marital satisfaction, but only if satisfaction is addressed on a subsequent occasion. It is also possible that attributional flexibility affects only the manner in which partners integrate feelings about a specific problem into their global evaluations of the relationship.

For the fifth hypothesis, results of regression analyses revealed that the linear component of attributional flexibility was not related to dispositional marital forgiveness, although length of marriage and the quadratic component of attributional flexibility significantly predicted dispositional forgiveness, even after controlling for attributional style. Longer duration of marriage and being either high or low in attributional flexibility were associated with greater levels of forgiveness. In contrast to results of dispositional forgiveness analyses, regression analyses using situation-specific forgiveness as the dependent variable revealed different results. Although results for husbands were similar to results of other analyses in that attributional style and the quadratic term significantly predicted forgiveness for a specific partner transgression,

results for wives and couples found that the linear component, and not the quadratic component, of attributional flexibility predicted situational forgiveness after controlling for length of marriage, transgression severity, and attributional style. In fact, greater flexibility was associated with greater situation-specific forgiveness, as hypothesized.

For the final hypothesis, results of analyses were similar to those of previous hypotheses discussed, with higher levels of attributional flexibility associated with more ineffective arguing, contrary to the expected direction of results. Additionally, for husbands and wives, a significant quadratic component of attributional flexibility suggested that being either high or low in flexibility was associated with more effective problem-solving. Again, this finding may reflect that possessing a benign attributional style is beneficial for problem-solving and resolution during conflict discussions. Alternatively, this finding, in combination with results of analyses using marital satisfaction and dispositional marital forgiveness as the dependent variable, may indicate that attributional flexibility operates differently in affecting global, enduring tendencies of a spouse than in affecting specific responses to a particular negative relationship incident. This alternate explanation will be further elaborated below.

Overall, hypotheses related to the quadratic component of attributional flexibility were supported by results of the current study. It appears that there is value to examining curvilinear relationships in studies of attributional flexibility in marriage, a type of relationship that is rarely addressed in marital research. Hypotheses related to the linear aspect of attributional flexibility generally found relationships between flexibility and variables related to marital functioning in the reverse direction than was predicted, with the exception of results of analyses using situation-specific forgiveness as the outcome measure. The unique behavior of attributional flexibility in affecting situation-specific forgiveness may not be idiosyncratic, though, as most of the self-

report measures used in this study assessed fairly stable, global characteristics of a partner's thoughts and feelings about the marriage, such as global marital satisfaction, dispositional marital forgiveness, and self-reported ineffective arguing tendencies. The incident-specific marital forgiveness measure was the only one to ask partners about a concrete event in their relationship and answer questions related to that specific incident.

Returning to the contextual models of marital interaction discussed earlier (Bradbury & Fincham, 1989; Bradbury & Fincham, 1991; Karney & Bradbury, 1995), I consider attributional flexibility to affect the "online" cognitive processing of a spouse in a specific situation in response to negative partner behavior. This online processing is contextual, in that it takes into account the specific behavior, the history of that behavior, and situational variables in determining one's behavioral response. Flexibility during this processing, taking into account contextual variables, is thought to subsequently lead to behavioral flexibility and effectiveness in responding to and resolving a specific problem. Attributional flexibility may not directly affect global evaluations of one's relationship, affecting only one's cognitive processing in response to specific situations. This idea is consistent with results of a recent study demonstrating that cognitive complexity (a concept very similar to cognitive flexibility) in newlyweds' conceptions of relationship problems contributed unique variance to quality and effectiveness of problem-solving in a discussion about a specific problem in their relationship (Karney & Gauer, 2010). Moreover, although they found that complexity of spouses' thoughts was associated with behavior, cognitive complexity was not associated with global marital satisfaction, personal need for structure, or attributional style (all global evaluations).

Interpreting results of the current study in light of the contextual models of marriage, it appears well-founded to think that attributional flexibility would only be beneficial in reaction to

a specific event (such as, forgiveness of one's partner for committing a particular transgression) rather than to any type of global evaluation of one's relationship. Using only situation-specific measures, such as the self-report, incident-specific forgiveness measure may have been a better means of testing my original ideas about the functioning of attributional flexibility in marriage and may explain the results of the present study.

### *Implications*

In terms of implications for research, the present study demonstrated that possible curvilinear relationships in studies of cognition in marriage are deserving of attention. As mentioned previously, examining quadratic terms is particularly rare in marital research, and to my knowledge, there have been no studies to date of marital cognition that have examined potential quadratic relationships other than the present study. As findings of the quadratic component of attributional flexibility accounting for a unique portion of variance in aspects of marital functioning were quite pervasive in the current study, this suggests that many researchers may be overlooking an important, yet unexplored, component of relationships between predictors and outcome measures in marital studies.

The finding that attributional flexibility was linearly related to a positive outcome (e.g., forgiveness) only in analyses using an incident-specific measure and not when using measures of global evaluations also has potential important implications for research. Particularly when considered in combination with Karney and Gauer's (2010) results, cognitive flexibility in general, and attributional flexibility in particular, may not be predictive of more positive global evaluations at any given point in time. Rather, these factors may serve to reduce the negative impact of particular problematic partner behavior. This suggests that future research in this area may find stronger relationships if the focus is on the time course of response to specific events or

on the amount of longitudinal change in response to specific relationship stressors or periods of conflict.

Regarding implications for clinical work, most previous marital interventions targeting modifying cognition have focused on changing the content of spouses' cognitions (e.g., Baucom & Epstein, 1989). It may be helpful to integrate these interventions with interventions addressed at modifying the structure and organization of spouses' cognitions about their relationship difficulties. For example, such an intervention might encourage spouses to learn to "pick their battles" by thinking benignly about minor conflicts (making benign attributions) but not to jump to their first conclusion about the motivation behind partners' behavior (being flexible in making attributions). Once they arrive at a possible explanation for their partners' behavior, it may be helpful to assist spouses in thinking of other possible explanations, addressing issues that are particularly problematic and unlikely to be resolved through thinking benevolently. It may even be easier to help partners modify the *way* they think about their problems than *what* they think about them, as an intervention targeting cognitive organization may be more easily generalizable than interventions addressing only the content of thoughts about a specific problem.

#### *Limitations and Future Research*

Although the present study does have its benefits and potentially important implications, it has limitations, as well. This study includes only data acquired at a single time point. A longitudinal design may have been necessary to find how attributional flexibility affects aspects of marital functioning over time, particularly to determine if it may play a causal role in changes in marital quality. Furthermore, given the conclusion that attributional flexibility may affect behavioral responses in particular situations without affecting global evaluations or feelings

about one's partner and one's relationship, a drawback of this study is not including more incident-specific measures to fully explore this hypothesis.

All study participants were African-American, and much research suggests that many mental health processes operate differently in African-American and Caucasian populations (e.g., Gibson & Denby, 2007; Walker & Hunter, 2009). Some factors proposed to explain differences in mental health are experiences of racism, African cultural heritage and importance of social relationships, and the history of African-American oppression in the United States (Speight, Blackmon, Odugu, & Corey, 2009). Although the reasons for these differences are primarily unknown, it is certainly possible that cognitive processes in marriage also operate differently in African American and Caucasian populations. Thus, the results of the current may possibly not be generalizable to Caucasian marriages. Although lack of generalizability is a limitation, the uniformly African-American sample is a strength, as well. Attributional flexibility may be particularly important for African-American couples because on average, they experience a greater array of stressors, including racism, discrimination, and poverty. Given the potentially elevated number and severity of problems, attributional flexibility may encourage couples to address these difficulties more directly.

Future research on attributional flexibility in marriage should attempt to build upon some of the limitations already mentioned. It may be helpful to examine how attributional flexibility operates in different racial samples to see if the results of the present study can be replicated in different populations. It would also be beneficial to examine many of the same marital outcomes in longitudinal designs to see if attributional flexibility functions differently over time than it does cross-sectionally.



Future studies should also attempt to build on some of the important conclusions of this study. First, the results of the current study clearly implicate a quadratic relationship between attributional flexibility and several aspects of marital functioning. It is recommended that future studies on cognition, particularly cognitive flexibility, in marriage consider examining curvilinear relationships, a means of examining the data that is very rare among marital research today. Second, it may be important for future research on cognitive flexibility to address how this flexibility may differentially affect situation-specific and global variables, as it may be that cognitive structure in marriage is most important in understanding specific behavioral or cognitive responses that are context-dependent, while cognitive content is more important in determining global thoughts and feelings about one's marriage. This is certainly an area of study worthy of further explanation.

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Table 1. Demographic and Baseline Measures for Final Sample of Married Couples

Variable	Group	
	Men	Women
	M (SD)	M (SD)
Age	40.6 (9.6)	38.9 (9.1)
Composite Attributional Flexibility Score	.8 (.4)	.8 (.4)
Composite Attributional Style Score	2.5 (.8)	2.7 (.7)
MAT	107.9 (25.9)	102.4 (28.5)
LTE-Q	1.3 (1.3)	1.3 (1.4)
MFS	3.9 (.6)	3.6 (.7)
FIS Sum	27.7 (4.4)	28.1 (4.4)
IAI	2.8 (1.0)	2.9 (1.0)
% With at Least One Prior Marriage	25.3	26.0
% Completing at Least a Bachelor's Degree	39.8	56.7

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*Note.* MAT = Marital Adjustment Test, LTE-Q = List of Threatening Experiences Questionnaire, MFS = Marital Forgiveness Scale, FIS = Forgiveness-Specific Incident Scale, IAI = Ineffective Arguing Inventory.

Table 2.

Pearson Product-Moment Correlations of Attributional Flexibility Indices With Corresponding Attributional Style Indices.

<b>Attribution Index Type</b>	Wives	Husbands	Couples
Composite	.23*	.22*	.22*
Causal	.19*	.22*	.21*
Responsibility	.30*	.34*	.32*

\*  $p < .01$

Table 3. Hierarchical Regression Analysis Evaluating Whether Attributional Flexibility and Attributional Style Moderate the Relationship Between Negative Life Events and Marital Satisfaction in Husbands.

<b>HUSBANDS</b>								
<b>Step</b>	<b>Predictor</b>	<b>Regression Coefficients</b>			<b>Regression Model</b>			
		<b><math>\beta</math></b>	<b><i>t</i></b>	<b><i>p</i></b>	<b><math>R^2</math> Change</b>	<b><i>F</i> Change</b>	<b><i>df</i></b>	<b><i>p</i></b>
1	YRSMAR	.04	.74	<i>ns</i>	.00	.54	1, 417	<i>ns</i>
2	STY	-.53	-12.48	<.001	.27	155.85	1, 416	<.001
3	FLEX	-.06	-1.26	<i>ns</i>	.00	1.03	2, 414	<i>ns</i>
	SQFLEX	.02	.55	<i>ns</i>				
4	LTE	-.09	-2.18	.03	.01	4.75	1, 413	.03
5	STY*LTE	-.07	-1.56	<i>ns</i>	.00	2.42	1, 412	<i>ns</i>
6	FLEX*LTE	-.03	-.47	<i>ns</i>	.00	.12	2, 410	<i>ns</i>
	SQFLEX*LTE	.02	.31	<i>ns</i>				
7	FLEX*STY	-.10	-1.63	.105	.02	5.97	2, 408	.003
	SQFLEX*STY	.12	1.65	.099				
8	FLEX*STY*LTE	.05	.84	<i>ns</i>	.00	.48	2, 406	<i>ns</i>
	SQFLEX*STY*LTE	-.03	-.43	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component); LTE = centered negative life events (score on LTE-Q).

Table 4. Hierarchical Regression Analysis Evaluating Whether Attributional Flexibility and Attributional Style Moderate the Relationship Between Negative Life Events and Marital Satisfaction in Wives.

WIVES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	<i>t</i>	<i>p</i>	$R^2$ Change	<i>F</i> Change	<i>df</i>	<i>p</i>
1	YRSMAR	.05	1.10	<i>ns</i>	.00	1.200	1, 410	<i>ns</i>
2	STY	-.52	-12.11	<.001	.26	146.68	1, 409	<.001
3	FLEX	-.05	-1.04	<i>ns</i>	.00	.68	2, 407	<i>ns</i>
	SQFLEX	.01	.32	<i>ns</i>				
4	LTE	-.06	-1.34	<i>ns</i>	.00	1.80	1, 406	<i>ns</i>
5	STY*LTE	-.08	-1.97	.05	.01	3.87	1, 405	.05
6	FLEX*LTE	.05	1.08	<i>ns</i>	.00	.60	2, 403	<i>ns</i>
	SQFLEX*LTE	.00	-.05	<i>ns</i>				
7	FLEX*STY	-.09	-1.49	<i>ns</i>	.01	1.70	2, 401	<i>ns</i>
	SQFLEX*STY	.00	.04	<i>ns</i>				
8	FLEX*STY*LTE	-.04	-.68	<i>ns</i>	.00	.85	2, 399	<i>ns</i>
	SQFLEX*STY*LTE	-.10	-1.29	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component); LTE = centered negative life events (score on LTE-Q).

Table 5. Hierarchical Regression Analysis Evaluating Whether Attributional Flexibility and Attributional Style Moderate the Relationship Between Negative Life Events and Marital Satisfaction in Couples.

COUPLES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.07	1.3	<i>ns</i>	.00	1.69	1, 399	<i>ns</i>
2	STY	-.64	-16.22	<.001	.40	263.05	1, 398	<.001
3	FLEX	-.03	-.81	<i>ns</i>	.01	2.11	2, 396	<i>ns</i>
	SQFLEX	.07	1.58	<i>ns</i>				
4	LTE	-.07	-1.89	.06	.01	3.57	1, 395	.06
5	STY*LTE	-.07	-1.86	.06	.01	3.45	1, 394	.06
6	FLEX*LTE	-.05	-1.20	<i>ns</i>	.00	.72	2, 392	<i>ns</i>
	SQFLEX*LTE	.00	-.05	<i>ns</i>				
7	FLEX*STY	-.11	-2.03	.04	.01	3.10	2, 390	.05
	SQFLEX*STY	.00	.05	<i>ns</i>				
8	FLEX*STY*LTE	-.04	-.89	<i>ns</i>	.01	1.68	2, 388	<i>ns</i>
	SQFLEX*STY*LTE	-.12	-1.79	.08				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component); LTE = centered negative life events (score on LTE-Q).



Table 6. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Dispositional Marital Forgiveness in Husbands.

<b>HUSBANDS</b>								
<b>Step</b>	<b>Predictor</b>	<b>Regression Coefficients</b>			<b>Regression Model</b>			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.08	1.64	<i>ns</i>	.01	2.70	1, 419	<i>ns</i>
2	STY	-.37	-8.11	<.001	.14	65.83	1, 418	<.001
3	FLEX	.05	1.16	<i>ns</i>	.02	3.81	2, 416	.02
	SQFLEX	.12	2.61	<.01				
4	FLEX*STY	.00	-.02	<i>ns</i>	.01	1.15	2, 414	<i>ns</i>
	SQFLEX*STY	.09	1.26	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 7. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Dispositional Marital Forgiveness in Wives.

WIVES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.12	2.52	.01	.02	6.35	1, 414	.01
2	STY	-.25	-5.31	<.001	.06	28.23	1, 413	<.001
3	FLEX	.04	.87	<i>ns</i>	.02	3.66	2, 411	.03
	SQFLEX	.13	2.68	<.01				
4	FLEX*STY	.04	.65	<i>ns</i>	.00	.24	2, 409	<i>ns</i>
	SQFLEX*STY	.05	.58	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 8. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Dispositional Marital Forgiveness in Couples.

COUPLES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.13	2.66	<.01	.02	7.08	1, 405	<.01
2	STY	-.39	-8.37	<.001	.15	70.11	1, 404	<.001
3	FLEX	.02	.36	<i>ns</i>	.02	4.15	2, 402	.02
	SQFLEX	.14	2.85	<.001				
4	FLEX*STY	-.02	-.39	<i>ns</i>	.00	.50	2, 400	<i>ns</i>
	SQFLEX*STY	.04	.51	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 9. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Situational Marital Forgiveness in Husbands.

<b>HUSBANDS</b>								
<b>Step</b>	<b>Predictor</b>	<b>Regression Coefficients</b>			<b>Regression Model</b>			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.08	1.38	<i>ns</i>	.01	1.915	1, 279	<i>ns</i>
2	FISSEV	.28	4.80	<.001	.08	23.06	1, 278	<.001
3	STY	-.33	-5.29	<.001	.08	27.99	1, 277	<.001
4	FLEX	.09	1.55	<i>ns</i>	.02	3.72	2, 275	.03
	SQFLEX	.14	2.43	.02				
5	FLEX*STY	.01	.08	<i>ns</i>	.00	.13	2, 273	<i>ns</i>
	SQFLEX*STY	-.03	-.39	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; FISSEV = FIS severity index (higher score indicates less severe transgression); STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 10. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Situational Marital Forgiveness in Wives.

WIVES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.09	1.02	<i>ns</i>	.01	1.04	1, 141	<i>ns</i>
2	FISSEV	.40	5.20	<.001	.16	27.06	1, 140	<.001
3	STY	-.27	-3.30	<.001	.06	10.90	1, 139	<.001
4	FLEX	.19	2.05	.04	.02	2.18	2, 137	<i>ns</i>
	SQFLEX	.14	1.43	<i>ns</i>				
5	FLEX*STY	-.25	-1.17	<i>ns</i>	.01	.70	2, 135	<i>ns</i>
	SQFLEX*STY	-.26	-1.10	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; FISSEV = FIS severity index (higher score indicates less severe transgression); STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 11. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Situational Marital Forgiveness in Couples.

COUPLES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	.04	.37	<i>ns</i>	.00	.14	1, 94	<i>ns</i>
2	FISSEV	.47	5.03	<.001	.21	25.26	1, 93	<.001
3	STY	-.39	-4.07	<.001	.12	16.52	1, 92	<.001
4	FLEX	.30	2.74	<.01	.05	3.77	2, 90	.03
	SQFLEX	.16	1.47	<i>ns</i>				
5	FLEX*STY	-.23	-1.15	<i>ns</i>	.01	.84	2, 88	<i>ns</i>
	SQFLEX*STY	-.27	-1.19	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; FISSEV = FIS severity index (higher score indicates less severe transgression); STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 12. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Ineffective Arguing in Husbands.

<b>HUSBANDS</b>								
<b>Step</b>	<b>Predictor</b>	<b>Regression Coefficients</b>			<b>Regression Model</b>			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	-.10	-1.95	.05	.01	3.81	1, 419	.05
2	STY	.64	17.15	<.001	.41	294.09	1, 418	<.001
3	FLEX	.08	2.21	.03	.02	6.08	2, 416	<.01
	SQFLEX	-.09	-2.47	.01				
4	FLEX*STY	.03	.68	<i>ns</i>	.01	3.04	2, 414	.05
	SQFLEX*STY	-.10	-1.61	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

Table 13. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Ineffective Arguing in Wives.

WIVES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	-.14	-2.96	<.01	.02	8.75	1, 414	<.01
2	STY	.59	14.87	<.001	.34	221.18	1, 413	<.001
3	FLEX	.10	2.43	.02	.02	6.08	2, 411	<.01
	SQFLEX	-.08	-1.99	.05				
4	FLEX*STY	.11	1.92	.06	.01	3.88	2, 409	.02
	SQFLEX*STY	-.04	-.52	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).



Table 14. Hierarchical Regression Analysis Evaluating the Effects of Attributional Flexibility on Ineffective Arguing in Couples.

COUPLES								
Step	Predictor	Regression Coefficients			Regression Model			
		$\beta$	$t$	$p$	$R^2$ Change	$F$ Change	$df$	$p$
1	YRSMAR	-.16	-3.32	<.001	.03	11.00	1, 405	<.001
2	STY	.70	19.73	<.001	.48	389.28	1, 404	<.001
3	FLEX	.14	3.80	<.001	.03	14.24	2, 402	<.001
	SQFLEX	-.10	-2.65	<.01				
4	FLEX*STY	.07	1.46	<i>ns</i>	.01	5.24	2, 400	<.01
	SQFLEX*STY	-.08	-1.48	<i>ns</i>				

*Note.*  $\beta$  = unstandardized regression coefficient;  $R^2$  = percent of variance explained by the model; YRSMAR = years married; STY = centered attributional style; FLEX = centered attributional flexibility (linear component); SQFLEX = attributional flexibility (quadratic component).

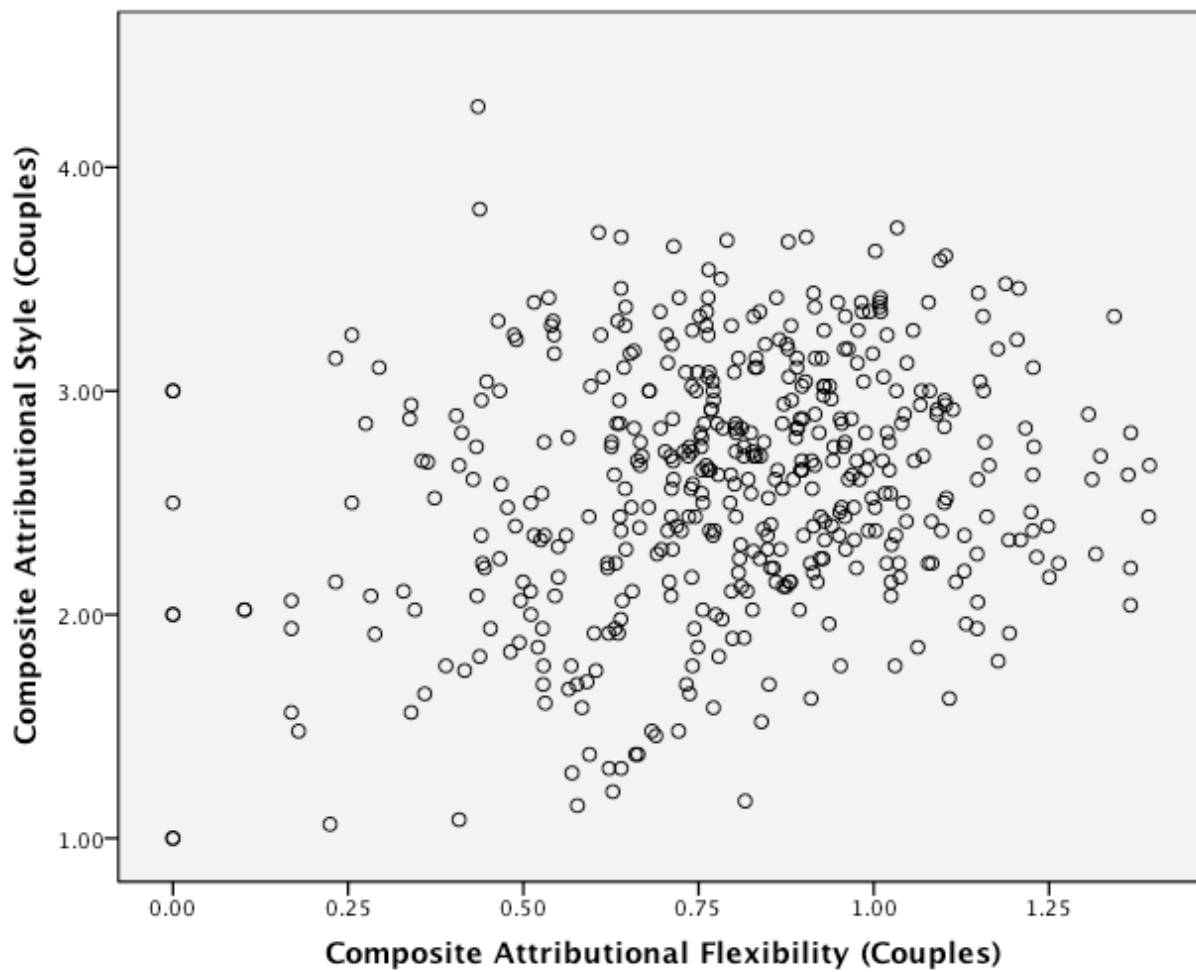


Figure 1. Scatterplot of Couples' Composite Attributional Flexibility Scores and Composite Attributional Style Scores

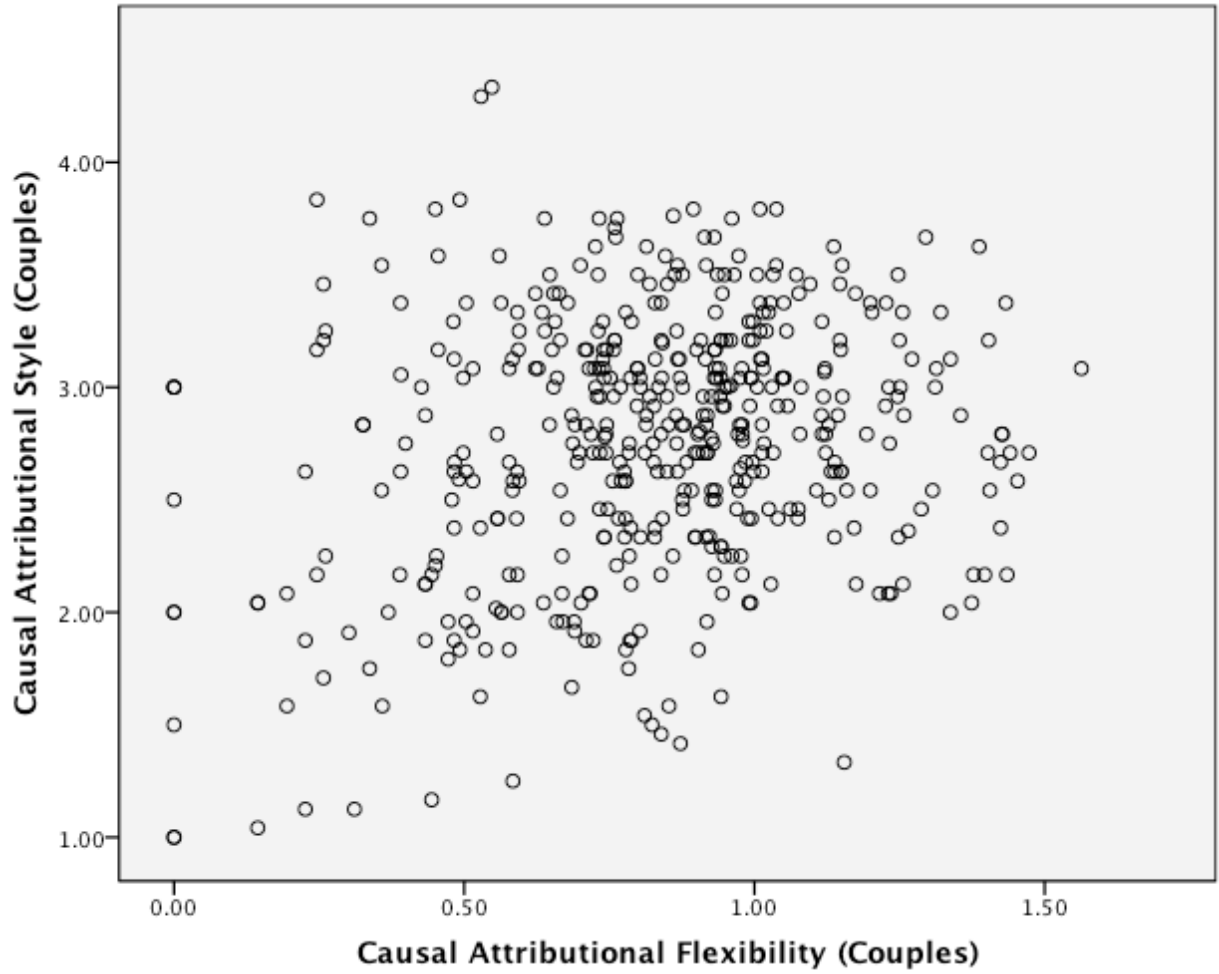


Figure 2. Scatterplot of Couples' Causal Attributional Flexibility Scores and Causal Attributional Style Scores

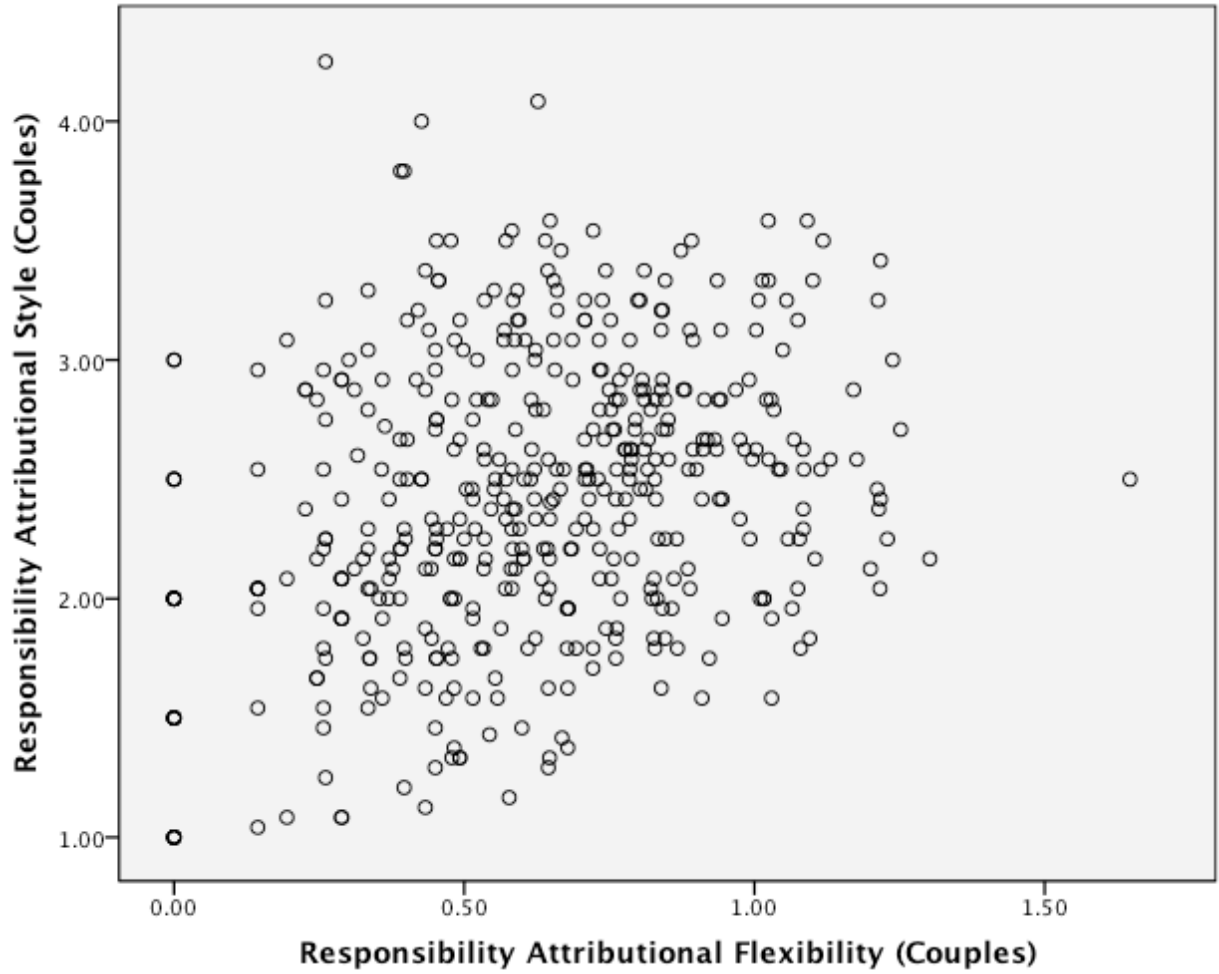


Figure 3. Scatterplot of Couples' Responsibility Attributional Flexibility Scores and Responsibility Attributional Style Scores

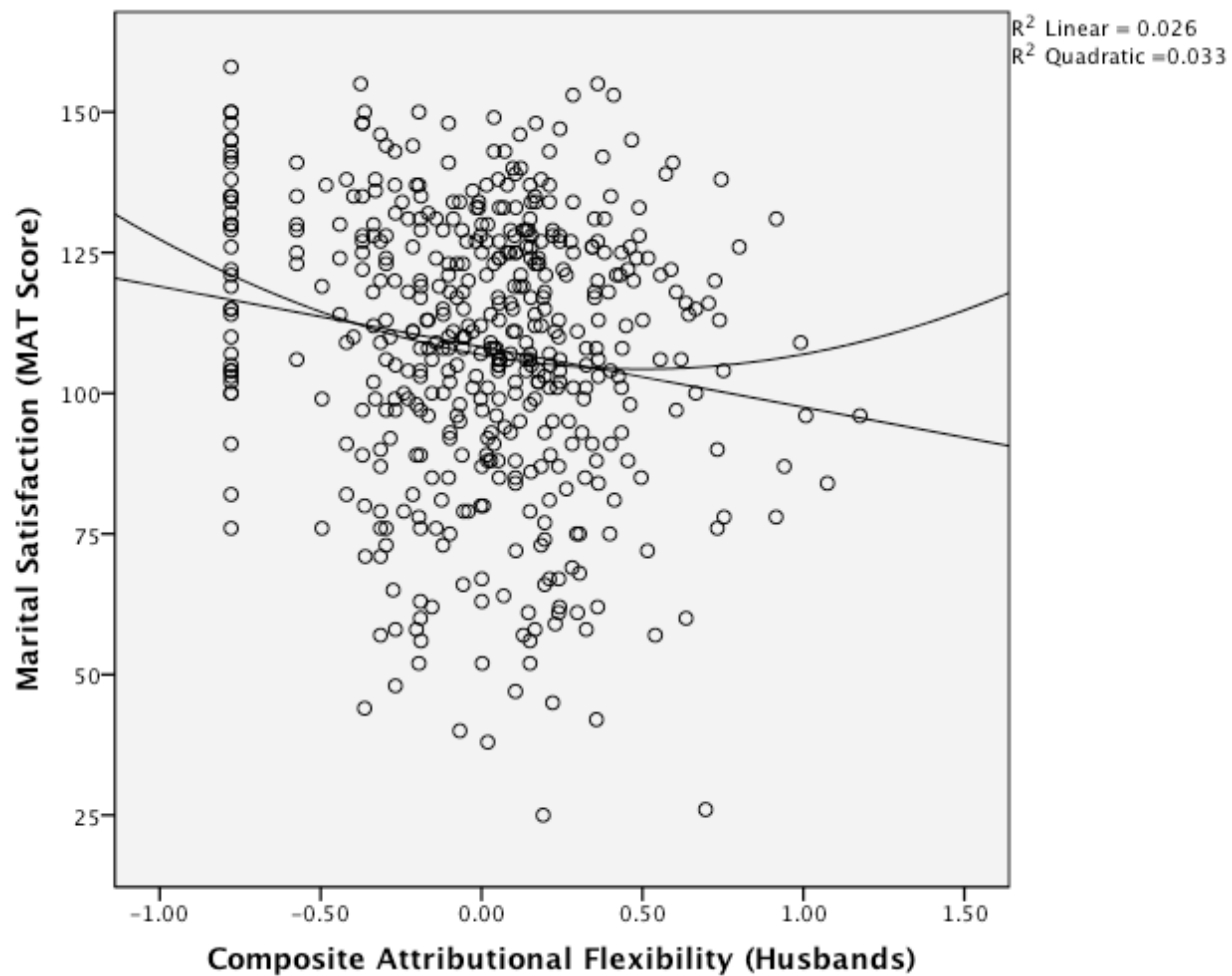


Figure 4. Best Fit Lines for Husbands' Marital Satisfaction by Attributional Flexibility

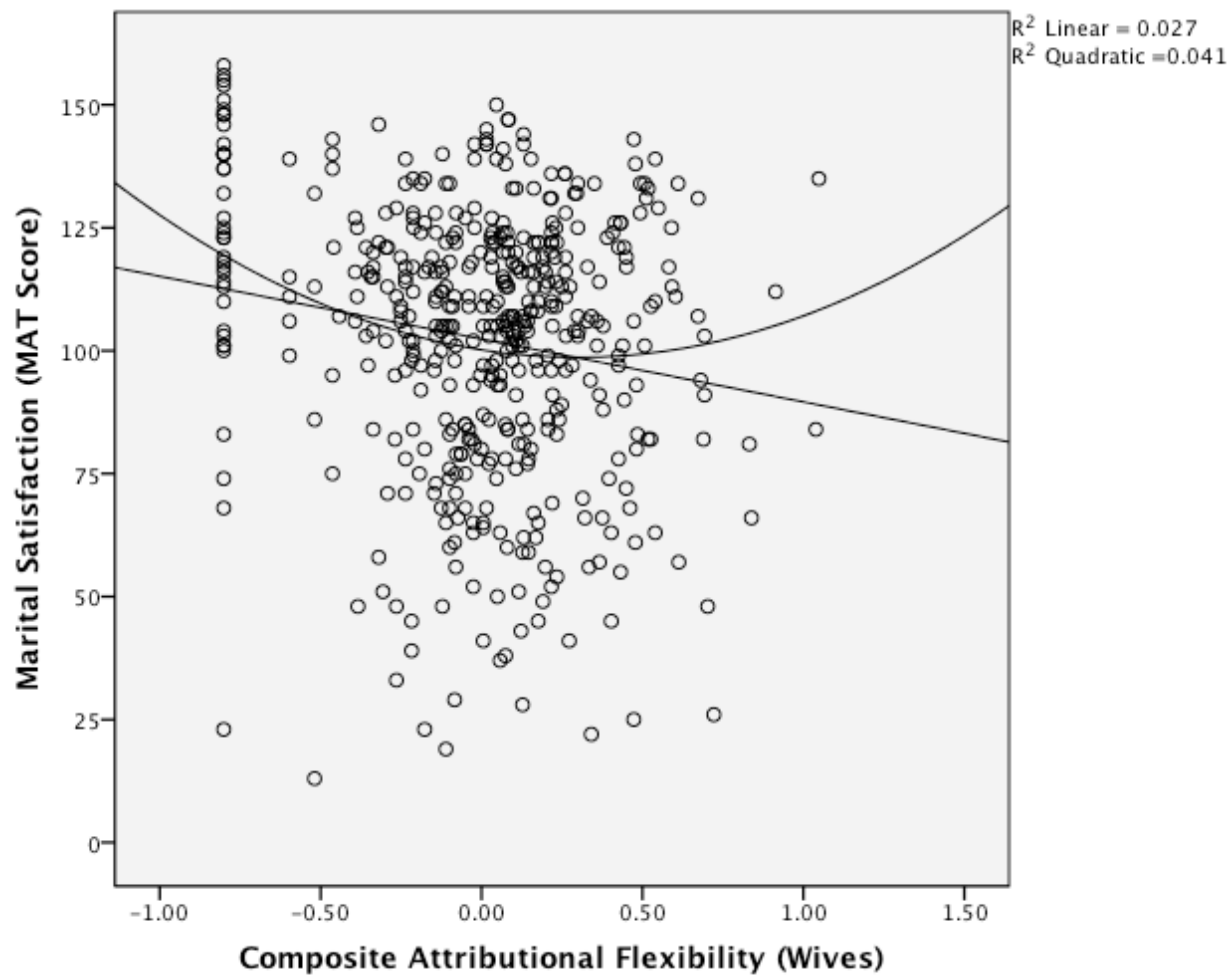


Figure 5. Best Fit Lines for Wives' Marital Satisfaction by Attributional Flexibility

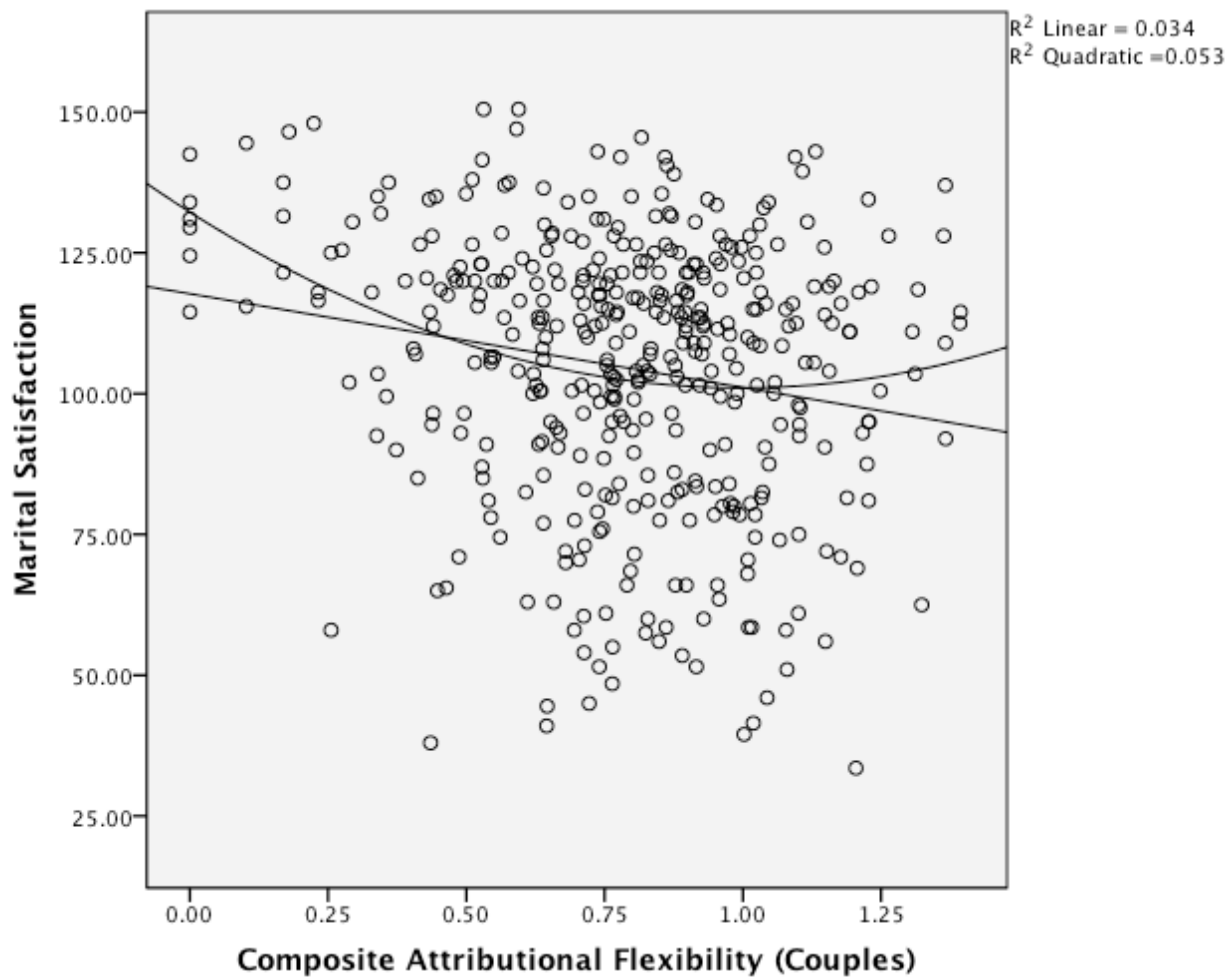


Figure 6. Best Fit Lines for Couples Marital Satisfaction by Attributional Flexibility

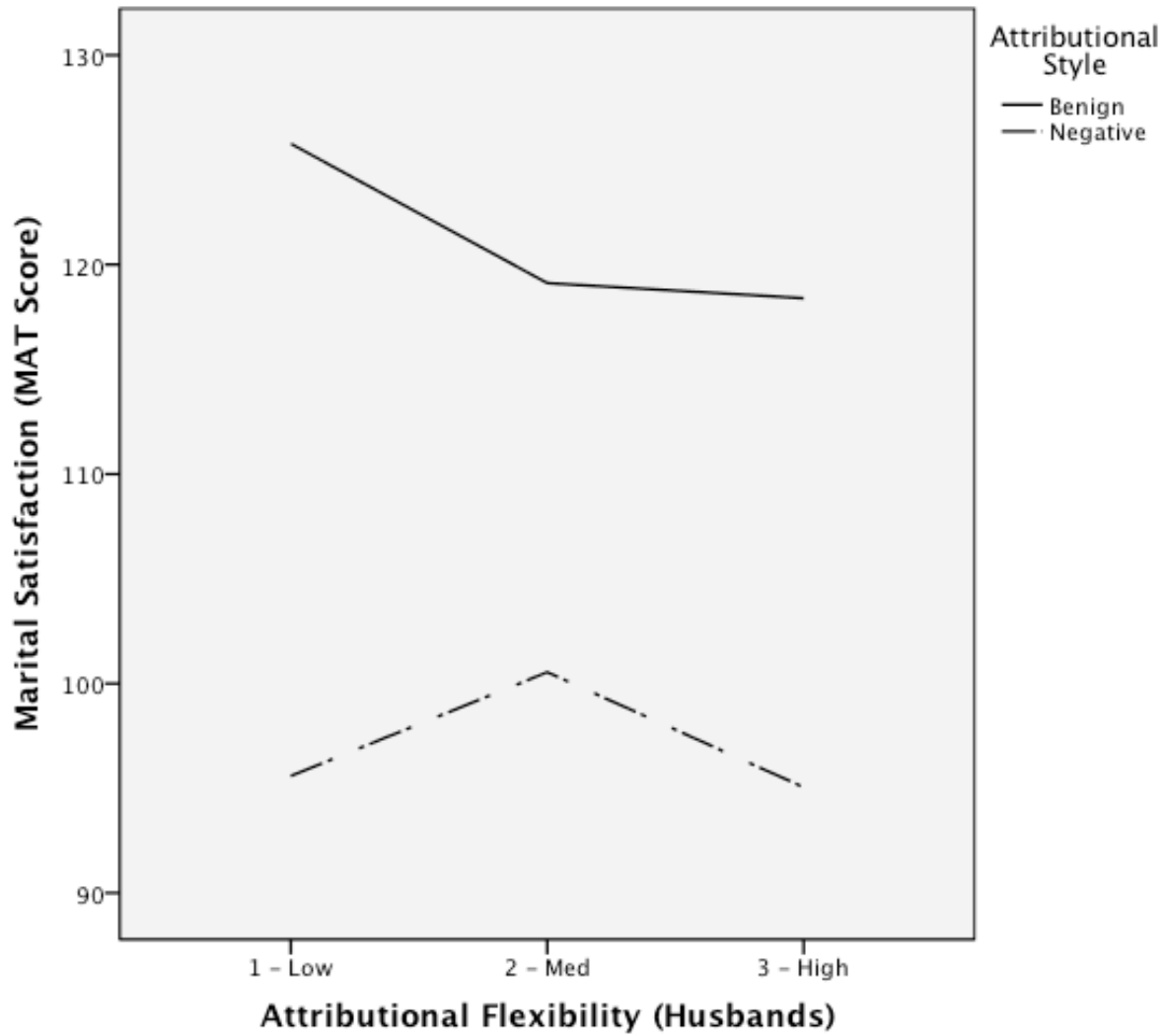


Figure 7. Interaction Between Husbands' Attributional Flexibility and Attributional Style in Predicting Marital Satisfaction



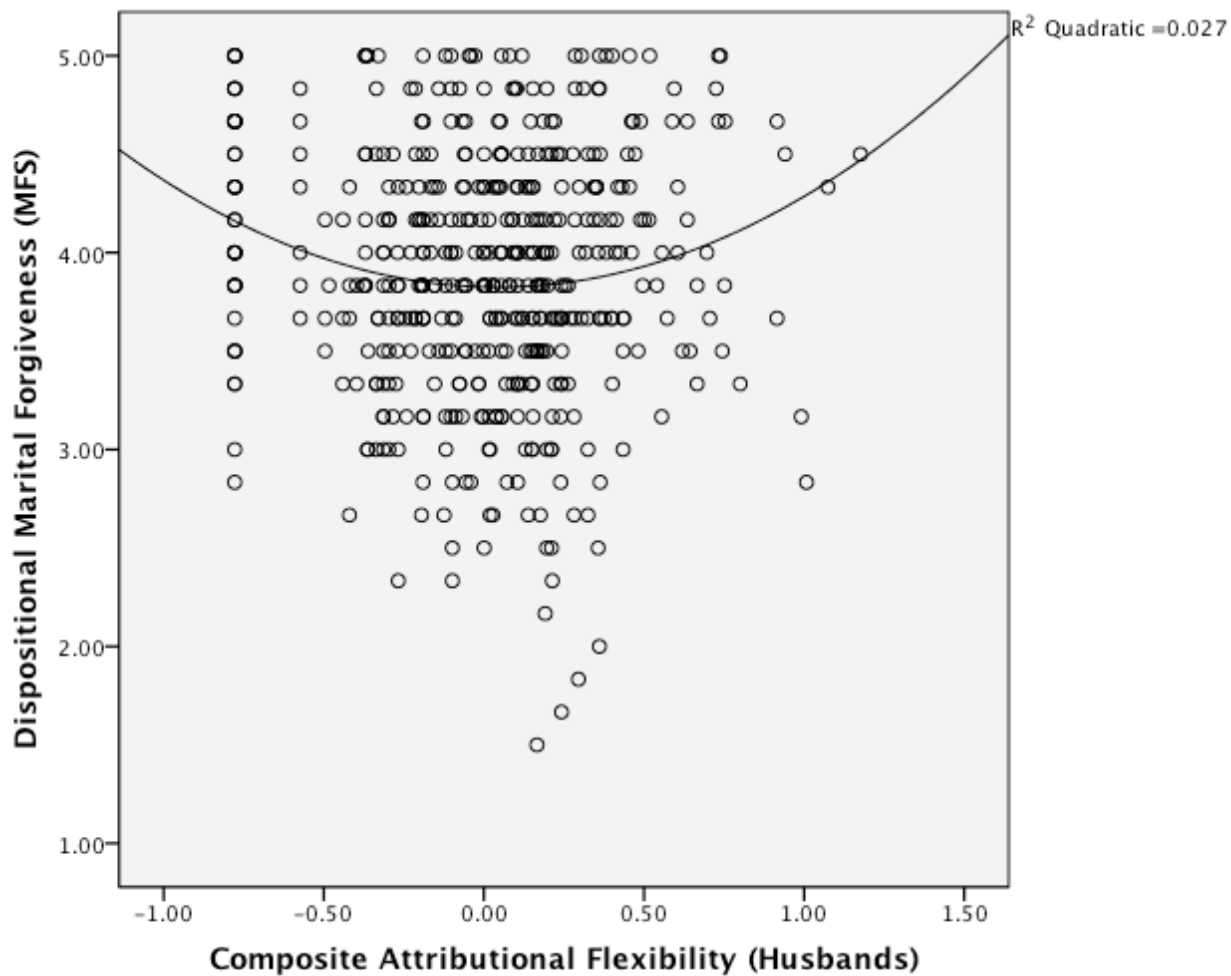


Figure 8. Quadratic Relationship Between Husbands' Attributional Flexibility and Dispositional Marital Forgiveness

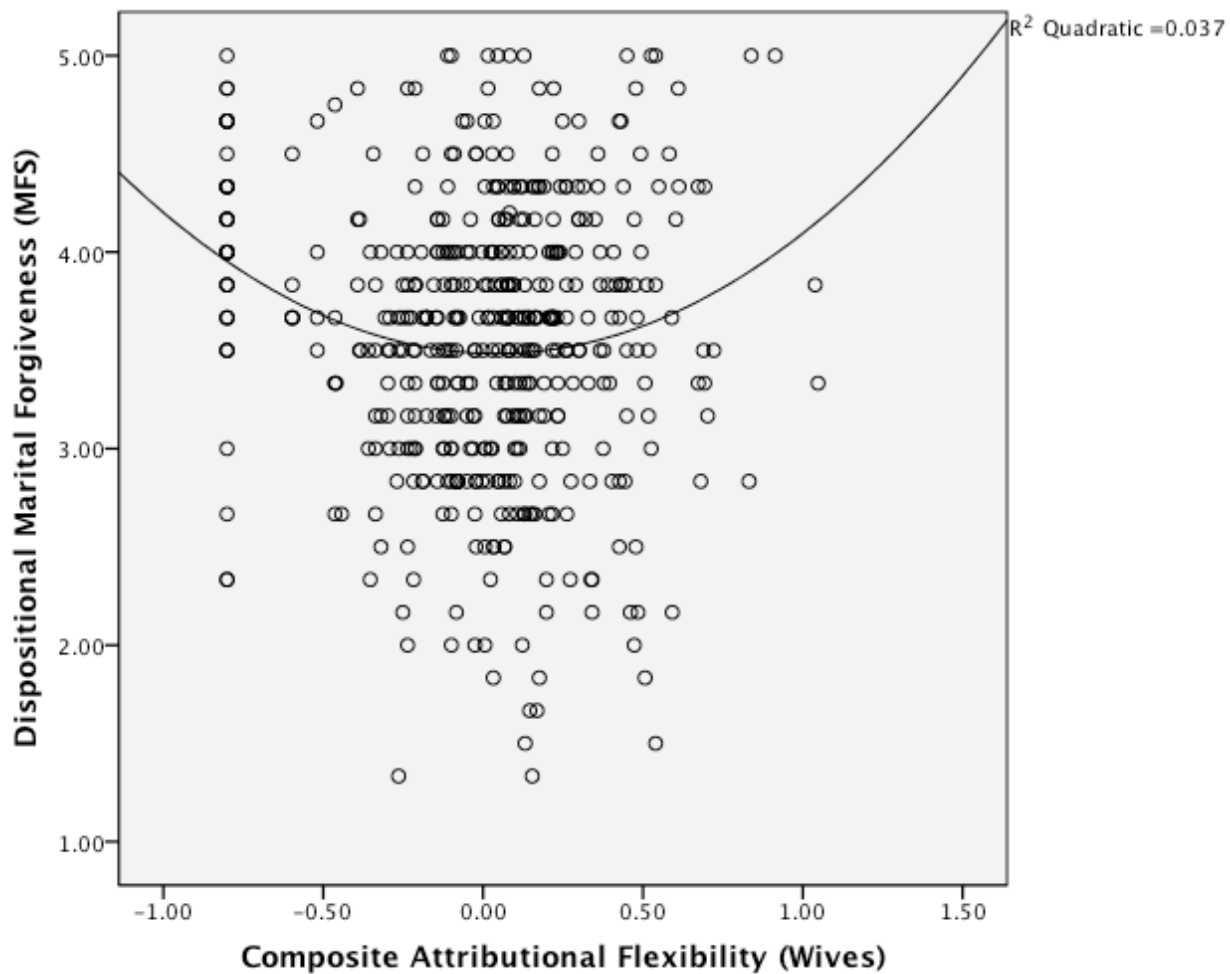


Figure 9. Quadratic Relationship Between Wives' Attributional Flexibility and Dispositional Marital Forgiveness

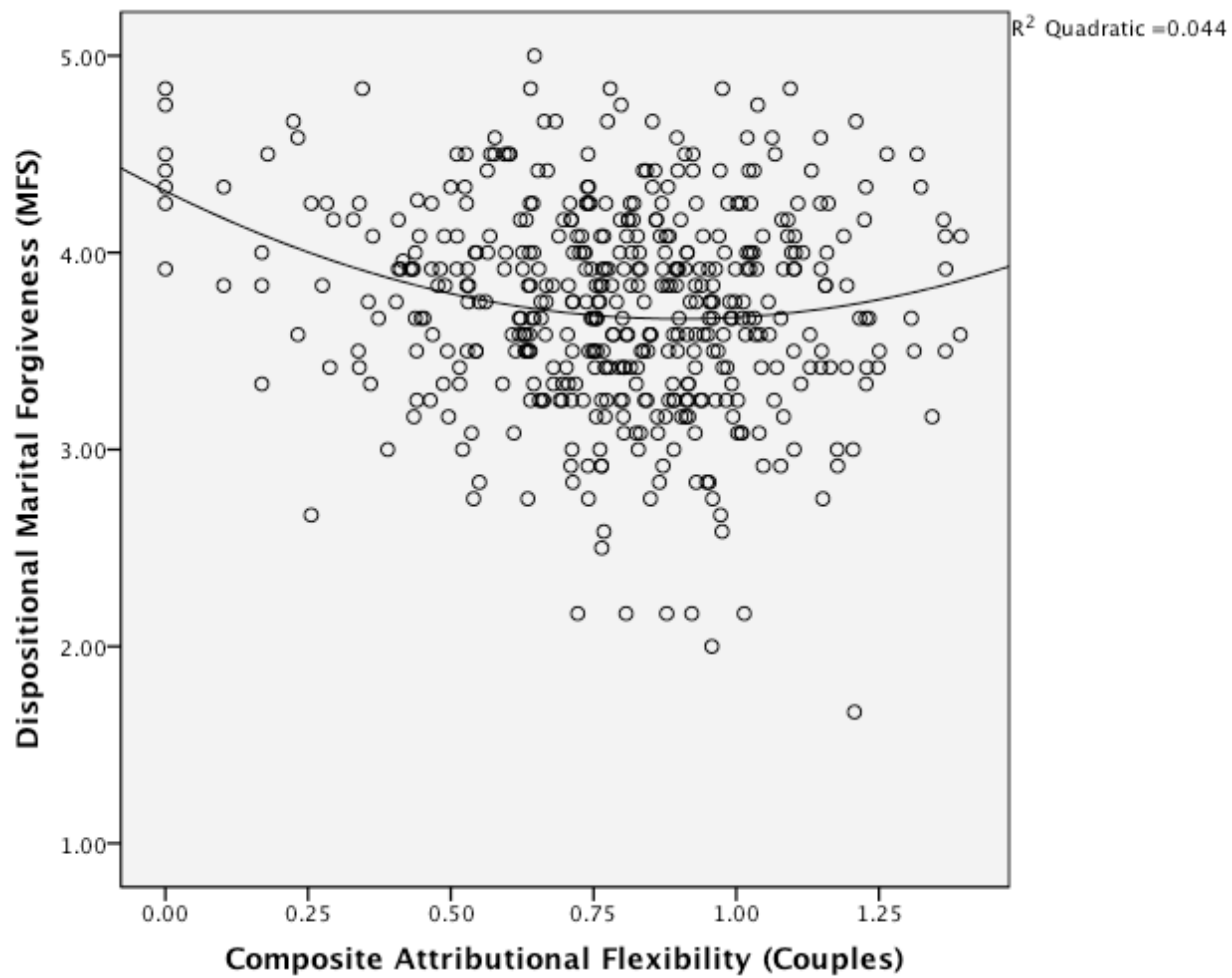


Figure 10. Quadratic Relationship Between Couples' Attributional Flexibility and Dispositional Marital Forgiveness

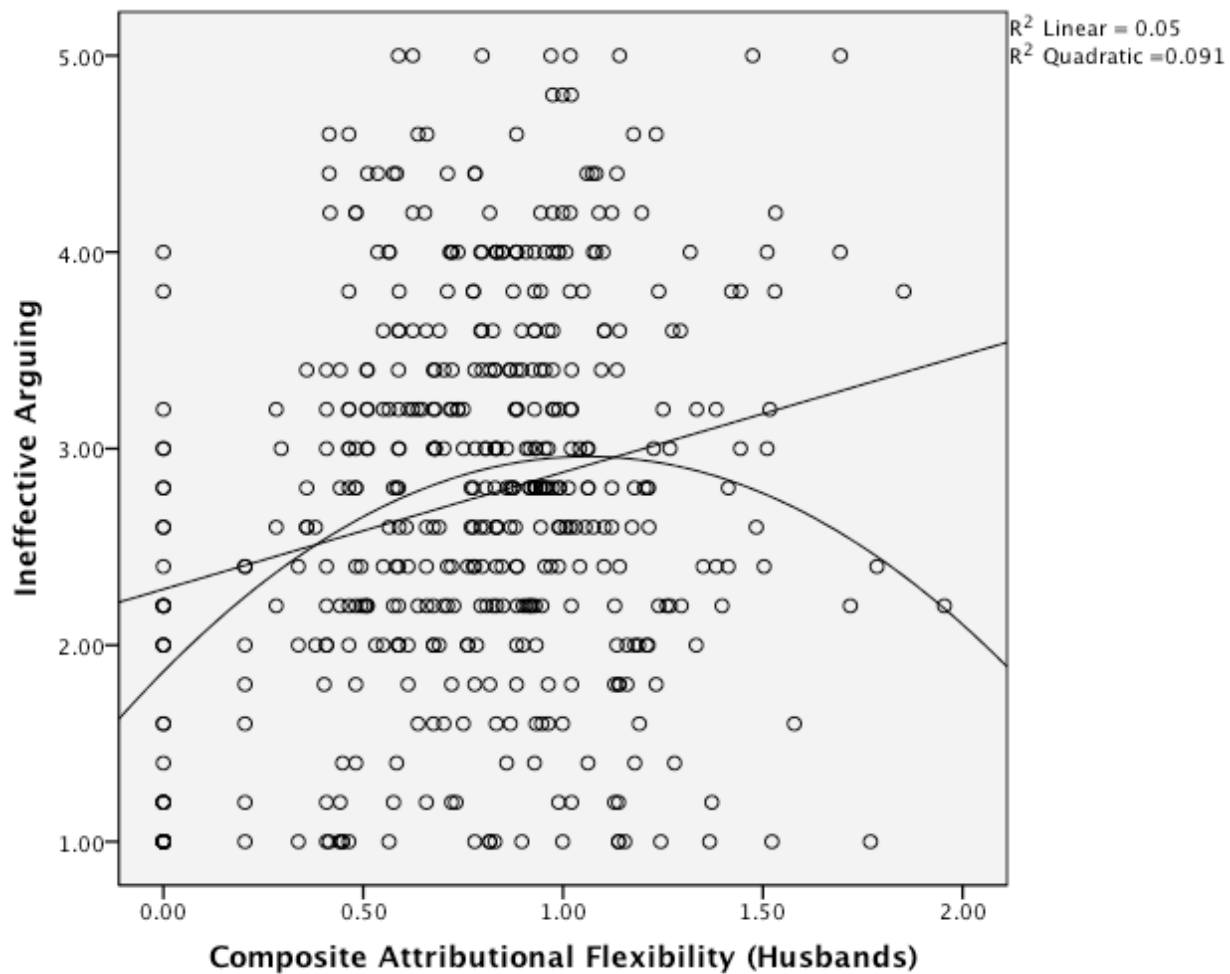


Figure 11. Best Fit Lines for Husbands' Ineffective Arguing by Attributional Flexibility

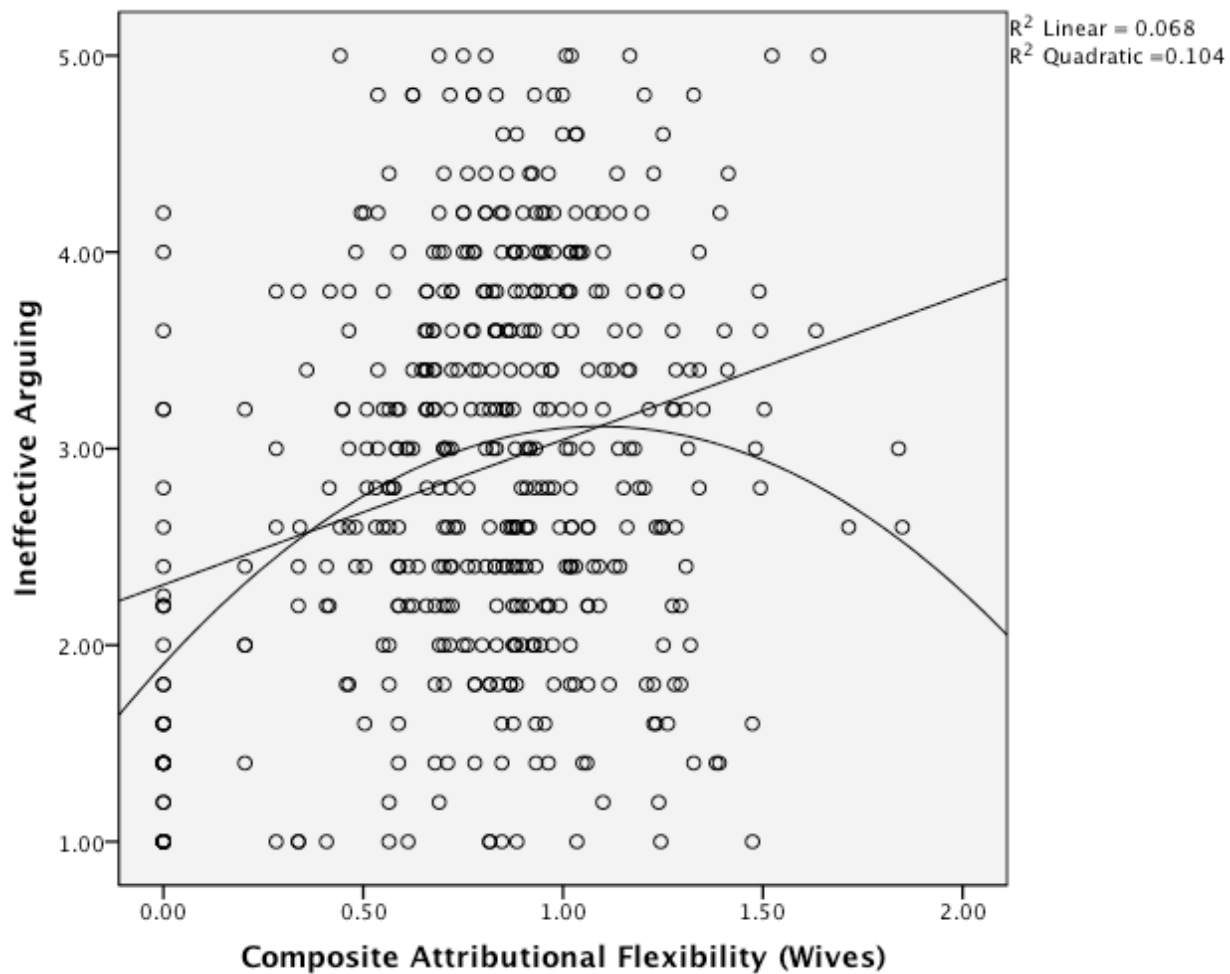


Figure 12. Best Fit Lines for Wives' Ineffective Arguing by Attributional Flexibility

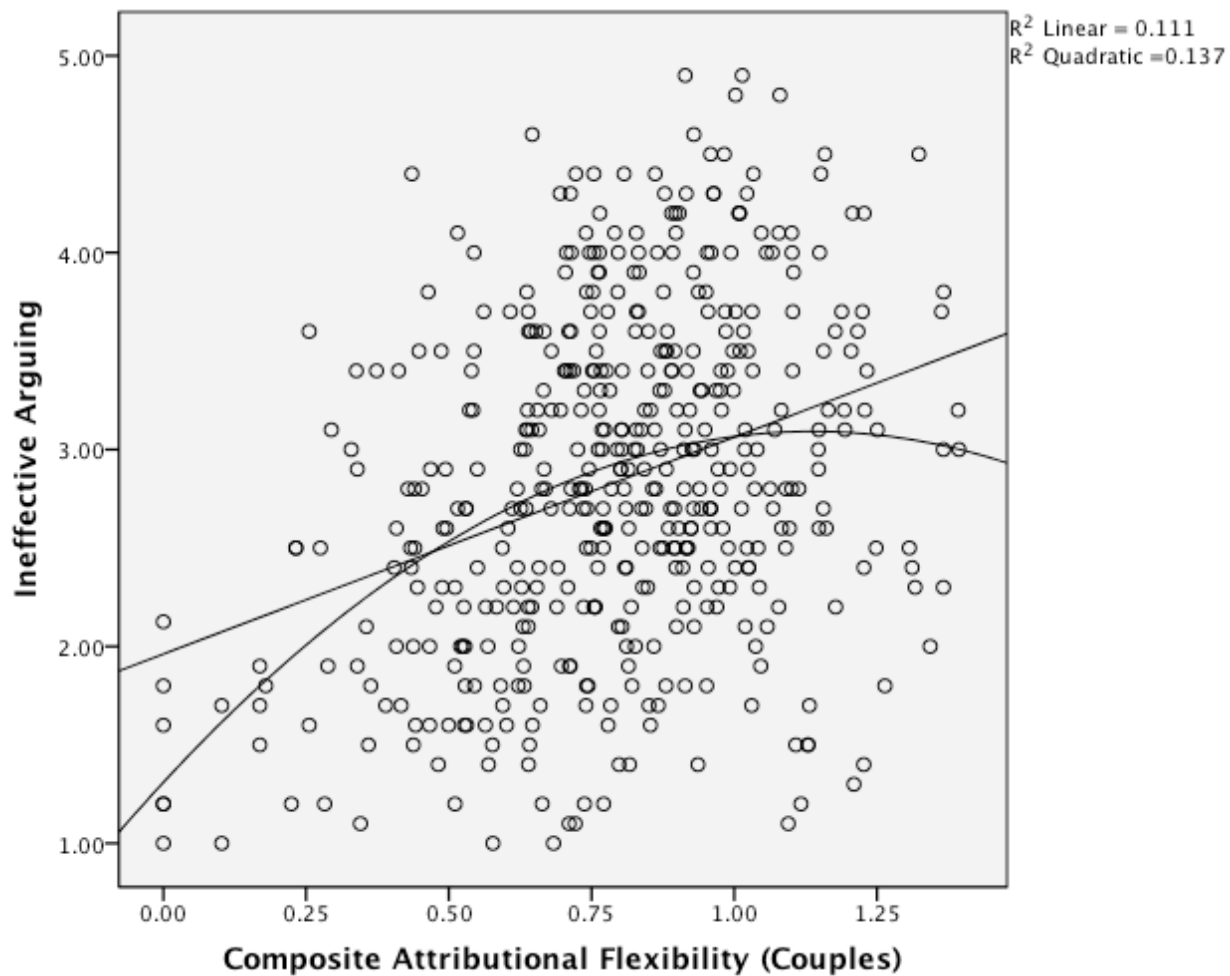


Figure 13. Best Fit Lines for Couples' Ineffective Arguing by Attributional Flexibility