

THE ROLE OF MARITAL ATTRIBUTIONS IN THE RELATIONSHIP
BETWEEN LIFE STRESSORS AND MARITAL QUALITY

A Dissertation

by

JAMES MADEIRA GRAHAM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2003

Major Subject: Counseling Psychology

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ABSTRACT

The Role of Marital Attributions in the Relationship
between Life Stressors and Marital Quality. (August 2003)

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This study examines the role that marital attributions may play in the relationship between the occurrence of stressful life events and marital quality. Specifically, it is suggested that within a crisis theory framework, the meaning couples attribute to stressful events may either mediate or moderate the impact of stressors on the marital relationship. First, several models of stress adaptation in families and marriages are discussed. Next, current research on marital attributions is reviewed, and problems with this field of research are explored. Finally, the possible role of marital attributions in stress adaptation is examined.

A total of 60 married couples completed measures on current life stressors, marital quality, and marital attributions. The mediational model failed to find support

due to the lack of a strong relationship between life stressors and marital attributions. Partial support for the moderational model was found. These results can be interpreted as indicating that the marital quality of couples who make relationship-enhancing attributions about their spouses' negative behaviors is less negatively affected by stress than those who make distress-maintaining attributions. Findings concurrent with the literature on resilience suggest that the experience of life stressors may afford an opportunity for a couple's marriage to strengthen if adaptive marital attributions are used. Differences in the moderational role of marital attributions between men and women and stress adaptation literature suggest future avenues of research.

DEDICATION

For Erin, without whose inexhaustible supply of patience, support, and love this would not have been possible.

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CHAPTER I

INTRODUCTION

While the majority of the American population marries at least once in their lifetime (Bjorksten & Stewart, 1984), over half of these marriages end in separation or divorce (Castro-Martin & Bumpass, 1989). Subsequent remarriages are even more likely to end in divorce than first marriages (Brody, Neubaum, & Forehand, 1988; Cherlin, 1992). In short, divorce is rapidly becoming the rule rather than the exception. Despite this dismal picture of marriage, not all marriages end in divorce. While a large number of marriages do end in divorce or separation, some still endure even in the face of hardships (McCubbin, Thompson, & McCubbin, 1996).

The powerful negative impact of marital dysfunction and dissolution has fueled a large amount of research on how romantic partners interact with one another throughout the course of marriage. As of 1992, over 1200 published studies had the terms marital separation or divorce in their titles (Gottman & Levenson, 1992), and as of 1995,

This dissertation follows the style of *American Psychologist*.

over 100 longitudinal studies on marriage have been conducted (Karney & Bradbury, 1995). While a number of studies have been able to predict divorce with a high degree of accuracy (Gottman & Levenson, 1992), even these studies have failed to complete our understanding of how and why so many marriages end in divorce (Heyman & Slep, 2001).

Akin to divorce, or marital stability, is the concept of marital quality, also referred to as marital satisfaction or marital adjustment (Fincham, Beach, & Kemp-Fincham, 1997; Fincham & Bradbury, 1987a). Marital quality refers to the couple's overall positive or negative evaluation of their marriage. While marital quality and marital stability are related, in that unsatisfying marriages are more likely to end in divorce, the two concepts are not interchangeable. In fact, research has shown that marriages tend to become more stable yet less satisfying over the passage of time (Karney & Bradbury, 1995). Both marital dissolution and distress have been demonstrated as having the capacity to negatively impact the well-being of all members of the family. Marital distress has been shown to negatively impact the physical and emotional well-being of both spouses (Bloom, Asher, &

White, 1978) and children (Emery, 1982; Grych & Fincham, 1990). The deleterious effects of divorce on family members have likewise been well documented in the research literature (e.g., Wallerstein, Lewis, & Blakeslee, 2000).

All marriage theorists agree that close relationships evolve over time (Karney & Bradbury, 1995). Marriages are not stagnant entities, rather they adapt and change, for better or for worse, as circumstances change and the couple grows and progresses. As there are many ways of conceptualizing the process of change in marriages, a number of theories have been investigated as possible explanations for these processes. One such theory, crisis theory, has received a large amount of attention in research on families and marriages.

Crisis Theory

Crisis theory examines the process of change through exploring how individuals and groups adapt and alter in the face of stressful life events. The occurrence of stressful events has long been found to have a potentially disruptive effect on the well being of individuals, families, and interpersonal relationships (e.g. Cohen & Hoberman, 1983; Conger et al., 1992; Coyne & Downey, 1991; Karney &

Bradbury, 1995; Monroe, Bromet, Connell, & Steiner, 1986; Pearlin & McCall, 1990; Turner, Wheaton, & Lloyd, 1995). Because of the potentially powerful impact of stress across a variety of life domains, much attention has been given to understanding the process of adaptation to stress.

Much of the research on how families react to stressful events has shown the negative impact of such events on families. Research has also shown that though some families are destroyed by crises, others emerge from times of stress unscathed, while even others emerge strengthened (Walsh, 1996). This phenomenon has been termed as resilience: "...the capacity to rebound from adversity strengthened and more resourceful" (Walsh, 1998, p. 4). The concept of resilience was first studied in children who, though encountering stressors which would often result in dysfunction for some, were able to succeed and prosper later in life in the face of overwhelming crises (e.g., Dugan & Coles, 1989; Garmezy, 1974; Rutter, 1985; Wolin & Wolin, 1993).

There has been some work reflecting a shift in family research from deficit-based to strength-based approaches (Dunst, Trivette, & Deal, 1995; Hawley & DeHaan, 1996; Nichols & Schwartz, 1998). This line of research portrays

the family relationship as potentially protecting family members against stressors and preventing dysfunction (National Institute of Mental Health, 1996; Wandersman & Nation, 1998). This research has led to the application of the concept of resilience to the family unit. Family resilience, as defined by McCubbin and McCubbin (1988), is created by "...the adaptive qualities of families as they encounter stress, particularly those processes promoting coping, endurance, and survival" (p. 248).

Research on the concept of family resilience and adaptation to stress has shown that the adaptation of the family depends on an interaction between the family and the environment (Bronfenbrenner, 1979, 1986). Put another way, the unique strengths of the family must fit well with the stressor or the family's definition of the stressor. If either the stressor or strengths/resources change, the family's ability to successfully adapt alters (Rutter, 1987).

While few models have been developed strictly for the study of the marital dyad, many models examining the adaptation of families to stress also apply to the more specific family grouping of the marriage itself. These models will now be discussed, though throughout this paper

the term "crisis theory" will be used to refer to the stress-adaptation component shared by all of the following models.

ABCX Model

Crisis theory is based on the work of Hill (1949) and his explorations of how families react, adapt, and change in the face of stressful events. Hill's model, termed the ABCX model, posits that stressful events affecting a family require that family to adapt based on the family's unique resources (A). Additionally, families are seen as constructing possibly different definitions of stressful events (B) which, in turn, affect the consequences of the stressful event on the family (C). Finally, the sufficiency of the family's resources to deal with the stressor as determined by the family's definition of the stressor determines how successful the family will be in dealing with the stressor (X).

The ABCX model does not predict that stressors only affect families directly. Rather, stressors also have an indirect influence on families based on the family's definition of the stressor. The resources of the family, such as social support, finances, etc., then come into play

to determine the family's ability to successfully adapt to the stressful event. The ABCX model is important, as it points out that the occurrence of stressful events does not spell out the inevitable doom of the family. Rather than be negatively impacted by stressors, some families may re-define the stressor into less harmful terms. Additionally families may possess sufficient resources to deflect the negative impact of stressful life events. While research has generally supported the ABCX model, it has been criticized for only focusing on pre-crisis variables, ignoring changes in available resources and adaptive processes which occur over time (McCubbin & McCubbin, 1996).

Double ABCX Model

The ABCX model has been further refined through the work of McCubbin and Patterson (1982) to reflect the fact that the components of the ABCX model can interact with one another and change over time. In the double ABCX model, all of Hill's initial components are included, with the added components reflecting the fact that each of Hill's original components may change over time. Adding to the ABCX model, McCubbin and Patterson posit that stressful events may

affect the likelihood of future stressful events (AA), resulting in an accumulation of stressors; that initial family resources for coping with a stressor can change in response to the stressor (BB); and that definitions of following stressors can affect the eventual outcome (CC). The family's success in dealing with the stressor can subsequently result in successful or unsuccessful adaptation, which will in turn affect the family's ability to adapt to future stressors (XX).

The double ABCX model adds to Hill's original theory by acknowledging the dynamic process of adaptation to stress. This process predicts that the various components change as time progresses, in reaction to themselves and one another. The double ABCX model also contributes the concept of stress "pile-up". Because families are rarely dealing with only one problem at a time, and because coping with a stressful event leaves fewer resources for a family to deal with additional stressors, it is possible for the accumulation of stressful events to have a greater (or different) impact on the family than suggested by the additive impact of each of the individual stressful events (McCubbin & Patterson, 1982, 1983). Families facing multiple stressors may adapt differently than families

dealing with a single stressor. While the occurrence of discrete stressful events is important, the accumulation or pile-up of multiple stressful events likewise plays an important role in adaptation.

Vulnerability-Stress-Adaptation Model of Marriage

Though crisis theory was initially developed to be applied to the study of how families adapt to stress, some marital researchers have applied the model to the study of how the marital dyad responds to stress. An example of one such model that incorporates elements of crisis theory is the Vulnerability-Stress-Adaptation model of marriage (VSA), which was based on a review of longitudinal research on marriage (Karney & Bradbury, 1995). This model looks at the interaction between spouse's enduring vulnerabilities (the characteristics that are brought to the marriage), stressful events (be they sudden crises or normative life transitions), and the adaptive processes of the couple. Specifically, the VSA model posits that,

...couples with effective adaptive processes who encounter few stressful events and have few enduring vulnerabilities will experience a satisfying and stable marriage, whereas couples

with ineffective adaptive processes who must cope with many stressful events and have many enduring vulnerabilities will experience declining marital quality, separation, or divorce. Couples at other points along these three dimensions are expected to fall between these two extreme outcomes. (Karney & Bradbury, 1995, p 25)

While the couple's adaptive processes are affected by stress, the adaptive processes also affect the likelihood of experiencing future stress. The VSA model supposes that stressful events can and do impact the marriage, but that pre-existing vulnerabilities and the couple's adaptive processes can affect the impact of the stressful event on the family. While the VSA model has yet to be tested extensively, an initial study found that spouses' problem-solving behavior acts as a moderator in the relationship between the occurrence of stressful life events and marital quality (Cohan & Bradbury, 1997). The manner in which a couple discusses problems was shown as an adaptive process, with the ability to protect a marriage from or make a marriage vulnerable to the occurrence of stressful life events.

Family Stress Model

The family stress model, developed by Conger and Elder (1994), was created to explain the process of family adaptation to the specific stresses caused by economic hardship. In many ways similar to the VSA model, the family stress model posits that economic pressure leads to emotional distress, which results in marital conflict and ultimately, marital distress. This model also allows for intervening adaptive mechanisms, such as the ability for social support to reduce the impact of economic pressure on emotional distress, and the ability of effective problem-solving behavior to reduce the impact of marital conflict on marital quality (Conger, Rueter, & Elder, 1999).

Implicit in all of the preceding models is the assumption that external stressful events can impact the marriage, and that the couple's adaptation (or lack thereof) to these events can impact marital quality, stability, and the overall well-being of the family members. Additionally, while the stressful event itself certainly plays an important role in this process, the couple's perception of the event, available resources for dealing with the stressor, and other adaptive processes are

likewise important factors in protecting the family from or making the family vulnerable to the negative effects of stressful life events.

For example, consider the stress caused as the result of unexpected loss of employment. While this has the potential of causing some amount of strain on the marriage, the way in which the couple defines the event is equally important. A couple which sees the failure of one of the spouses as the cause for the loss of employment (fired due to incompetence, being lazy, etc.) will likely experience more marital distress than a couple which sees the loss of employment as a result of external, uncontrollable factors (factory closing down, unreasonable management, etc.). The aforementioned models based on crisis theory also assume that some couples (based on vulnerabilities, adaptive processes, resources, or ways of defining problems) are more likely to survive such stressors intact than others.

Adaptive Processes

All models based in crisis theory recognize that stressful life events have the ability to negatively impact well-being, be it physical health, depressive symptoms, family distress, or marital quality; however, these models

also recognize that additional factors can affect the impact of the stressor on well-being, both in a positive or negative direction. Because the importance of resources and adaptive processes has been recognized by nearly all models of stress, a great deal of research has been conducted on uncovering these sources of adaptation.

These adaptive processes and resources are typically conceptualized as either mediators or moderators. While both mediators and moderators are variables that affect the relationship between two other variables, there are a number of important conceptual differences with markedly different theoretical implications.

Mediator Variables

A mediator variable is a variable which explains all or part of the relationship between two other variables. Baron and Kenny (1986) further describe mediator variables as variables which "...explain how external events take on internal psychological significance" (p. 1176). For example, consider a variable "A" which has been found to be causally related to variable "B". While the relationship between variables A and B is strong, it is possible that A does not directly impact B, rather A impacts B through a

third mediator variable "C". If variable C was included in the model, the strength of the direct relationship between A and B would drop dramatically. Thus, the relationship between A and B is mediated by C.

A number of mediators have been found to be an important part of marital adaptation to stress. For example, the affective expression of a married couple has been found to mediate the relationship between economic stress and marital quality (Conger et al., 1990). Specifically, the presence of economic stress impacts the expression of hostility and warmth within the marital dyad. The couple's affective expression, in turn, impacts the couple's overall evaluation of marital quality. Additionally, emotional distress and marital conflict have been found to mediate the relationship between economic pressure and marital quality (Conger et al., 1999).

Moderator Variables

The presence of a moderator variable indicates that a given variable affects different people in different manners. As defined by Baron and Kenny (1986), "a moderator is a ... variable that affects the direction and/or strength of the relation between an independent or

predictor variable and a dependent or criterion variable" (p. 1174). For example, the perceived availability of social support has been found to moderate the relationship between negative life events and depressive symptoms (Cohen & Hoberman, 1983). In this case, the occurrence of negative life events impacts depressive symptoms differently for individuals with high and low levels of perceived social support. Individuals with low levels of perceived social support may experience large amounts of depressive symptoms in the face of a high number of negative life events. Conversely, individuals with a high level of perceived social support may not be negatively impacted (in terms of depressive symptoms) by high levels of negative life events. In essence, perceived levels of social support protect the individual from depressive symptoms as a result of life stressors.

The impact of a moderator variable can perhaps be best understood as an analysis of variance (ANOVA) interaction effect. In the above example, the idea that negative life events cause people to experience more depressive symptoms would be considered a ANOVA main effect. Additionally, the idea that perceived social support causes people to experience fewer depressive symptoms is also an ANOVA main

effect. An interaction, or moderator relationship occurs when examining the interaction between negative life events and perceived social support. While persons with lower levels of perceived social support may experience an increase in depressive symptoms in the face of negative life events, those with high levels of perceived social support may experience no change (or, as the moderational model would predict, possibly even a decrease) in depressive symptoms when faced with a high number of negative life events. Put simply, stress has different effects on people with different levels of perceived social support.

In the marital stress literature, a number of moderators have been identified. For example, social support has been found to moderate the relationship between economic hardship and the emotional distress of couples (Conger et al., 1999). Problem-solving behavior has likewise been found to moderate both the relationship between marital conflict and marital distress (Conger et al., 1999) and the relationship between the occurrence of negative life events and marital quality (Cohan & Bradbury, 1997).

Attributions

Satisfying, long-lasting marriages tend to be optimistic in nature; during times of crisis satisfied spouses acknowledge that circumstances will eventually change for the better (Gottman, 1994; Hawley & DeHaan, 1996; Pearson, 1992; Wallerstein & Blakeslee, 1995). This optimistic world-view has been described by Antonovsky and Sovrani as coherence, or the "...extent to which one sees one's world as comprehensible, manageable, and meaningful" (1988, p. 79). This sense of coherence has, in turn, been linked to a family's ability to adapt to stressors and crises (Antonovsky & Sovrani, 1988). That is to say, the meaning a family attributes to an event, couched in that family's overall world-view, affects how well the family will be able to successfully adapt to that event. The extent to which the family sees the stressor as manageable given that family's resources facilitates successful adaptation (Hawley & DeHaan, 1996).

Applied to the marital dyad, an optimistic world-view, may help give the couple the drive and motivation to overcome the hopelessness of the situation and make a renewed commitment to survive as a married couple. The instillation of hope and optimism has been described as

essential in building resilient families and marriages (Walsh, 1998). Thus, while the meaning a couple ascribes to a stressful event may hinder successful adaptation, it may also serve as a powerful protective mechanism.

The meaning which one attributes to events has received a great deal of empirical investigation outside of the realm of resilience and crisis theory, under the guise of explanatory or attributional style and causal attributions (Peterson, Buchanan, & Seligman, 1995). Attributional theory is based on the precept that the causes one attributes to an event impacts the manner in which the individual responds to that event. Similar to crisis theory, the definitions one arrives at for a positive or negative event are as important in attributional theory as the event itself in determining how an individual will respond.

Development of Attributional Style

Research on attributional style comes in part from the personal control tradition, which posits that one's thoughts and beliefs influence one's attempts to control important events in one's life (Peterson & Stunkard, 1989). The personal control tradition in turn gave rise to what

has been termed naïve psychology, which examined how people make sense of other's actions (Heider, 1958). Work on naïve psychology subsequently led to the development of what is now recognizable as modern attribution theory (Jones & Davis, 1965; Kelley, 1973; Weiner, 1986).

Current research on attributional style can also trace its roots to the learned helplessness tradition. The concept of learned helplessness was developed when it was observed that when dogs were repeatedly presented with an inescapable shock, they made no attempts to escape from subsequent electric shocks from which escape was possible (Overmier & Seligman & Maier, 1967; Seligman, 1975; Seligman & Maier, 1967). When this finding was later applied to humans, it was found that some people did not learn to become helpless, rather they continued to make attempts to change their situations. This resulted in a reformulation of the learned helplessness theory, which added explanatory, or attributional style to account for the anomalies in human behavior (Abramson, Seligman, & Teasdale, 1978). It was discovered that the meaning one ascribed to an event in part determined a person's reaction to that event. A more detailed discussion of the origins of attributional theory can be found in Weiner (1990).

Attributional Style and Depression

Research on attributional style has perhaps enjoyed the most attention as it applies to depression. Attributional theory posits that if negative events are seen as having an internal cause (caused by the person), if the cause is seen as being stable over time rather than transient, and if the cause is seen as affecting a wide variety of life domains rather than a single life domain, then depression is likely to occur. Additionally, the impact of positive events are minimized by individuals suffering from depression by being regarded as having an external cause, being unstable (unlikely to occur again), and being specific only to that situation (Seligman, Abramson, Semmel, & von Baeyer, 1979).

The attributional theory of depression therefore states that a pessimistic attributional style coupled with a large number of negative events leads to depression (Seligman et al., 1979). While the majority of research on attributional style and depression has been focused on attributions for negative events, it has been theorized that optimistic attributions for positive events may provide protection against the depressive effects of loss and disappointment (Taylor & Brown, 1988).

Global Attributional Style

Despite the large amount of research on attributional style, the existence of a general, cross-situational attributional style has been brought into question (Cutrona, Russell, & Jones, 1985). It has been argued that people do not make consistent attributions across all domains of their lives, and that attributional style is better studied in specific behavioral domains (Cutrona et al., 1985; Horneffer & Fincham, 1995). For example, the attributions one makes for work-related events may not be consistent with the attributions one makes for family-related events.

An argument in favor of the existence of a global attributional style has been put forth in that it may only be true for a specific subset of the population, though this argument has not been supported by research (Cutrona et al., 1985). While minimal support for the existence of a cross-situational attributional style has been provided by a strong correlation between attributions of spousal behavior and attributions in child behavior (Fincham & Grych, 1991), this may simply point to an attributional style in the broader domain of family behaviors. As a result, the majority of current research on attributions

has focused on specific behavioral domains, rather than global attributional style.

Marital Attributions

The process of making attributions to marital behavior is one such specific behavioral domain that has received attention in the literature. Specifically, research on marital attributions examine the attributions one makes for one's spouse's behavior. While a number of attributions have been examined in this regard, those most often examined are whether the cause of the behavior is seen as being consistent across time (stable/unstable), whether the cause of the behavior is seen as generalizable to many events or specific to the one event (global/specific), and whether the spouse is seen as the cause of the behavior (partner/external) (Bradbury & Fincham, 1990).

Research into marital attributions has consistently shown that marital attributions are strongly correlated with marital distress. Specifically, those in distressed marriages tend to make attributions which minimize their spouse's positive behaviors (by viewing their causes as unstable, specific, and external) and enhance their partners' negative behaviors (by viewing their causes as

stable, global, and caused by their partner) (Bradbury & Fincham, 1990; Fincham, 1985; Fincham, Beach, & Bradbury, 1989; Fincham & Grych, 1991; Fincham & O'Leary, 1983; Jacobson, McDonald, Follette, & Berley, 1985). As behaviors with negative effects are viewed as eliciting more attributions than those with positive effects, attributions of negative spouse behaviors are dealt with almost exclusively in the marital attribution literature (Holtzworth-Munroe & Jacobson, 1985).

Beyond distress, marital attributions have also been found to be correlated with marital functioning across the entire range of marital quality (c.f. Baucom, Sayers, & Duhe, 1989). It has further been shown that satisfied spouses tend to make similar attributions for their selves and their partners (Bradbury & Fincham, 1990). Similarly, husbands' attributions of their wives' behaviors has been found to be correlated with their wives' reported marital quality, though the reverse has not been supported (Karney, Bradbury, Fincham, & Sullivan, 1994).

Overall, it has been shown that distressed couples are more likely to report distress-maintaining attributions than relationship-enhancing attributions of negative events when compared to non-distressed couples (Holtzworth-Munroe

& Jacobson, 1985). However, a number of issues have been raised which call into question the utility and validity of research on marital attributions. Specifically, it has been questioned: 1) whether marital attributions have a causal effect on marital adjustment (Fincham & Bradbury, 1987b; Fincham & Bradbury, 1993; Fincham, Bradbury, Arias, Byrne, & Karney, 1997; Karney & Bradbury, 2000), 2) whether marital attributional style exists as a stable trait (Karney & Bradbury, 2000), and 3) whether a third variable better accounts for the relationship between marital attributions and marital adjustment (Fincham et al., 1989; Fincham & Bradbury, 1993; Fincham & Grych, 1991; Fincham et al., 1997; Karney et al., 1994).

Direction of causal effect. Despite the large amount of support for the relationship between marital attributions and marital quality, little research supporting causality has been reported (Fincham & Bradbury, 1987b). Thus far, it is difficult to tell whether distress-maintaining attributions actually cause marital distress, or if marital distress causes distress-maintaining attributions. Certainly, each affects the other, and it is likely that marital attributions and satisfaction form a

feedback loop, each building off of and reinforcing the other.

To address the problem of directionality, a number of longitudinal studies have been conducted, with mixed results. In favor of the predictive utility of marital attributions, it has been shown that initial levels of marital attributions somewhat predict later marital quality, while initial marital quality does not predict later marital attributions (Fincham & Bradbury, 1987b; Karney & Bradbury, 2000). Additionally, it has been reported that some elements of marital attributions may predict later dissolution (Karney & Bradbury, 2000), and that marital attributions can be used to predict marital quality one year later (Fincham et al., 1997; Fincham & Bradbury, 1993). Other research has shown, however, that while wives' marital attributions do predict later satisfaction, husbands' initial attributions do not (Fincham & Bradbury, 1987b). While the majority of findings seem to suggest that initial attribution levels do have some predictive impact on the course of marital quality, the results are not as clear-cut within the realm of causality.

Stability of attributional style. The question of whether the marital attributions made by a couple are stable across time or inconsistent has also been raised. Several studies using longitudinal data have used correlational stability coefficients as evidence for the stability of marital attributions over time (Fincham & Bradbury, 1987b; Fincham & Bradbury, 1993); however, as pointed out by Karney and Bradbury (2000), the use of correlations to determine stability of attributions does not take into account the amount of change in an individual couple's attributions, as correlations are not affected by changes in the mean level of the variable.

A study directly examining the question found that marital quality and marital attributions changed linearly (Karney & Bradbury, 2000). That is, while both remained highly correlated over the course of a year-long longitudinal study, there was no evidence to suggest a stable attributional style, even within specific behavioral domains.

Confounding variables. The question has also been raised whether the relationship between marital attributions and marital stability might be better

accounted for by an additional, third variable (Fincham & Bradbury, 1993). Due to its high correlation with marital distress and possible explanation through the learned helplessness model, depression is often cited as a possible contender. However, when levels of depression are statistically controlled for, it has been found that depression does not account for the relationship between marital attributions and marital adjustment (Fincham et al., 1989; Fincham & Bradbury, 1993; Fincham & Grych, 1991). These findings are further supported by the view that depressive attributional styles are conceived as being different from distress-maintaining marital attribution styles. A depression-maintaining attributional style sees negative events as internally caused, stable, and global (Horneffer & Fincham, 1995). The locus of control is therefore different between the two attributional styles: the depressed individual sees the self as the cause of the negative event, while the maritally distressed person sees the spouse as the cause of the negative event (Fincham & Bradbury, 1993).

Other variables have also been considered as responsible for the relationship between marital attributions and marital adjustment. Negative affectivity,

or the overall neurotic negativism of an individual, has likewise been found not to account for the relationship between attributions and satisfaction, though negative affectivity was found to be reliable correlate of marital attributions (Karney et al., 1994). The relationship between attributions and satisfaction has also been found to be independent of levels of marital violence (Fincham et al., 1997).

CHAPTER 2

PROBLEM

Research on marital attributions has raised a number of questions due to the aforementioned issues. As a result, the current status of the importance of marital attributions in marital research is in limbo. It is suggested here that the examination of marital attributions might play an important role if couched within the tenets of crisis theory.

Kelley's (1967) factorial model of attributions describes them as learned responses to environmental events. That is, when an individual is repeatedly exposed to events which suggest a given attribution, that individual is more likely to make those types of attributions when exposed to future events. It has also been found that spouses who make negative marital attributions are less able to maintain marital quality in the face of negative aspects of the relationship (McNulty & Karney, 1998). In response to this finding, coupled with their own findings that the marital quality of marriages which ended in divorce was more susceptible to changes in attributions, Karney and Bradbury (2000) stated that,

...these findings suggest one aspect of the role that attributions may play in the long-term maintenance of a marriage: Adaptive attributions may allow spouses to maintain their global satisfaction in the face of specific negative events. (p. 307)

In other words, there is some evidence that suggests that marital attributions may be an important part of a couple's adaptation to stressful events.

To return to the previous discussion of crisis theory, it is suggested that crisis theory may play an important role in the examination of the utility of marital attributions. As previously discussed, crisis theory posits that, in reacting to stressors, family members arrive at different definitions for stressful events, and that definition modifies the impact of those events (Hill, 1949). According to crisis theory, the impact of positive or negative events is modified, not only by the strengths of the family, but also by the meanings families attribute to those events.

Applied to the present problem, it is now suggested that marital attributions may play a role in describing the relationship between stressful life events and marital

quality. Specifically, the following hypotheses will consider the accumulation, or pile-up of life stressors as they relate to marital quality. It is possible that marital attributions play either a mediating or moderating role in influencing the relationship between the accumulation of stressors and marital quality.

Marital Attributions as a Mediator Variable

Previous research has found that one's cognitive appraisal of a stressful event mediates the relationship between the stressful event and one's response to that event (Lazarus, 1966; Lazarus & Folkman, 1984). Cognitive appraisal and attributions are closely related concepts, which both reflect on the unique definitions an individual constructs for an event. This finding suggests that attributions may play a mediational role in adaptation to stress.

Additionally, marital quality has been found to mediate the relationship between pile-up of demands on resources and individual well-being (Lavee, McCubbin, & Olson, 1987). Because of the close relationship between marital attributions and marital quality and the tentative support for the causal effect of marital attributions on

marital quality, the investigation of the possibility of an additional mediator variable in this relationship was warranted. Specifically, marital attributions may mediate the relationship between the accumulation of life stressors and marital quality.

In this mediational model of marital attributions, it is expected that when examined alone, the accumulation of stressors will have a strong negative impact on marital quality. Those marriages experiencing a large number of stressful life events will tend to report lower levels of marital quality. However, if marital attributions are added to this model as a mediator variable, it is expected that the bulk of the relationship between stress pile-up and marital quality will be explained by marital attributions. The mediational model therefore suggests that the accumulation of stressful live events impacts the types of attributions couples make, which in turn impacts the couple's perceived marital quality.

It is important to note that the proposed mediational model differs in a meaningful way from a direct, event-attribution-behavior model. In previous research, it has been shown that when a negative event occurs, the attributions one makes for that specific event determines

how that event will impact functioning. The present study posits that a pile-up of life stressors impacts all areas of functioning, including marital quality. While the attributions a couple makes for negative spousal behaviors are not necessarily attributions for the events contributing to the accumulation of stress, they nevertheless impact marital quality. Here, the experience of stressful events is viewed as leading to more negative attributions across all areas of functioning, including marital functioning. Thus, the extent to which an accumulation of a large number of stressors impacts the attributions one makes for ones' spouses' behavior determines the impact of the accumulation of stress on the marriage.

If true, the mediational model would help to explain part of the lack of stability found in marital attributions. The mediational model would predict that marital attributions would change over time in response to the accumulation of life stressors. Furthermore, the types of attributions made by couples would be responsible for the quality of the marriage, a relationship which has received some support in the research literature (Fincham & Bradbury, 1987b; Karney & Bradbury, 2000). In sum, the

mediational model of marital attributions would suggest that couples which experience an accumulation of stressful life events would tend to make more negative attributions of partners' behaviors, and this, in turn, would have a negative impact on the quality of the marriage.

Marital Attributions as a Moderator Variable

Previous research has shown that situation appraisal moderates the relationship between pile-up of demands on individual well-being (Lavee et al., 1987). Because of the attributional nature of appraisals, it might be true that attributions play a moderational role in the relationship between accumulation of stressors and well-being. When applied to the marital relationship, it may hold true that marital attributions moderate the relationship between life stressors and marital quality.

In this moderation model, it is expected that the accumulation of stressors will impact couples who make different types of attributions in different ways. Couples who make negative marital attributions are expected to experience decreasing marital quality in the face of an increase in accumulation of life stressors. Conversely, couples who make positive marital attributions are expected

to either maintain or experience an increase in marital quality in the face of an increase in accumulation of life stressors. Consistent with moderational models of stress, this would suggest that positive marital attributions play a protective role for the marriage from the effects of stress.

Methodological Concerns

While the role of marital attributions in couple's adaptation to stress provides some interesting possibilities, several issues might warrant attention in any investigations. Current research on attributions tends to focus on specific behavioral domains such as marriage, because the validity of an attributional style generalizable across all areas of a person's life has been called into question (Cutrona et al., 1985; Horneffer & Fincham, 1995). Research on marital attributions has therefore focused solely on the attributions people make about their spouse's behaviors. As an investigation of the role of marital attributions in crisis theory would look at the impact of stressors from a wide variety of life areas, the use of a measure of global attributions in addition to a measure of marital attributions might prove warranted.

Additionally, the possibility of examining stressors arising from within the family sphere (death of a child, spousal abuse, etc.) and from outside the family (unemployment, etc.) may provide a more complete picture of participant's attributional styles.

In crisis theory, a stressful event affects a family based partly on the family's definition of that specific event. As such, some may argue that in order to study this process, it would be necessary to have couples report the attributions they make for only the specific events which that couple experiences. While providing useful information, such an approach would raise methodological concerns, in that information on attributions would not be collected from couples experiencing no stressors and that the reliability of the attributional data would be affected by the fact that different couples would respond to an inconsistent number of items measuring attributions.

The types of attributions couples make to hypothetical events (such as those included in common measures of marital attributions) have been found to be highly related to the types of attributions couples make for real events (Fincham & Beach, 1988). In essence, the pattern of responses of attributions is not affected by the real or

hypothetical nature of the events. Additionally, the double ABCX model suggests that the accumulation, or pile-up, of stressors is potentially more important in stress adaptation than specific stressors themselves. As such, the examination of the relationship of attributions (as measured by commonly used instruments) to the adaptation of marriages to the accumulation of life stressors appears warranted.

Summary

The process of adaptation to stress in married couples is an important part of uncovering the reasons that some marriages end in divorce or dysfunction, while others strengthen, grow, and survive the test of time. Research on crisis theory has already provided a great deal of invaluable insight into the process of adaptation to stress for families and marriages. Many of the processes and vulnerabilities which contribute to marital distress have also been found to act as a protective mechanism. One such possible mechanism that has not received formal attention in the research literature is marital attributions. The role that marital attributions may play in couples' adaptation to stressful events is unclear, with evidence

suggesting it might act as a mediator or moderator in the relationship between the accumulation of life stressors and marital quality.

As a mediator, the types of attributions made for one's spouse's behavior are expected to be responsible for the strong relationship between stress accumulation and marital quality. That is, stressors cause the married couple to make more negative attributions for one another's behavior, eventually impacting marital quality. As a moderator, positive marital attributions are expected to play a protective role, buffering the quality of the marriage from the deleterious impact of stress, perhaps even to the point of allowing the marriage to emerge from times of stress strengthened and better able to adapt to future stressors. The application of crisis theory and stress adaptation to the construct of marital attributions may help to revitalize the field of attributional research.

Marital research often focuses on examining and predicting marital dysfunction and divorce. While these goals are commendable and the results of this research are invaluable, such studies often ignore the other side of the marriage coin. While marriages can and do become distressed and dissolve, they can also grow stronger and

more satisfying. Crisis theory enjoys a unique position in the field of marital research in that it can be used to explain both the highs and lows of marriage. The process of uncovering not only what causes marriages to fail, but also how marriages succeed and excel is an important contribution to the field of marital research. While the role of marital attributions in this process has yet to be explored, it shows promise as another piece in the marital puzzle.

This study seeks to examine two separate hypotheses. The first hypothesis predicts that marital attributions mediate the relationship between the accumulation of life stressors and marital quality. Put another way, the first hypothesis states that the accumulation of stressful life events impacts the quality of the marriage through the types of attributions couples make for spouses' negative behaviors. The second hypothesis predicts a moderating relationship between the accumulation of life stressors and marital attributions in predicting marital quality. That is, an accumulation of stressful events has a different relationship with marital quality for individuals who make different types of attributions for their spouses' negative marital behaviors.

CHAPTER 3

METHOD

The present study utilized couples' responses to self-report instruments to test the study hypotheses. The methods used to recruit participants are described, and participant demographic information is presented. Each measure used in the study is then described, including information on test format, test validity, and the reliability of the present data. Finally, the instructions given to participants for completing the study measures are described.

Participants

Married couples were recruited for participation through posted advertisements and announcements at local community organizations (daycare centers, church groups, etc.) and through advertisements posted on couple-oriented internet mailing lists and bulletin boards. Couples were offered the chance to win one of five \$50 cash prizes as compensation for their participation. Approximately 40 churches and daycare centers in central Texas were initially contacted by e-mail with a study description, a

flyer, and a request to either hang the flyer in a public area or to make an announcement to interested parties. Study announcements and a request for participants were also posted to a total of 8 couples-oriented internet bulletin boards and mailing lists. A total of 94 couples responded to the advertisements over the next 7 months and were subsequently mailed a packet including a description of the study, a prize drawing form, all study measures, and a pre-paid return envelope. A total of 62 couples returned their completed materials, for a total response rate of 66%. Two couples provided incomplete information and were subsequently removed from all analyses, resulting in a final sample of 60 married couples. Approximately 40% of the participants had responded to study advertisements posted in central Texas, while the remaining 60% had responded to the internet advertisements with nation-wide distribution. Demographic information for the final study participants is presented in Tables 1 through 5. As shown, participants were largely Caucasian and well educated.

Table 1
Participant Ethnicity

Category	Husband		Wife	
	Freq.	%	Freq.	%
Caucasian	54	90%	58	96.7
African-American	1	1.7%	0	-
Hispanic	4	6.7%	2	3.3%
Asian/Pacific Islander	0	-	0	-
Native American	0	-	0	-
Other	1	1.7%	0	-

Table 2
Participant Education

Category	Husband		Wife	
	Freq.	%	Freq.	%
< HS	1	1.7%	0	-
HS/GED	2	3.3%	0	-
Some College	11	18.3%	9	15%
Associates	4	6.7%	1	1.7%
BA	19	31.7%	26	43.3%
Graduate	23	38.3%	24	40%

Table 3
Participant Employment

Variable	Husband		Wife	
	Freq.	%	Freq.	%
Not currently employed	10	16.7%	6	10%
1-19 hours/wk	2	3.3%	9	15%
20-39 hours/wk	7	11.7%	13	21.7%
40+ hours/wk	41	68.3%	32	53.3%

Table 4
Participants' Current Marriages

Variable	Mean	SD	Min.	Max.
Years married	16.43	12.45	.10	37
# of children from current marriage	1.35	1.52	0	5
# of children living at home	.62	.92	0	3

Table 5
Participants' Age and Previous Marriages

Variable	Husband				Wife			
	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Age	45.31	13.11	22	77	43.56	13.09	21	75
# previous marriages	.38	.67	0	2	.32	.60	0	2
# children from previous marriages	.57	1.27	0	5	.50	1.11	0	4

Measures

FILE

The Family Inventory of Life Events and Changes (FILE; McCubbin, Patterson, & Wilson, 1983) is a checklist of 71 stressful life events used as a measure of the level of stress experienced by a family within the past 12 months. Specifically, the FILE was developed to measure the concept of "pile-up" of normative and non-normative changes and intrafamilial strains affecting the family within the past year (McCubbin & Patterson, 1982). Each stressor is given a weight based on the potential impact of that stressor on the family (for example, a family member leaving home is rated as less stressful than the death of a child), and the weights of stressors are summed to give a total score. The weights were determined by a number of expert judges; a meta-analysis of similar measures found no differences between measures of stress that use weights assigned by experts when compared to measures which ask individuals to rate the importance and impact of a given stressor (Cohen & Wills, 1985).

The present data were scored using the "Family-couple Readjustment Score" method described by McCubbin, Thompson, and McCubbin (1996). Using this method, a copy of the FILE

is completed separately by each spouse. If either or both members of the couple stated that a given stressor has occurred within the past year, that stressor's weight is then added to a total couple's FILE score. This scoring method results in a single FILE score used for both husbands and wives, and is based on the assumption that while spouses may attend to or experience different stressors, each spouse's experience is an important and valid record of the stressors a family experiences. This scoring of the FILE results in a number between 0 and 3232, with higher numbers representing a greater accumulation of life stressors. McCubbin, Thompson, and McCubbin (1996) found that the normative levels of stress experienced by families differed in regards to the "life phase" of the family. These normative scores are presented in Table 6.

Table 6
Normative Data for FILE over the Family Life Cycle

Family Stage	Stress Level			
	Mean	Low	Moderate	High
Couple	478	0-210	211-719	720+
Preschool	530	0-220	221-839	840+
School age	500	0-265	266-734	735+
Adolescent	545	0-240	241-849	850+
Launching	635	0-320	321-949	950+
Empty Nest	425	0-160	161-689	690+
Retirement	395	0-75	76-699	700+

Note. From McCubbin, Thompson, and McCubbin (1996).

The internal reliability of FILE scores as applied to the initial sample used for the development of the measure was found to be .71, while scores from subsequent samples have indicated Cronbach's alphas ranging from .72 to .89 (McCubbin, Thompson, & McCubbin, 1996). Additionally, the test developers report a 4 to 5-month test/retest reliability of .80. In examining the validity of FILE scores, McCubbin, Thompson, and McCubbin (1996) determined that the FILE differentiated between low and high-conflict families with children with cerebral palsy or myelomeningocele, and predicted recovery rate from a variety of health problems. While the FILE was initially divided into several subscales, the developers have raised issues concerning the reliability of subscale scores and have henceforth recommended using only the total score. The internal reliability of the scores in the present sample, along with the reliabilities for scores on all other study measures, is presented in Table 7. Following the recommendations of Wilkinson and the APA Task Force on Statistical Inference (1999) and Fan and Thompson (2001), confidence intervals were constructed around these score reliabilities to show a range of plausible score reliabilities based on the present data.

Table 7
FILE, DAS, and RAM Cronbach Alphas for Study Sample

Test	Husband			Wife		
	Alpha	95% C.I.		Alpha	95% C.I.	
		Lower	Upper		Lower	Upper
FILE	.783	.698	.855	*	*	*
DAS	.912	.876	.941	.926	.896	.950
Locus	.863	.804	.910	.727	.609	.820
Stable	.870	.813	.914	.807	.723	.873
Global	.886	.836	.925	.860	.800	.908

* FILE score identical for husbands and wives.

DAS

The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a commonly used measure of marital adjustment. The DAS consists of 32 items which provide scores on four subscales (Dyadic Consensus, Dyadic Satisfaction, Dyadic Cohesion, and Affectional Expression), as well as an overall measure of marital adjustment. Marital adjustment as defined by the DAS is,

A process, the outcome of which is determined by the degree of: 1) troublesome dyadic differences; 2) interpersonal tensions and personal anxiety; 3) dyadic satisfaction; 4) dyadic cohesion; and 5) consensus on matters of importance to dyadic functioning. (Spanier, 1976, p. 17)

The sample used in the development of this measure resulted in subscale and total scores with internal

reliabilities as measured by Cronbach's alpha ranging from .73 to .94, and a total alpha of .96. The use of the DAS has been recommended over another commonly used measure of marital adjustment, the Locke-Wallace Marital Adjustment Test (LMAT), as the DAS does not contain some of the sexist biases found in the LMAT (Bagarozzi, 1985).

Items used in the DAS were initially evaluated by expert judges to determine consistency with similar measures and with Spanier's definition of marital quality (1976). Additionally, scores on the DAS have been found to differentiate between intact and divorced couples (Spanier, 1976), and between community couples and couples presenting for marital therapy (Sharpley & Cross, 1982). A cutoff score of 100 has been recommended by Spanier (1976) to differentiate between distressed and non-distressed marriages.

The construct validity of the subscales composing the DAS has been called into question (Fincham & Bradbury, 1987a; Norton, 1983). While Spanier (1976) initially reported support for a 4-factor model of marital quality, these factors have failed to replicate in subsequent studies (Sharpley & Cross, 1982) and an examination of the item content and scaling suggests that the factors may be

an artifact of the items rather than underlying dimensions (Norton, 1983). Because of the extremely high correlations between the subscales composing the DAS, the questionable validity of subscale scores, and the high validity of total scores, subscale scores have not been used in the present study. Rather, scores on individual DAS items were summed to give a composite measure of marital quality, resulting in a number between 0 and 151, with higher numbers indicating more positive marital quality. The internal reliabilities of the DAS as applied to the present sample were found to be acceptable and are presented in Table 7.

RAM

The Relationship Attribution Measure (RAM; Fincham & Bradbury, 1992) was designed to assess the causal attributions couples make to negative marital behaviors in three dimensions: Locus (partner/external), Stable (stable/unstable), and Global (global/specific). Participants are asked to rate their beliefs of causes of 10 negative partner behaviors on 6 items measured on 6-point Likert-like scales. Responses to the RAM result in 3 subscale scores (measuring each of the three dimensions),

as well as a composite score. The sample used during the development of the RAM yielded scores with subscale internal reliabilities of between .74 and .87 for wives, and between .75 and .88 for husbands, with composite score reliabilities of .84 for wives and .86 for husbands.

A study conducted during the development of the RAM concluded that spouses reported highly similar attributions to the hypothetical spousal events described in the RAM when compared to attributions for real events causing marital difficulties (Fincham & Bradbury, 1992). Additionally, a study conducted by Fincham and Beach (1988) concluded again that the attributions made by couples for real and hypothetical events were identical. This suggests that the RAM yields valid scores measuring of the attributions spouses actually make for real-life spousal behaviors.

The attributions measured by the RAM have been consistently found to be highly correlated with marital distress. Distressed couples have been found to make more attributions blaming the partner, see the partner's behavior as stable over time, and see the partner's behavior as affecting all areas of the marriage when compared to non-distressed couples (e.g., Baucom, Sayers, &

Duhe, 1989; Fincham & Bradbury, 1992). Possible confounds to this relationship have been explored in numerous studies. Results of these studies appear to indicate that the relationship between marital attributions and marital quality is not due to overlap of the RAM with measures of marital quality (Fincham & Bradbury, 1992), level of depression (Fincham, Beach, & Bradbury, 1989), negative affectivity or pessimism (Karney, Bradbury, Fincham, & Sullivan, 1994), or level of violence (Fincham et al., 1997). This evidence appears to support the notion that the attributions measured by the RAM represent a unique contribution to the prediction of marital quality, and that marital attributions and marital quality represent distinct constructs.

The three subscales of the RAM (locus, stable, and global) are described as reflecting a single underlying "causal" attribution factor (Fincham & Bradbury, 1992). These subscales are also presented as having relatively high correlations, ranging between .45 and .64. While the majority of literature using the RAM considers each of these scales separately, the theoretical construct of causal attributions and high correlations between subscales suggest that it may be necessary to consider the

possibility of a one-factor model. To this end, data were subjected to a confirmatory factor analysis using maximum likelihood estimation. While the sample size of the present study does not allow for the power necessary to provide an accurate measure of overall model fit, it is still possible to use the chi-squared statistic to compare two models for relative fit. Two competing models were tested, one considering all RAM items as measuring a single underlying factor, the second considering each of the subscales as separate, though correlated, factors. The relative fit of these models was tested using AMOS 4.0, considering husbands and wives separately. The resultant chi-squares and relative fit of these models is shown in Table 8. Again, it is necessary to caution that these results should not be taken as a measure of overall goodness-of-fit, due to the small sample size; rather, the analysis provides a means of comparison between the two possible models.

Table 8
Relative Fit of 1 and 3-Factor Models of the RAM

Partner	Model	χ^2	df	χ^2		NFI	CFI	RMSEA
					Crit.			
Husband	1-Factor	762.3	252			.341	.420	.185
	3-Factor	529.7	249			.542	.681	.138
	Difference	232.7	3	7.815				
Wife	1-Factor	625.0	252			.324	.425	.158
	3-Factor	537.4	249			.419	.555	.140
	Difference	85.9	3	7.815				

As shown in Table 8, the three-factor model is supported over the one-factor model for both husbands and wives. The subscales of the RAM will therefore be considered as separate measures in this study. In the present study, total scores for the RAM subscales were averaged to provide a number between 1 and 6 for each subscale. For each respective subscale, a higher number indicates that an individual is more likely to attribute the causes of negative spousal events to the spouse, see them as more long-lasting and stable, and as affecting a wider range of marital areas. The resultant reliabilities for the present sample were found to be acceptable (see Table 7).

ASQ

Current research on attributions tends to focus on specific behavioral domains, such as marriage, because the validity of an attributional style generalizable across all areas of a person's life has been called into question (Cutrona, Russell, & Jones, 1985; Horneffer & Fincham, 1995). Research on marital attributions has therefore focused solely on the attributions people make about their spouses' behaviors. As the present study looked at the impact of stressors from a wide variety of life areas, a measure of global attributional style was considered for use in addition to a measure of marital attributions to allow for the possible differences in couple's adaptations to stressors arising from within and without the marital domain, and to provide a more complete picture of participant's attributional styles.

The Attributional Style Questionnaire (ASQ; Peterson et al., 1982) was developed to examine the causal attributions people make to positive and negative life events in three dimensions: internal/external, stable/unstable, and specific/global. The ASQ requires participants to respond to 12 events (6 positive, 6 negative) and rate their beliefs of the causes of these

events on each of the three dimensions on a 7-point Likert-like scale. Responses to the ASQ yield subscale scores of each of the three dimensions, attributions to positive and negative events, and a total score. The scores in the sample used in the development of this instrument had internal reliability coefficients of .75 and .72, and five-week test-retest reliabilities of .70 and .64 for positive and negative events, respectively.

While the ASQ has been found to be highly correlated with depression and general distress (Seligman et al., 1979; Taylor & Brown, 1988), subsequent research has brought into question validity of scores across all domains of behavior (Cutrona, Russell, & Jones, 1985). The ASQ was initially included in the present study, but subsequently discarded due to exceedingly poor internal reliabilities (Cronbach alphas for total scores of .541 and .422 for husbands and wives, respectively) and a factor structure inconsistent with the theoretical literature.

Procedure

Couples responding to the study advertisements were mailed two copies of each measure, one for each spouse to complete. Participants were asked to carefully review the

study description and instructions before completing the materials. All information required for participants to give their informed consent to participate in the study was included in the study description, and participants were instructed that returning completed survey materials to the investigator would indicate their consent to participate in the research study.

Couples were asked to complete the demographic information and prize-drawing forms together. Participants were then instructed to complete the remaining materials in separate rooms. Participants were asked not to share their responses with their spouses, and to place their completed DAS, FILE, RAM, and ASQ in a provided envelope marked "husband" or "wife", respectively. After spouses' sealed their survey responses inside of an envelope, they were asked to return both sealed envelopes, the demographic information sheet, and the prize-drawing form to the investigator using a pre-stamped return envelope.

CHAPTER 4

RESULTS

In order to investigate the role that marital attributions play in the role between the accumulation of life stressors and marital quality, two models were tested using the procedures outlined by Baron and Kenny (1996), one using marital attributions as a mediator, the second treating marital attributions as a moderator variable. Descriptive statistics for both husbands and wives and the measure correlation matrix are presented in Tables 9 and 10. Using Spanier's (1976) cutoff score of 100, a total of seven couples can be classified as distressed by their DAS scores. While information on the life phase of each family was not collected, an examination of the distribution of FILE scores appears to indicate that couples report experiencing a sufficient range of stressors.

Table 9
Mean Scores for FILE, DAS, and RAM

	Husband		Wife	
	Mean	SD	Mean	SD
DAS	117.88	12.23	116.73	14.81
FILE*	595.57	270.88		
Locus	3.713	1.09	4.13	.79
Stable	2.63	1.02	2.74	.91
Global	3.19	1.08	3.35	1.06

FILE score identical for husbands and wives

Table 10
Correlation Matrix for All Study Measures

Measure	1	2	3	4	5	6	7	8
1)FILE	-							
2)H-DAS	<i>-.30</i>	-						
3)H-Locus	<i>.14</i>	<i>-.28</i>	-					
4)H-Stable	<i>.23</i>	<i>-.51</i>	<i>.28</i>	-				
5)H-Global	<i>.11</i>	<i>-.35</i>	<i>.59</i>	<i>.34</i>	-			
6)W-DAS	<i>-.29</i>	<i>.64</i>	<i>-.22</i>	<i>.37</i>	<i>-.36</i>	-		
7)W-Locus	<i>.08</i>	<i>-.13</i>	<i>.07</i>	<i>.19</i>	<i>.13</i>	<i>-.21</i>	-	
8)W-Stable	<i>.15</i>	<i>-.18</i>	<i>.21</i>	<i>.34</i>	<i>.25</i>	<i>-.34</i>	<i>.32</i>	-
9)W-Global	<i>.23</i>	<i>-.32</i>	<i>.30</i>	<i>.20</i>	<i>.40</i>	<i>-.54</i>	<i>.31</i>	<i>.58</i>

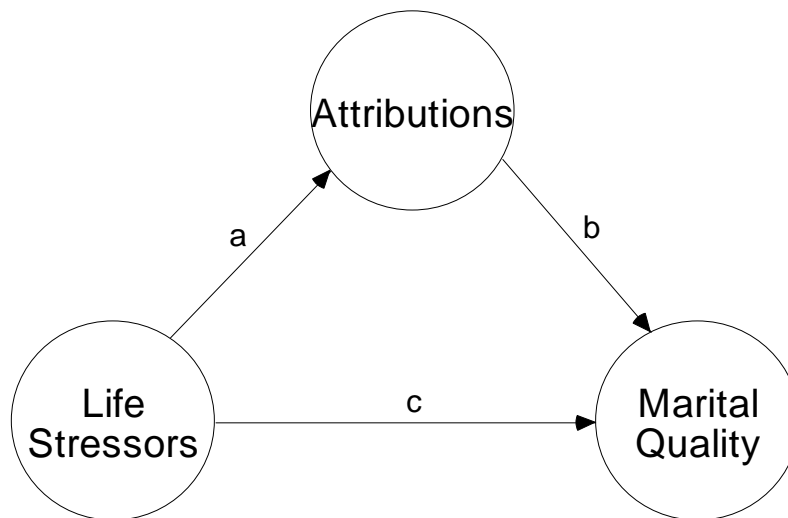
Note: Correlations $\geq .26$ statistically significant at the .05 level; $\geq .34$ statistically significant at the .01 level
H=Husband; W=Wife; Interspousal correlations are italicized.

Mediator Model

A graphical representation of the mediational model of marital attributions, life stressors, and marital quality is shown in Figure 1. For marital attributions to be considered a mediator variable, it is necessary that all bivariate relationships shown in Figure 1 be individually statistically significant. Following that requirement, it is expected that life stressors have a noteworthy path coefficient with marital quality (path c). It is then expected that, should marital attributions be included in the model, the importance of path c will be reduced and paths a and b will become statistically significant.

Figure 1

Mediation Model of Attributions, Stressors, and Marital Quality



The initial correlations for both husbands and wives are shown in Table 11. As shown, marital quality as measured by the DAS is highly correlated with both life stressors and all subscales of the RAM; however, the correlations between life stressors and all subscales of the RAM are statistically non-significant and near-zero. As such, the mediational model must be rejected, due to the lack of weight on path "a".

Table 11
Correlations between FILE and RAM for Mediation Model

Test	Husband		Wife	
	DAS	FILE	DAS	FILE
FILE	-.303*		-.287*	
Locus	-.278*	.141	-.211	.078
Stable	-.513**	.229	-.339**	.151
Global	-.349**	.108	-.544**	.227

* $p \leq .05$ ** $p \leq .01$

Note. All correlations must be statistically significant to meet the criteria for a mediator variable.

Moderator Model

The presence of a moderating relationship can be tested by using multiple regression to examine the utility of an interaction variable in predicting a dependent variable (Baron & Kenny, 1986). Unlike the mediational model, it is not necessary for all variable correlations to be initially statistically significant; rather, only the correlation between life stressors and marital satisfaction must be initially statistically significant (Howell, 2002). As previously shown in Table 11, the present data meet these criteria for both husbands and wives.

Because the interaction term is computed by taking the product of two independent variables, it is necessary to address the problem of multicollinearity. As the interaction term is comprised of information from both the parent independent variables, it stands to reason that

there will be a great deal of inter-relatedness between the interaction and parent variables. This inter-relatedness would result in a large degree of shared variance between interactions and parent variables, potentially confounding any results and making them difficult to interpret. To reduce the impact of multicollinearity it is necessary to center the independent variables. To accomplish this, the mean of a given variable is subtracted from each score on that variable. This results in a variable with a mean of 0, with positive numbers denoting a score greater than the mean, and a negative number denoting a score less than the mean (Howell, 2002).

These centered scores are then used to create the interaction terms by taking the product of the parent variables. While this has the impact of greatly reducing the correlations between the parent and interaction variables, the correlations between the parent independent and dependent variables remain unaffected. The correlations between the variables, before and after centering, are shown in Table 12. As demonstrated here, the impact of multicollinearity has been greatly reduced by applying an additive constant to the independent variables before computing the interaction terms.

Table 12
Correlations between Interactions and All Measures Showing the Effects of Centering on Multicollinearity

Product	Husband			Wife		
	DAS	Stress	Parent*	DAS	Stress	Parent*
Locus*Stress	-.42(-.20)	.86(.05)	.57(-.16)	-.39(-.33)	.91(-.10)	.46(.11)
Stable*Stress	-.58(-.48)	.77(.16)	.75(.34)	-.45(-.32)	.82(.17)	.65(.14)
Global*Stress	-.52(-.46)	.82(.20)	.60(.01)	-.53(-.27)	.83(.10)	.68(.18)

* Parent=Parent Attribution

Note. Correlations before centering outside parenthesis; correlations after centering inside parenthesis.

SPSS 11.0 was used to conduct a multiple regression analysis, using life stressors (FILE), marital attributions (locus, global, and stable), and the interactions between life stressors and marital attributions to predict marital quality (DAS). Separate analyses were conducted for both husbands and wives. The regression analysis for husbands was statistically significant at the .001 level, with an R^2 of .479 (Adjusted R^2 = .409; SE=9.40). The regression weights and structure coefficients for variables included in this analysis are shown in Table 13. The regression analysis for wives was likewise statistically significant at the .001 level, with an R^2 of .411 (Adjusted R^2 = .332; SE=12.11). The regression weights and structure coefficients for variables included in this analysis are shown in Table 14.

Table 13

Prediction of Marital Quality from Stress, Marital Attributions, and Interactions: Husbands

Predictor	B	Std. Error	Beta	r_s	t	p
Constant	118.477	1.243			95.34	.000
FILE	-.00515	.005	-.114	-.438	-1.08	.284
Locus	-.938	1.435	-.083	-.402	-.65	.516
Stable	-3.457	1.381	-.288	-.741	-2.50	.016
Global	-1.348	1.464	-.119	-.503	-.92	.361
L*Stress	.007610	.006	.192	-.288	1.34	.187
S*Stress	-.00706	.005	-.189	-.690	-1.51	.137
G*Stress	-.0151	.006	-.396	-.657	-2.59	.013

$R^2=.479$; $F=6.837$; $p<.001$

D.V.: Husband's Marital Quality (DAS)

Table 14

Prediction of Marital Quality from Stress, Marital Attributions, and Interactions: Wives

Predictor	B	Std. Error	Beta	r_s	t	p
Constant	117.230	1.603			73.12	.000
FILE	.0110	.006	-.202	-.449	-1.78	.082
Locus	-.384	2.183	-.021	-.329	-.18	.861
Stable	1.006	2.269	.062	-.528	.44	.659
Global	-6.685	1.894	-.480	-.848	-3.53	.001
L*Stress	-.0191	.010	-.267	-.508	-1.98	.053
S*Stress	-.00253	.008	-.043	-.493	-.32	.748
G*Stress	-.00141	.006	-.030	-.415	-.24	.813

$R^2=.411$; $F=5.183$; $p<.001$

D.V.: Wife's Marital Quality (DAS)

To aid in the interpretation of the study results, additional regression analyses were conducted to determine the existence of a moderating relationship when each dimension of marital attributions is considered alone. Separately for husbands and wives, regression analyses using centered stress, specific attribution domain, and

interaction terms to predict marital quality were conducted for each of the three attribution dimensions. For example, stress, global attributions, and the product of these two were used to predict marital quality for husbands in one analysis; stress, stable attributions, and the product used to predict husband's marital quality in a second analysis, etc. The results of these analyses are presented in Table 15 for husbands and Table 16 for wives. As shown here, stable-by-stress and global-by-stress interactions achieve statistical significance for husbands when marital attribution domains are considered independent of one another. Under the same circumstances the stable-by-stress and locus-by-stress interactions achieve statistical significance for wives.

Table 15

Prediction of Marital Quality from Stress, Specific Marital Attribution Dimensions, and Interactions: Husbands

	zero-order			
Predictor	Beta	r_{xy}	t	p
Stress	-.253	-.303	-2.09	.047
Locus	-.280	-.278	-2.29	.026
L*Stress	-.232	-.199	-1.92	.061

$R^2=.201$, $F=4.696$, $p<.01$
D.V.: Husband's Marital Quality (DAS)

	zero-order			
Predictor	Beta	r_{xy}	t	p
Stress	-.167	-.303	-1.56	.125
Stable	-.364	-.513	-3.23	.002
S*Stress	-.326	-.477	-2.93	.005

$R^2=.393$, $F=12.089$, $p<.001$
D.V.: Husband's Marital Quality (DAS)

	zero-order			
Predictor	Beta	r_{xy}	t	p
Stress	-.187	-.303	-1.71	.094
Global	-.325	-.349	-3.02	.004
G*Stress	-.416	-.455	-3.81	.000

$R^2=.359$, $F=10.471$, $p<.01$
D.V.: Husband's Marital Quality (DAS)

Table 16

Prediction of Marital Quality from Stress, Specific Marital Attribution Dimensions, and Interactions: Wives

		zero- order		
Predictor	Beta	r_{xy}	t	p
Stress	-.309	-.287	-2.61	.012
Locus	-.149	-.211	-1.25	.215
L*Stress	-.339	-.325	-2.85	.006

$R^2=.230$, $F=5.580$, $p<.01$

		zero- order		
Predictor	Beta	r_{xy}	t	p
Stress	-.205	-.287	-1.70	.094
Stable	-.273	-.339	-2.82	.026
S*Stress	-.241	-.316	-2.01	.049

$R^2=.228$, $F=5.498$, $p<.01$

		zero- order		
Predictor	Beta	r_{xy}	t	p
Stress	-.163	-.287	-1.47	.148
Global	-.477	-.544	-4.26	.000
G*Stress	-.164	-.266	-1.49	.141

$R^2=.350$, $F=10.043$, $p<.001$

The global-by-stress interaction for husbands and the locus-by-stress interactions for wives were chosen to provide a graphical representation of the moderating relationship of marital attributions on the relationship between life stressors and marital quality. To create these figures, a computer program called Italassi by Normand Peladeau, available free from www.simstat.com, was

used. The regression line for stress predicting husbands' marital quality at different levels of husbands' global attributions is displayed in Figure 2. The regression lines for stress predicting wives' marital quality at different levels of wives' locus marital attributions is shown in Figure 3. As seen in these two figures, level of attribution has a marked effect on the relationship between stress and marital quality, in both cases reversing the direction of the relationship.

Figure 2
Stress and Marital Quality at Different Levels of Global Marital Attributions: Husbands

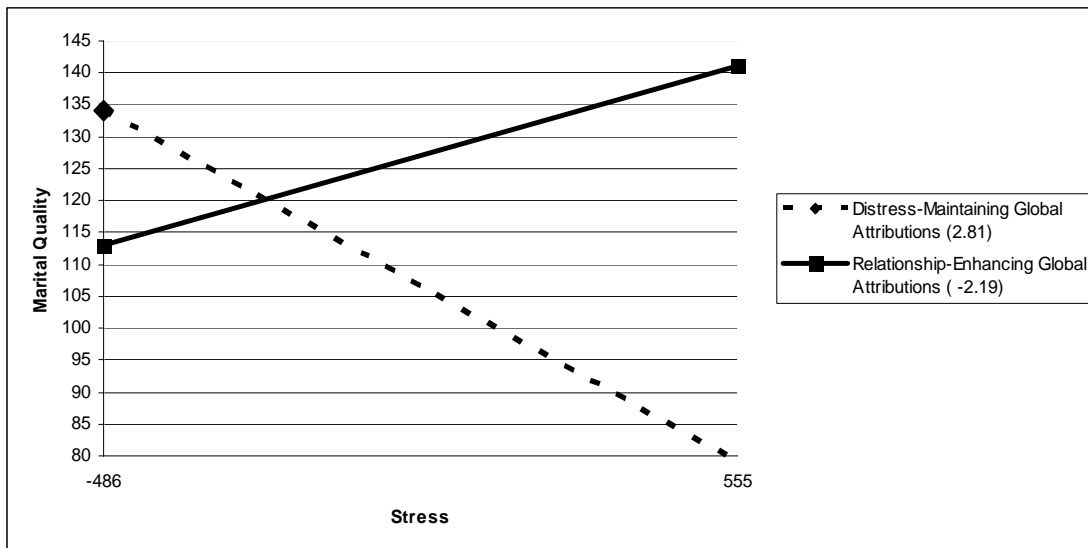
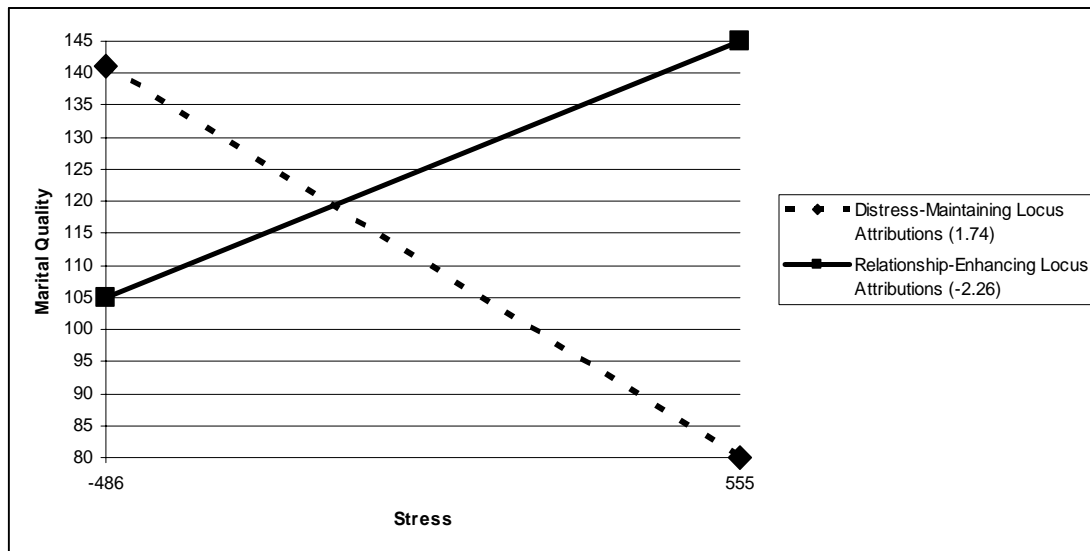


Figure 3
*Stress and Marital Quality at Different Levels of Locus
Marital Attributions: Wives*



CHAPTER 5

DISCUSSION

The results of the present study are discussed in light of current research on marital processes. Correlations between study measures are first discussed, and potential reasons for the failure to find support for the mediation model are then examined. Next, the study results supporting the moderation model are discussed separately for husbands and wives. A comparison of results for husbands and wives is then presented, with possible explanations put forth. Finally, limitations of the present study are examined, and potential avenues of future research are described.

Correlations

Stress and Marital Quality

For both husbands and wives, the accumulation of stressful events was statistically significantly correlated with marital quality at the $p \leq .05$ level, with "r"s of $-.30$ and $-.29$ for husbands and wives, respectively. As the amount of life stressors experienced by a married couple increases, the perceived quality of the marriage declines.

This is consistent with a wide body of literature demonstrating the deleterious effects of stressful life events on marriages (e.g. Conger et al., 1990; Conger et al. 1999; Karney & Bradbury, 1995).

The relationship between life stressors and marital quality can be explained by the "pile-up" theory put forth by McCubbin, Thompson, and McCubbin (1996). As the number of stressors a family experiences increases, more and more of the family's resources are used in dealing with these life events. This, in turn, makes the family members more vulnerable to subsequent stressors, as they have fewer available resources to use for later adaptation. When a married couple currently adapting to a large number of stressful life events experiences an intra-marital stress, they have fewer resources available to cope and subsequently experience greater marital distress. A couple which experiences a "pile-up" of life stressors is more vulnerable to stress in all areas, both inside and outside the marriage.

Attributions and Marital Quality

The bivariate relationships between marital quality and all three elements of marital attributions were

statistically significant for husbands. Husbands in more distressed marriages tended to make more partner-focused, more stable, and more global attributions when compared to husbands in less distressed marriages. The relationship between marital attributions and marital quality was the same for wives, save that the correlation between locus attributions and marital quality ($r=-.211$), was not statistically significant.

Numerous studies have demonstrated that couples in less satisfying relationships make more negative attributions for partner behavior when compared to couples in more satisfying relationships (e.g. Bradbury & Fincham, 1990; Fincham & Bradbury, 1987b; Jacobson et al., 1985). In a review of research on marital attributions, Bradbury and Fincham (1990), cited the most consistent attribution/marital quality correlations as occurring with attributions on the global and stable dimensions, with "less compelling ... results for the locus dimension, where the number of studies providing full support are equal to the number of studies providing no support" (p. 5). In light of this, the lack of statistically significant relationship between marital quality and locus attributions

for wives is not inconsistent with the available literature.

Mediation Model

The present study failed to support a mediational relationship for marital attributions on the relationship between life stressors and marital quality. This was singularly due to the lack of a strong relationship between marital attributions and life stressors. For both husbands and wives, no dimension of marital attributions had a statistically significant correlation with marital quality, the highest correlations being .229 with stable attributions for husbands and .227 for global attributions for wives. This provides evidence that marital attributions are not related to the experience of stressful life events in married couples.

Despite Kelley's (1967) factorial model of attributions as learned responses to environmental factors, there is substantial evidence that though attributions may influence behavior, the reverse is not necessarily true (Johnson, Karney, Rogge, & Bradbury, 2001). In other words, the types of attributions one makes for an event may be independent of the event itself.

In the present study, another factor may account for the lack of relationship between marital attributions and life stressors. The events measured by the FILE include a wide variety of stressful events, including intra-familial strains, work-related stressors, physical illness, financial problems, etc. The attributions measured by the RAM, however, speak directly to attributions for events in a specific behavioral domain: the behavior of one's spouse. As previous research has shown that individuals do not necessarily make identical attributions across all domains of their lives (Cutrona et al., 1985), it stands to reason that spouses may not make similar attributions to events both inside and outside the marriage. It is possible that no strong relationship was found because the stressful events measured are not all in the same domain as the ones for which the couple is asked to make attributions. While a more general measure of attributions, the ASQ, was initially included in the present study to address this issue, reliability and validity concerns precluded its use. It is therefore impossible to directly address this issue given the present data. Regardless, it is apparent that it is possible for a couple to have positive marital attributions while experiencing large amounts of stress, to

have negative marital attributions while experiencing minimal stress, as well as the vice versa.

Moderation Model

The present data for husbands and wives did meet the initial requirements for testing the existence of a moderating relationship of marital attributions on life stressors and marital quality. The initial analysis included all study variables including the three interaction terms for marital attributions and stress for husbands and wives separately. Subsequent analyses examined the specific dimensions of marital attributions separately from one another. Results are discussed first for husbands and wives separately, then together in contrast.

Husbands

All attribution dimensions considered together. When all study variables and interaction terms were considered together, two variables emerged as statistically significant in the context of the other variables in predicting marital quality. The interaction between stressful life events and global attributions possessed the

largest beta weight, with the third largest structure coefficient. This suggests that the relationship between stress and the marital quality of husbands is different for husbands who tend to see the reason for spouse's negative behavior as being specific to a given situation when compared to husbands who tend to make more global attributions of their spouse's negative behavior. That is, while a greater number of stressors was related to poorer marital quality in husbands who tended to make global attributions of spousal behavior, a greater number of stressors was associated with an increase in marital quality for husbands who make more specific, less global, marital attributions.

The second statistically significant variable in the context of all other study variables for the husbands was that of stable attributions, with the second highest beta weight and the highest structure coefficient. This finding was consistent with previous literature on marital attributions, in that husbands who see the cause of their wives' negative behaviors as long-lasting and stable over time tend to rate their marriages more negatively than those who see the causes of their wives' negative behaviors as time-limited.

While other variables did not emerge as statistically significant in the initial analysis, important information can be gleaned from considering them. The interactions between stress and both locus attributions and stable attributions, while not statistically significant, rated the third and fourth highest beta weights, respectively. The locus-by-stress interaction appears to be acting as suppressor variable, as indicated by its relatively high beta weight and the fact that it has the lowest structure coefficient when compared to other study variables. It is likely that this interaction term is acting to suppress the error of other variables; while it makes little contribution when considered alone, it appears to be increasing the predictive power of some or all of the other variables.

The product of stressful events and the stability dimension of marital attributions, while having a structure coefficient of .69 (the second highest of all variables in this analysis), has a relatively low beta weight. This appears to indicate that portion of marital quality explained by the stable-by-stress interaction is also explained by other study variables.

Attribution dimensions considered separately. An examination of the effect of marital attributions on the relationship between life stressors and marital quality, with each dimension of marital attributions comprising a separate analysis, corroborated the initial findings. Of all of the interaction terms, only the locus-by-stress interaction failed to achieve statistical significance. This provides further evidence that the locus-by-stress interaction was acting as a suppressor in the original, omnibus, examination. That is, while the variable is less important when considered alone, it provides predictive power in combination with other variables by essentially making them better predictors.

Both the global-by-stress and stable-by-stress interactions achieved statistical significance when considered alone with their parent terms. The fact that the stable-by-stress interaction achieved statistical significance when considered alone with its parent terms, yet not when all attribution dimensions were included, provides further evidence that the variance in marital quality explained by the stable-by-stress interaction is also explained by other study variables. That the global-by-stress interaction proved a better predictor of marital

quality than either of its parent variables when considered alone also appears to provide further support to the importance of this variable.

Wives

All attribution dimensions considered together. When all study variables and interaction terms were considered together for the wives, one variable emerged as statistically significant in the context of the other variables in predicting marital quality. Global attributions had the highest beta weight and structure coefficient when compared to other variables. This indicates that wives who rate their marital quality as lower tend to see the causes of their husband's negative behaviors as affecting a wide range of behaviors, while wives who rate their marital quality as higher tend to see the causes of their husband's negative behaviors as affecting only those specific behaviors. This is consistent with previous findings, which indicate a strong relationship between marital quality and global attributions.

No other variables achieved statistical significance in the initial analysis. The locus-by-stress interaction

did approach statistical significance, with the second-highest beta weight and third highest structure coefficient. The variance in marital quality explained by the stable variable appears to also be explained by other variables, as evidenced by the relatively low beta weight in spite of its relatively large structure coefficient. It is noted that no interaction terms achieved statistical significance when considered alongside all parent variables. This may have been partially due to the large amount of shared variance between variables.

Attribution dimensions considered separately. An examination of the effect of marital attributions on the relationship between life stressors and marital quality with each dimension of marital attributions comprising a separate analysis provided additional information not revealed in the omnibus test. When entered into separate analyses with their parent terms, both the locus-by-stress and stable-by-stress interactions achieved statistical significance. This indicates that the relationship between stress and marital quality is different for wives with different levels of locus and stable attributions. Wives who tend to blame their partner for negative spousal

behaviors tend to experience lower marital quality in the face of increasing life stressors, while the opposite is true for wives who tend to attribute negative spousal behaviors to events outside their spouses' control. Likewise, the marital quality of wives who see the cause of their spouses' negative behaviors as stable and long lasting is lower when greater stress is experienced, while the marital quality of wives who see the cause of their husbands' behavior as time-limited is less affected in the face of increasing negative events.

The global-by-stress interaction did not emerge as statistically significant when used to predict marital quality alone with its parent terms. This seems to provide evidence that this variable is less important for wives in predicting marital quality. The fact that two interaction terms did emerge as statistically significant when considered alone with its parent terms appears to suggest that the initial analysis, considering all attribution dimensions at once, was confounded by the amount of overlap between specific attribution dimensions.

Husband-Wife Differences

One interesting difference occurred between husbands and wives. While the locus-by-stress interaction failed to achieve statistical significance for husbands even when considered separately from other attribution dimensions, it was the single most important interaction in predicting wives' marital distress. Conversely, while the global-by-stress interaction was the single most important interaction in predicting husbands' marital quality, it was the least important in predicting marital quality for wives. The fact that the two attribution-stress interactions deemed most important for one spouse in regards to marital quality are the least important for the other spouse should not go unremarked upon.

This difference may have occurred due to the differences in which men and women commonly deal with stressful situations. Women are often characterized as adapting to stress by utilizing their social support network to a greater extent than their male counterparts (Whiffen & Gotlib, 1989). The theory that women tend to cope with stressors through emotional expression in close relationships has received substantive support in the research literature (Belle, 1987; Thoits, 1991). It may be

that the locus dimension of marital attributions is of particular importance in this regard.

If the wife views her husband as responsible for his negative behaviors, his value as a support resource may be decreased. If a wife tends to view her husband's negative behaviors as being due to factors outside of his influence, she may be more likely to seek him out as a support resource in times of stress. The locus dimension more than other dimensions appears to be more of a direct judgment on the worth of the spouse. For example, a negative behavior whose cause is stable and global, yet not due to the husband, is less of a direct judgment of the husband himself.

If the husband is judged to be at fault for negative marital events, he may be of less use in providing support in other areas. Therefore, wives who tend to make marital attributions that exonerate their husbands may enlist their husbands' support when stressful events occur, and subsequently strengthen their marriage. Conversely, wives who tend to make marital attributions which blame their husbands may be less likely to elicit husband support in times of stress, and have their marriages subsequently rendered more vulnerable to an accumulation of stressors.

Previous research has provided some support for this, in that a meta analysis of stress research found that perceived availability of social support acts as a moderator on the relationship between stress and negative symptoms, as opposed to membership in a larger support network, though these results hold true for both men and women (Cohen & Wills, 1985).

While women are often described as using their relationships to aid in adaptation during times of stress, men have been cited as engaging in more distancing and communication suppressing processes when faced with life stressors. For example, Stone and Neale (1984) found that men were more likely than women to engage in distracting activities as a coping mechanism. When faced with a stressful event over which he has no control, a man may attempt to put aside his worries and concerns about the stressor, in effect "forgetting about it and hoping it will go away." This ability to partition and set aside problems may be a factor underlying the relative importance of the global-by-stress interaction in predicting marital quality when compared to other interaction terms found in the present study.

A husband who is able to see the causes of his wife's negative behaviors as not impacting other areas of the marriage may be better able to partition or see negative events as occurring in context rather than across broad areas of the marriage. If true, a husband's ability to partition and avoid globalization in marriage might keep stress from a one area of his life separate from other areas. For example, he may be more able to "leave work at the office" and not let employment stressors affect his family life. A husband who tends to see the cause of his wife's negative behaviors as affecting a broad range of their marriage may be less able to separate situations, and more at risk of having all life stressors negatively impact the marriage. Conversely, a husband who sees the causes of his wife's negative behavior as discrete from other areas of their marriage may be better able to make the same distinction between marital and extra-marital stressors.

The polar difference between husbands and wives of the moderating effect of marital attributions on the relationship between life stressors and marital quality may be due to underlying coping mechanisms. Wives, tending to deal with stress by enlisting social support, may be more likely to have an interaction between life events and locus

attributions, assuming that the locus attribution relates more strongly than other attribution dimensions to their abilities to enlist their husbands' support. Husbands' ability to see marital events as discrete from other areas of the marriage may translate to a greater ability to partition stressful life events, thus protecting the marriage from stressors which occur outside the marriage.

It should be noted that the differences in type of marital attributions found to moderate the relationship between life stressors and marital quality for husbands and wives may not be due to the reasons outlined above. It is possible that these differences were found as a result of idiosyncrasies of the sample or the measures used, or as a result of other underlying processes. The present study does not address this issue directly, and subsequent research would be required to be able to assert the above musings with any amount of confidence.

Moderating Effect of Marital Attributions

The results of the present study did appear to support the assertion that marital attributions moderate the impact of accumulation of life stressors on marital quality. For both husbands and wives, two dimensions of marital

attributions were statistically significant when considered separately from the other dimensions. The relative importance of the moderating effect of marital attributions when compared to the direct effect is unclear. While the global-by-stress interaction was the single most important variable in predicting husbands' marital distress, no interactions were statistically significant for wives when all dimensions of marital attributions were considered together. That two interactions were statistically significant for wives when attribution dimensions were considered separately appears to indicate that there is a large amount of shared variance between attribution dimensions and their stress-attribution products.

The finding that marital attributions can play a moderating role in the relationship between life stressors and marital quality is consistent with the tenets of crisis theory and literature on family resilience. The idea that marriages in which spouses make relationship-enhancing marital attributions are not as adversely affected by stressful events as marriages which make distress-maintaining marital attributions suggests that marital attributions can play a protective role for the marriage in the face of life events. In fact, the results show not

only that marriages in which relationship-enhancing attributions are not as adversely affected by stress, they may actually benefit from it. The "cross-over" interactions shown in Figures 2 and 3 suggest that those in marriages using relationship-enhancing attributions in times of high stress may actually report higher marital satisfaction than those in marriages using relationship-enhancing attributions with few life stressors. This suggests that the occurrence of stressful life events may actually provide an opportunity for the marriage to grow stronger and more satisfying, providing the couple is "resilient". The present study provides some support for the notion that attributions for spousal behavior may be a component of marital resilience.

To revisit Karney and Bradbury's (1985) Vulnerability-Stress-Adaptation Model, marital attributions may serve an adaptive function in protecting the perceived quality of a marriage from stress. The present study does provide some support for Karney and Bradbury's (2000) musing that "...adaptive attributions may allow spouses to maintain their global satisfaction in the face of specific negative events" (p. 307).

It should be noted that while the results indicate that stress impacts the marital quality of couples with different levels of marital attributions differently, the results could also be interpreted as indicating that the types of marital attributions a couple makes impacts the marital quality of couples experiencing different levels of stress differently. Both of these interpretations are consistent with the tenants of crisis theory. Examined in this manner, the results indicate that the marital quality of couples who experience a greater accumulation of life stressors is more negatively impacted by distress-maintaining marital attributions than couples experiencing lesser degrees of stress. This statement is consistent with the idea that a couple has limited resources with which to cope with life stressors, and that a large accumulation of stress makes the couple more vulnerable to the deleterious effects of negative marital attributions. The absence of a great number of stressful life events can act to protect the quality of the marriage in the face of distress-maintaining marital attributions. Due to "cross-over" of the moderation effects found, it is important to note that both of these statements are true: both marital

attributions and the accumulation of stressors can act as protective mechanisms as well risk factors.

Limitations

Perhaps the greatest limitation to the present study lies in the sample itself. The sample recruited for this study was largely homogenous, in that the majority of the couples were Caucasian and highly educated. The coping mechanisms employed by the sampled couples may not be the same as those employed by members of all ethnicities and education level. It is possible that those marriages are affected differently by stress, and that marital attributions plays a different or lesser role in protecting the marriage from stressors.

While the current study attempts to examine a wide range of "normal" marriages, a proportionate number of distressed marriages were not included. Using the criteria set forth by Spanier (1976), only 7 of the marriages report one or more DAS scores less than 100 and can therefore be considered truly distressed. The results of this study cannot therefore be assumed to be equally applicable to couples presenting for marital therapy in a state of acute distress.

Additionally, the results found in this study are strictly correlational. The present study did not test the stability of the moderational relationship over time, nor did it test how changes in stress, marital quality, and attributions occur over time. While the lack of a meaningful relationship between life stressors and marital attributions suggests that the two are unrelated, the results found in this study do not speak to how changes in stress or the types of marital attributions made by spouses impacts marital quality. Longitudinal data are required to make such assertions.

Finally, many of the initial moderation analyses were somewhat clouded due to the inter-relatedness of the marital attribution dimensions. While subsequent analyses examining each of the attribution dimensions separately did help clarify interpretation, the ability to take the factor structure directly into account using procedures such as structural equation modeling would be of great utility. To perform such a study a much larger sample size would be necessary.

Future Directions

While promising, the present study only begins to explore the relationship of marital attributions with a marriage's adaptation to stress. As with the majority of the studies of this ilk, the results are correlational. A longitudinal investigation of how marital quality, marital attributions, and life stressors could help describe the moderational process as it occurs over time, and begin to speak towards causality. Marriages are dynamic entities, continually changing and adapting to new life circumstances; it is necessary to follow marriages over time to understand what role marital attributions might play in this process. Future studies that examine how the types of marital attributions made by couple at one point in time impact how the quality of the marriage is affected by a later accumulation of stressors would allow more definitive statements about the nature of marital attributions as they relate to stress and marital quality to be made.

Further research using members of different ethnic groups and socio-economic status would help test the validity of this relationship. Additional research examining this phenomenon over a wide range of marital

quality, including a proportionate number of "distressed" marriages, would also add to the validity of the findings.

The importance of the different attribution dimensions between husbands and wives also suggests a future area of research. Should the present findings be replicated, future studies examining how the different genders adapt to stress might help to shed light on the mechanisms underlying the gender differences found in this study.

I feel that it is the utmost importance to investigate, not simply the processes which cause marriages to fail, but also those that afford spouses an opportunity to grow closer and more satisfied. As such, despite the under-representation of truly distressed couples in the present study, I feel that the results still point towards what might be an important process in the adaptation of marriages to stress. While a good marriage is good, a better marriage is better still. A resilience perspective is of the utmost importance in studying ways in which married couples can not only protect their marriage from stress, but grow stronger as a result of the trials and tribulations they face as well.

The Chinese character for crisis is a combination of the characters for danger and opportunity (Walsh, 1998). I

believe that the same concept applies to the adaptation of marriages to stress. While stressful life events pose the risk of a marriage being adversely affected, they also afford couples an opportunity to grow closer and more satisfied with their relationships. It is my sincere hope that future research will continue to explore the adaptive processes through which couples are able to change crises from dangerous events to opportunities for growth.

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SELECTED PUBLICATIONS:

- Graham, J. M., Guthrie, A., & Thompson, B. (2003).
Consequences of not interpreting structure
coefficients in published CFA research: A reminder.
Structural Equation Modeling, 10, 142-153.
- Graham, J. M. (2001). Review of *Statistics with Confidence*
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Measurement, 61*, 668-674.
- Graham, J. M. (2000). Marital resilience: A model of
family resilience applied to the marital dyad.
Marriage and Family: A Christian Journal, 14, 35-45.

SELECTED PRESENTATIONS:

- Graham, J. M., van Walsum, K., & Conoley, C. (2001,
August). *Father participation in family therapy: A
single-case (N=1) study*. Paper presented at the
annual meeting of the American Psychological
Association, San Francisco, CA.
- Graham, J. M. (2001, March). *The ethical use of statistical
analyses in psychological research*. Paper Presented
at the annual meeting of Division 17 (Counseling
Psychology) of the American Psychological Association,
Houston, TX.
- Graham, J. M. (2001, January). *Problems with stepwise
procedures in discriminant analysis*. Paper presented
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- Graham, J. M. (2000, January). *Interaction effects: Their
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