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Committed Romantic Relationship Profiles of Individuals with Anxiety Disorders

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THE FLORIDA STATE UNIVERSITY
COLLEGE OF HUMAN SCIENCES

COMMITTED ROMANTIC RELATIONSHIP PROFILES
OF INDIVIDUALS WITH ANXIETY DISORDERS

By

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To my parents, Scott and Sally.

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ABSTRACT

Anxiety disorder treatment is less effective when individuals receiving treatment report committed romantic relationship distress. As such, many scholars have argued the need to adapt or develop couples based interventions for those with anxiety disorders. In order to effectively adapt these interventions, it is first necessary to create a method to more accurately identify those with anxiety disorders who would benefit from couples based interventions, and determine if those with anxiety disorders who would benefit from these interventions have relationship patterns that are different from those without anxiety disorders. One way to address both of these needs is by examining positive and negative components of committed romantic relationships and using these components to construct committed romantic relationship profiles. Using data from the National Comorbidity Survey Replication, this study tested 1) if a two component measure of committed romantic relationship quality can be constructed for those with anxiety disorders; 2) if those with anxiety disorders have committed romantic relationship profiles similar to those proposed by Fincham and Beach (2010); 3) if those with anxiety disorders are more likely to have negative profiles committed romantic relationship profile; and 4) if couples with anxiety disorders have a greater degree of negativity and a lesser degree of positivity in their relationships. Results demonstrated that measuring committed romantic relationship quality with positive and negative components provided a more valid measure than currently established measures, that the committed romantic relationship profiles of those with anxiety disorders are distinct from those proposed by Fincham and Beach, and that more negativity is reported in the committed romantic relationships of those with anxiety disorders when compared to those without.

CHAPTER ONE

INTRODUCTION

Statement of the Problem

Each year in the United States, approximately 18% of the adult population will meet diagnostic criteria for an anxiety disorder (Kessler, Chui, Delmer, & Walters, 2005). These disorders are often chronic conditions which are associated with lower quality of life (Mendlowicz & Stein, 2002), increased health care costs (Marciniak et al., 2005; Simon, Ormel, Vankroff, & Barlow, 1995), and lower work productivity (Kessler, & Frank, 1997). Moreover, the impairment seen in some anxiety disorders is comparable to the impairment seen in major depressive disorder, arthritis, diabetes, and autoimmune disease (Hoffman, Dukes, & Wittchen, 2008).

Given the large burden of anxiety disorders, considerable effort has gone into designing and implementing treatments to reduce anxiety disorder symptoms. These efforts have shown success for many. For example, Hoffman and Smits (2008) conducted a meta-analysis of studies that randomly assigned individuals with anxiety disorders to either cognitive-behavioral therapy (CBT) or a placebo treatment. A total of 27 studies were identified as meeting the meta-analysis inclusion criteria and were used in the study. The overall treatment effect size for all anxiety disorders was large (Hedge's $g = .73$); however, this varied by anxiety disorder. The effect size for obsessive compulsive disorder was the largest (Hedge's $g = 1.37$), while the effects sizes for disorders such as posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD), and social anxiety disorder (SAD) were smaller (Hedge's $g = .62, .51, \text{ and } .62$, respectively). The authors concluded that though CBT was effective for many with anxiety disorders, there was still considerable room for improvement. Specifically, they noted that many of the studies did not

account for attrition. When results from studies that accounted for attrition were pooled (a total of 8 studies), the treatment effect size for these studies was greatly reduced (Hedge's $g = .33$).

Similarly, Siev and Chambless (2007) conducted a meta-analysis to explore the effectiveness of CBT and relaxation therapy (RT) for those with GAD and panic disorder. In this meta-analysis five studies were used that included individuals with GAD, and five studies were used that included those with PD. For those with GAD, CBT resulted in clinically significant change for 44% of individuals, and RT resulted in clinically significant change for 45% of individuals. On average, 15% of those with GAD dropped out of CBT, and 19% dropped out of RT, reducing the improvement rates to 29% and 26% respectively. For those with panic disorder, CBT resulted in clinically significant gains in 72% of individuals, and RT resulted in clinically significant change for 50% of individuals. On average, 12% of those with panic disorder dropped out of CBT, and 14% dropped out of RT, reducing improvement rates to 60% and 36% respectively.

The results of these studies suggest that for many individuals with anxiety disorders, currently established treatments result in clinically significant symptom reduction; however, these results also suggest that there is room for improvement. In order to improve anxiety disorder treatment, it is important to identify factors that are associated with poorer treatment outcomes and factors that increase the risk of dropout.

A growing body of evidence suggests that many with anxiety disorders have distressed committed romantic relationships. For example, research links anxiety disorders and romantic relationship quality (Overbeek et al., 2006; Priest, 2013a; Whisman, 2007). Those who report poor relationship quality with their partners are more likely to meet diagnostic criteria for specific phobia, SAD, GAD, and PTSD (Whisman, 2007). Moreover, these associations still hold

when controlling for relationship quality with friends and relatives (Priest, 2013a; Whisman, Sheldon, & Goering, 2000) suggesting a unique association between committed romantic relationships and anxiety disorders. Those with anxiety disorders and committed romantic relationship distress report longer duration of anxiety symptoms (Yonkers et al., 2000) and some evidence suggests that committed romantic relationship quality may be a potential causal factor for some anxiety disorders (Overbeek et al., 2006).

Committed romantic relationship quality is also linked to anxiety disorder treatment outcomes. For example, Chambless and Steketee (1999) explored how expressed emotion (i.e., perceived criticism, hostility, and emotional over involvement) from relatives affected treatment outcomes for outpatients with obsessive compulsive disorder (OCD) or agoraphobia. They found those who reported more emotional overinvolvement and hostility had higher treatment dropout rates, and those who reported more emotional overinvolvement, hostility, and perceived criticism had poorer treatment outcomes. Similarly, Zinbarg, Lee, and Yoon (2007) also tested how expressed emotion affected treatment outcomes for individuals with GAD and their romantic partners. They found that hostility from a romantic partner was associated with less favorable CBT treatment outcomes and greater likelihood of treatment dropout. They concluded that the quality of the committed romantic relationship accounted for 41% of the variance in symptom reduction for those with GAD.

The findings of these studies suggest that distressed committed romantic relationships may increase the risk of having an anxiety disorder (Priest, 2013a; Whisman, 2007), lead to treatment dropout or poorer treatment response for those with anxiety disorders (Chambless & Steketee, 1999; Zinbarg et al., 2007), and may even prolong anxiety disorder symptoms (Yonkers et al., 2000). Given these findings, many have argued the need to adapt or develop

couples based interventions to treat committed romantic relationship problems that might reduce the effectiveness of anxiety disorder treatment (e.g. Chambless, 2012; Priest 2013a; Priest, 2013b; Whisman, 2007). In order to effectively adapt and test couples based interventions for those with anxiety disorders, it would first be necessary to: 1) create a method to more accurately identify those with anxiety disorders who would benefit from couples based interventions, and 2) determine if those with anxiety disorders who would benefit from these interventions have relationship patterns that are different from those without anxiety disorders.

First, a more accurate method of identifying those with anxiety disorders who may benefit from couples based interventions is needed. Normally, committed romantic relationship quality is measured by a one dimensional construct (Fincham & Beach, 2010). These measures can only identify two types of committed romantic relationships: happy and distressed. However, this view of committed romantic relationship is limited and may not accurately reflect the dynamic nature of these relationships (Fincham & Beach, 2010; Mattson, Paldino, & Johnson, 2007). If a clinician or researcher tries to identify those who might benefit from a couples based intervention by using a one dimensional measure of committed romantic relationship quality, some of those who might benefit from this type of intervention may be misidentified.

Misidentification could lead to the continuance of committed romantic relationship problems for these individuals, and thereby decrease the likelihood that they would effectively respond to anxiety disorder treatment. Therefore, in order to more accurately identify those with anxiety disorders that may benefit from couples based interventions, a more comprehensive measure of committed romantic relationship quality needs to be tested for those with anxiety disorders.

Second, a greater understanding of how the committed romantic relationships of those with anxiety disorders are different from those without anxiety disorders is also needed. If the

committed romantic relationships of those with anxiety disorder are different from those without, established couples based interventions may not adequately address the committed romantic problems that may maintain anxiety disorder symptoms. Some research has compared the interactions of couples with anxiety disorders to those without (Chambless et al., 2002). However, these studies have mainly included couples where the woman was diagnosed with agoraphobia and/or panic disorder. If couples based interventions are going to be effectively adapted to treat committed romantic relationship processes for all those with anxiety disorders, it would be important to know if unique patterns are occurring in the relationships of those with other anxiety disorder diagnoses, not just agoraphobia. If there are unique patterns, established couples based interventions may not adequately address the committed romantic relationship problems that are occurring for those with anxiety disorders. If these problems are not adequately addressed, the response to anxiety disorder treatment may be poorer or those in treatment may continue to dropout. Therefore, it would be useful to test whether unique committed romantic relationship patterns exist in samples that include both men and women with different anxiety disorder diagnoses. This may uncover patterns occurring in these relationships that might be unique or more pronounced and thereby exacerbate or maintain anxiety disorder symptoms. Making comparisons between those with anxiety disorder and those without may provide insight into how couple based interventions, already shown to treat committed romantic relationship distress for those without anxiety disorders, might need to be altered to be effective for those with anxiety disorders.

Purpose of the Study

One way to increase the accuracy of identifying those with anxiety disorders who may benefit from couples based interventions, and to test for differences between the committed

romantic relationships of those with anxiety disorders and those without, is to examine positive and negative components of committed romantic relationships. Considerable evidence suggests that, for those without anxiety disorders, examining positive and negative components of committed romantic relationships as separate but related constructs provides a more valid measurement than measuring committed romantic relationship quality as a one dimensional, bipolar construct (e.g. Fincham & Linfield, 1997; Mattson, Paldino, & Johnston, 2007). Moreover, by measuring committed romantic relationship quality as two separate constructs, researchers have been able to identify distinct profiles of committed romantic relationships (Mattson et al., 2007). These profiles provide a more comprehensive view of patterns of negativity and positivity that can occur in committed romantic relationships, and therefore, provide more accurate means of identifying those who might benefit from interventions designed to improve committed romantic relationship quality.

However, the majority of the research addressing committed romantic relationships and anxiety disorders has examined committed romantic relationship quality as a one dimensional, bipolar construct (e.g. Priest, 2013a; Whisman, 2007). This type of assessment may limit the accuracy of identifying those who may benefit from couples based interventions and the understanding of the committed romantic relationship of those with anxiety disorders. For example, one dimensional measures may have difficulty identifying individuals who have volatile relationships (i.e., relationships with high positivity and high negativity). One dimensional measures of committed romantic relationship quality may identify those with volatile relationships as happy, and therefore, misidentify the patterns that are occurring in these relationships. In order to more accurately identify those with anxiety disorders who may benefit from couples based interventions, it would be necessary to test if measuring committed romantic

relationship quality with two separate but related positive and negative constructs provides a more valid measurement than a one dimensional bipolar construct. Moreover, these constructs could be used to create profiles that may provide a more comprehensive view of patterns of negativity and positivity that can occur in committed romantic relationships of those with anxiety disorders, and, therefore, provide a more accurate means to identify those who might benefit from couples based interventions.

In addition to providing a method to more accurately identify those who may benefit from couples based interventions, examining positive and negative components of committed romantic relationship quality for those with anxiety disorders may help identify unique or more pronounced patterns of positivity and negativity that may be occurring in these committed romantic relationships. Research suggests that those with anxiety disorders have unique internal (e.g. poor emotional regulation; Damsa, Kosel, & Moussally, 2009; Mennin, Heimberg, Turk, & Fresco, 2005) and relational processes (e.g. reassurance seeking or emotional cutoff; Newman & Erickson, 2010) that are often associated with greater negativity in committed romantic relationships (Kerr & Bowen, 1988). These factors may make the relationship patterns of those with anxiety disorder distinct in frequency and/or degree from the relationship patterns of those without anxiety disorders. In other words, those with anxiety disorders may more frequently have negative committed romantic relationship profiles when compared to those without. Moreover, those with anxiety disorders with negative committed romantic relationship profiles may also have a greater degree of negativity and a lesser degree of positivity than those without anxiety disorders with negative committed romantic relationship profiles. Comparing patterns of positivity and negativity for those with anxiety disorders to the patterns of those without these disorders may aid in the adaptation of couples based interventions.

The purpose of this study is to expand upon the current knowledge of anxiety disorders and committed romantic relationships by testing 1) whether a two component model of committed romantic relationship quality can be constructed for those with anxiety disorders; 2) whether these positive and negative components can be used to construct meaningful and distinct profiles of committed romantic relationships for those with anxiety disorders; and 3) whether unique or more pronounced patterns of positivity and negativity occur in the committed romantic relationships of those with anxiety disorders when compared to those without. This is done in order to create a more accurate way to identify those with anxiety disorders who might benefit from couples based interventions, and aid in the adaptation of couples based interventions for those with anxiety disorders.

To accomplish this purpose, Chapter 2 provides an overview of the research suggesting that examining positive and negative components of committed romantic relationships as separate but related constructs provides a more valid measurement than measuring committed romantic relationship quality as a one dimensional, bipolar construct. This research is then drawn upon to show how positive and negative measures can be used to construct committed romantic relationship profiles that may more accurately identify those with anxiety disorders who would benefit from couples based interventions. Then, Bowen's family system theory concept of differentiation (Kerr & Bowen, 1988) is presented as a framework to explain why the unique individual and relational processes of those with anxiety disorder may increase the frequency and degree of negativity in their committed romantic relationships. Finally, Chapter 2 presents the hypotheses of this study. The hypotheses test if a two component measure of committed romantic relationship quality can be constructed for those with anxiety disorders, and if this measure provides better fit than currently used one-dimensional measure of committed romantic

relationship quality; whether positive and negative components can be used to create distinct and meaningful profiles for those with anxiety disorders; and if those with anxiety disorders have patterns of positivity and negativity that are different in degree and frequency from those without these disorders.

In Chapter 3, the data and methods used to test the hypotheses are presented. Data for this study comes from the National Comorbidity Survey – Replication (NCS-R; Kessler, Chui, Delmer, & Walters, 2005). The collection process of this data is described along with the weights used to make it representative of the U.S. population. Then, the process of choosing the sample of those with anxiety disorders and the comparison sample of those without mental disorders is described. After the descriptions of the samples are provided, the description of the variables used in the analyses is given. Next, the methods used to test hypotheses are presented. This includes confirmatory factor analyses to comparing measurement models of committed romantic relationship quality, latent profile analyses to construct committed romantic relationship profiles, and logistic regression analyses, ANOVAs, and t-tests to test for differences in frequency and degree between the anxiety disorder sample and the no mental disorder sample.

In Chapter 4, the results of each of the analyses are presented along with an explanation of whether or not the results supported the proposed hypotheses. In Chapter 5, a discussion of the results is provided along with the clinical implications of the findings and the limitations of the study.

Summary

Committed romantic relationship distress is linked to anxiety disorders, leading some to suggest that adapting couples based interventions for those with anxiety disorders may help improve treatment response. In order to adapt these interventions effectively, two areas of

research need to be expanded. First, a more accurate method of identifying those who might benefit from couples based interventions is needed. Second, a more comprehensive understanding of the unique relationship patterns for those with anxiety disorders is needed. Examining positive and negative components of the committed romantic relationships of those with anxiety disorders can help further this research. The purpose of this study is to test whether a two factor model of committed romantic relationship quality can be constructed for those with anxiety disorders, and to see if the positive and negative components of committed romantic relationships suggest that those with anxiety disorders may have unique relationship patterns.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

In this chapter, an overview of the research comparing one dimensional, bipolar constructs of committed romantic relationship quality to two separate but correlated positive and negative components is given. This research is then draw upon to show how using positive and negative measures can be used to construct committed romantic relationship profiles that may more accurately identify those with anxiety disorders who would benefit from couples based interventions. Then, the Bowen family system theory concept of differentiation (Kerr & Bowen, 1988) is presented as a framework to explain why the unique individual and relational processes of those with anxiety disorder may increase the frequency and degree of negativity in their committed romantic relationships. Finally, the hypotheses of this study are presented. The hypotheses test whether a two component measure of committed romantic relationship quality provides better measurement than a one component measure, whether positive and negative components can be used to create distinct and meaningful profiles for those with anxiety disorders, and if those with anxiety disorders have patterns of positivity and negativity that are different in frequency and/or degree from those without these disorders.

Positive and Negative Components of Committed Romantic Relationships

Research on romantic relationship quality often assumes that relationship quality is a singular construct ranging from dissatisfaction to satisfaction (Fincham, Stanley, & Beach, 2007); yet, many researchers have shown the importance of examining relationship quality as a two dimensional construct that views positive and negative components of relationship quality as distinct but related factors. For example, Fincham and Linfield (1997) tested romantic

relationship quality as a two dimensional construct. Specifically, they proposed that a model with two romantic relationship quality factors (one positive and one negative) would fit their data better than a model with one factor, and that separate constructs of positive and negative relationship quality would account for more variance than the Marital Adjustment Test (MAT; Locke & Wallace, 1959) in explaining reports of spouse behavior and attributions for this behavior. Moreover, they proposed four typologies of relationship quality: ambivalent couples (with high positive and high negative relationship quality scores), indifferent couples (with low positive and low negative relationship quality scores), happy couples (with high positive and low negative relationship quality scores), and distressed couples (with low positive and high negative relationship quality scores). They hypothesized that ambivalent couples and indifferent couples would not report significantly different MAT scores, but that these couples' MAT scores would be significantly lower than the happy couples and significantly higher than distressed couples. Using a sample of 123 married couples, they found that a two factor model, where positive and negative items are separate but related factors, fit the data better than a one factor model. They also found that positive and negative scores accounted for more variance than the MAT for many of the measures of spouse behavior and attributions of this behavior. As predicted, they found no significant differences between ambivalent and indifferent couples on MAT scores, and they found that these couples reported significantly lower MAT scores than happy couples and significantly higher scores than distressed couples. Fincham and Linfield (1997) concluded that examining both positive and negative aspects of romantic relationship quality may be more useful and theoretically clear than examining romantic relationship quality as a singular construct.

Mattson et al. (2007) attempted to expand the findings of Fincham and Linfield (1997). They explored whether the findings of Fincham and Littlefield (1997) could be applied to engaged couples, and if the findings of Fincham and Linfield (1997) held when observation of couple interactions were used instead of self report measures. Using a sample of 43 engaged couples, Mattson et al. (2007) compared a single factor model to a two factor (one positive and one negative) model. Similar to the findings of Fincham and Linfield (1997), the two factor model better fit the data than the one factor model. Moreover, Mattson et al. (2007) found that using both positive and negative romantic relationship factors explained more variance in observed interactions than did a one-dimensional factor of romantic relationship quality, leading them to agree with Fincham and Linfield (1997) that using positive and negative romantic relationship factors may provide a better method of assessing relationship quality than using a singular construct.

In an attempt to specify a more theory driven measurement model of positive and negative components of relationship satisfaction, Mattson, Rogge, Johnson, Davidson and Fincham (2012) derived a measurement model from the semantic differential (Osgood, Suci, & Tannenbaum, 1957). The semantic differential is the process of measuring attitudes towards a romantic partner through the use of “bipolar continua anchored by adjectives of opposing meaning” (Mattson et al., 2012, p. 3). For example, the authors used adjectives such as “interesting,” “friendly,” “lonely,” and “empty” and created a Likert response scale ranging from 0 (not at all) to 7 (completely). They then tested two lists of adjectives (one positive and one negative) with the likert responses with two separate samples. The first sample consisted of individuals in romantic relationships recruited online (n = 1,727). With this sample the authors followed a similar process of Fincham and Linfield (1997) and Mattson et al. (2007). They tested

whether a two factor solution (with one positive and one negative component) fit the data better than a one factor solution, and they sought to replicate the mean differences found for what Fincham and Linfield (1997) had specified as ambivalent, indifferent, satisfied, and dissatisfied couples. They found that a two factor model of relationship quality was a better fit for their data than a one factor model, and that those in the ambivalent and indifferent group had lower relationship quality scores than those couples in the satisfied group and higher relationship quality scores than those in the dissatisfied group. The second sample consisted of undergraduate psychology majors at a university (n = 89). The goal of using this sample was to replicate the findings from the previous sample in a laboratory setting. Using this sample, the analysis revealed similar results to those of the first sample. The author concluded that, “the present findings provide additional evidence that measuring attitudes towards the relationship using two dimensions is incrementally more useful and valid, and that continued reliance on one-dimensional measures may hinder the detection or precise evaluation of important aspects of relationship functioning” (p. 24).

These research studies emphasize two findings relevant to this study. First, that using a one dimensional measure of romantic relationship quality is less meaningful and less valid than using a two dimensional measure that measures positive and negative components as separate but related constructs. Second, the two dimensional constructs of relationship quality can be used to construct distinct profiles of romantic relationships. In these studies, they have been referred to as ambivalent couples (with high positive and high negative relationship quality scores), indifferent couples (with low positive and low negative relationship quality scores), happy couples (with high positive and low negative relationship quality scores), and distressed couples (with low positive and high negative relationship quality scores).

Fincham and Beach (2010) have proposed a four typology model of romantic relationships similar to those in the studies reviewed above. These four typologies were based on the dimensions of relationship health (e.g. satisfaction, intimacy, and resilience) and relationship distress (e.g. conflict, criticism, and dissatisfaction). Couples with high levels of relationship health and lower levels of relationship distress would be classified as Flourishing. Couples with high levels of relationship health and high levels of relationship distress would be classified as Volatile. Couples with low levels of relationship health and high levels of relationship distress would be classified as Distressed, and couples with low levels of relationship health and low levels of relationship distress would be classified as Languishing.

Though the above research suggests the importance of measuring committed romantic relationship quality as a two component construct, the majority of the research addressing committed romantic relationships and anxiety disorders has examined committed romantic relationship quality as a one dimensional, bipolar construct (e.g. Priest, 2013a; Whisman, 2007). This type of assessment may limit accuracy and understanding of the committed romantic relationship of those with anxiety disorders. For example, a one dimensional measure may not adequately identify individuals who have Volatile or Languishing relationships (i.e., relationships with high positivity and high negativity, or low positivity and low negativity). In order to more accurately identify those with anxiety disorders who may benefit from couples based interventions, the research summarized above suggests it would be necessary to test if measuring committed romantic relationship quality for those with anxiety disorders with two separate but related positive and negative constructs provides a more valid measurement than a one dimensional bipolar construct. Moreover, it would be important to test whether these constructs could be used to create profiles that may provide a more comprehensive view of

patterns of negativity and positivity that can occur in committed romantic relationships of those with anxiety disorders. If the profiles for those with anxiety disorder are different from those without, it may mean that treatments that have been established to treat romantic relationship distress may need to be adapted to accommodate those differences.

Internal and Relational Processes of those with Anxiety Disorders

Research suggests that those with anxiety disorders have unique internal (e.g., poor emotion regulation; Damsa et al., 2009; Mennin et al., 2004) and relational processes (e.g. reassurance seeking or emotional cutoff; Cisler & Olatunji, 2012; Newman & Erickson, 2010). It may be that, because of these unique processes, those with anxiety disorders have more pronounced or unique patterns of negativity in committed romantic relationships. Bowen's family systems theory (Kerr & Bowen, 1988) provides useful framework for why these processes could result in more negative committed romantic relationships

Bowen's Family Systems Theory

Bowen's family systems theory is used to explain human emotion and behavior. This theory assumes that humans are a product of the evolutionary processes and are therefore regulated by the same processes that regulate the emotions and behaviors of all living things (Kerr & Bowen, 1988). One of the main tenets of Bowen's family systems theory is differentiation (Kerr & Bowen, 1988). Differentiation refers to the ability to emotionally self-regulate and to balance individuality and togetherness in relationships. Bowen suggests that those who are poorly differentiated would have committed romantic relationships marked by greater negativity.

Emotion Regulation. Emotion regulation is the individual internal process of differentiation. Adaptive emotion regulation is said to include the ability to not immediately react

to an external situation or an internal emotional response, being aware of and identifying the emotional response, determining how much the internal response can be controlled, and having awareness to determine responses that are in line with those long term goals (Werner & Gross, 2010). Alternatively, maladaptive emotion regulation consists of inflexible, reactive responses that are not sensitive to personal values or goals (Werner & Gross, 2010).

Balance in Relationships. Balancing individuality and togetherness in relationships is the relational process of differentiation. Bowen's theory posits two competing interpersonal motives: individuality and togetherness (Kerr & Bowen, 1988). Horowitz's (2004) interpersonal theory of psychopathology has relabeled these two needs as agency and communion. Agency is defined as "motives for autonomy, control, and self-definition" and communion is defined as "motives for intimacy, friendship, and group belonging" (Horowitz, 2004, p.5). These two competing motives simultaneously influence interpersonal behavior and affect the stability and cohesiveness of relationships. When these two motives are balanced, each person in the relational system invests equal amounts of communion to create connection, but still retains enough agency to act autonomously (Horowitz, 2004; Kerr & Bowen, 1988). However, when these motives are not balanced, anxiety is triggered. To quell this anxiety, individuals may fuse with another person, may cutoff relationships, or may develop inflexible patterned behavior (Kerr & Bowen, 1988).

The interaction of these processes creates the person's level of differentiation. Those who are poorly differentiated have high levels of chronic anxiety and are emotionally reactive to their environment. They may reflexively adapt to alleviate others' discomforts or they may emotionally cutoff from people (Kerr & Bowen, 1988). Those who are more fully differentiated have less chronic anxiety, are less emotionally reactive, have a solid sense of self, can maintain

meaningful connection with others, and can tolerate discomfort for growth (Kerr & Bowen, 1988; Schnarch & Regas, 2012).

Anxiety and Differentiation

Poor emotion regulation may be a mechanism that underlies many anxiety disorder symptoms. Both neuroimaging and self-report studies suggest that those with anxiety disorders often have poor emotion regulation. For example, a review of brain imaging studies conducted by Damsa et al. (2009) found that those with those with anxiety disorders have stronger amygdala responses than those without anxiety disorders when viewing angry or fearful faces. This response was found to be consistent across anxiety disorders, suggesting that when compared to those without anxiety, individuals with anxiety disorder may have stronger automatic internal reactions.

Expanding on these findings, Campbell-Sills, Simmons, Lovero, Rochlin, Paulus, and Stein (2011) investigated whether anxious individuals not only had stronger internal reactions, but if it took greater engagement to reduce these stronger negative reactions. Using a sample of participants that self-reported high trait anxiety, and a sample in the normal range of trait anxiety, they asked both groups to reduce or maintain their emotions elicited by images. The brain imaging results suggest that those with high trait anxiety required more engagement in the prefrontal cortex system in order to regulate their emotions than the control group. The authors suggested that, based on these results, those with anxiety disorders may not only have stronger internal reactions but also require more engagement to reduce negative emotions.

These results are supported by self-report studies of emotion regulation for those with anxiety disorders. For example, Mennin et al. (2005) compared the ability to regulate emotions for those with GAD and a control group without GAD. Specifically, using a two study design

(one study using undergraduates and the other using a clinical sample) they tested whether individuals with GAD would have heightened intensity of emotions, poorer understanding of emotions, more negative reactivity to emotions, and more maladaptive emotion regulation. They found that those with GAD had higher self-reported levels of emotional intensity, had more difficulty identifying emotions, less skill understanding their emotional experiences, and had more maladaptive management of their emotions.

The results of these studies suggest that those with anxiety disorders may have more difficulty regulating their emotions than those without these disorders. Those with anxiety disorders seem to have stronger internal reactions and more difficulty extinguishing negative emotions. These strong emotional responses may lead those with anxiety to have difficulty balancing individuality and togetherness in relationships.

Those who have difficulty regulating emotions may either try to regulate these emotions by fusing with another person (increasing togetherness) or by cutting off (increasing individuality; Kerr & Bowen, 1988). These relationship patterns have been seen in individuals with anxiety disorders. For example, individuals with anxiety disorder have shown to have unique interpersonal styles marked by either high togetherness or high individuality needs. Using the Inventory of Interpersonal Problems (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988), Salzer, et al. (2008) found four aggregate interpersonal style groups for individuals with anxiety disorders: Intrusive, Exploitable, Cold and Nonassertive. Later, when trying to replicate these results, Salzer et al. (2011) found four groups, but with a slightly different clustering pattern: Overly Nurturant, Modestly Nurturant, Socially Avoidant, and Nonassertive. Though not congruent findings, the similarities suggest that individuals with anxiety disorder may often over function (e.g., excessively trying to care for others or being overly accommodating) in their close

relationships or try to create more distance (e.g., higher levels of anger or hostility; Newman & Erickson, 2010) in close relationships.

This idea was supported by Erikson and Newman (2007). They compared people with GAD to non-anxious controls to see if there would be differences in their amount of self-disclosure to a confederate who acted in a standardized way across groups. Compared to the non-anxious controls, some of those with GAD overestimated how much ridicule they expected during self-disclosure and they sought increased levels of reassurance from the confederate. Others with GAD underestimated the negative impressions of the confederate, coming off as cold or socially avoidant.

The difficulty in balancing individuality and togetherness may result in more negativity and less positivity in the committed romantic relationships for those with anxiety disorders. Chambless et al. (2002) explored this hypothesis by comparing the marital interactions of couples where the wife had agoraphobia to that of couples where neither the husband nor wife had an anxiety disorder diagnosis. They specifically examined whether women with agoraphobia and their partners had greater marital distress, more criticism, engaged in less problem focused coping, and provided less support than those couples without agoraphobia. Twenty-two couples where the wife had agoraphobia and 21 control couples were used in the analysis. All couples completed self-reported measures, and were also asked to complete a problem solving task, which was coded using the Interactional Coding system (Hahlweg & Conrad, 1983). Self-report findings revealed that couples where the wife had agoraphobia reported more marital distress than controls, and wives with agoraphobia described their husbands as more critical. The observational measures revealed that couples where the wife had agoraphobia had significantly more negative interactions than controls and that husbands of wives with agoraphobia were

observed to be more critical. Wives with agoraphobia were also observed to offer significantly fewer problem solutions, and couples with agoraphobia averaged almost one half fewer problem solutions than control couples.

The results of these studies suggest that those with anxiety disorders may have difficulty balancing individuality and togetherness. This difficulty may alter perceptions and/or behaviors toward a romantic partner. If a person with anxiety poorly regulates emotions, this person may seek greater reassurance or may withdraw frequently in a committed romantic relationship. These patterns of interactions may influence the level of positivity and negativity in committed romantic relationships. Therefore, those with anxiety disorder may have relationship patterns that are similar to those without; however, it is likely that these patterns are exacerbated in frequency and/or degree of those with anxiety disorders.

The unique individual and relational processes seen in those with anxiety disorders may contribute to the associations between anxiety disorders and committed romantic relationship distress. In order to effectively adapt couples interventions for those with anxiety disorders, it would be important to first understand how positive and negative components of committed romantic relationships occur for those with anxiety disorders and to explore whether these patterns are similar or different for those without anxiety disorders. The research addressing positive and negative components of committed romantic relationship quality for those without anxiety disorders has revealed four distinct groups: Flourishing, Volatile, Languishing, and Distressed. These four groups are marked by distinct levels of positivity and negativity. By applying this model for those with anxiety disorders and comparing it to those without anxiety disorders it would be possible to see if the committed romantic relationships of those with anxiety disorders have patterns of negativity and positivity that are different in frequency and/or

degree than those without. Knowing these differences may aid in the adaptation of couples interventions for those with anxiety disorders.

Hypotheses

The purpose of this study was to expand upon the current knowledge of anxiety disorders and committed romantic relationships by testing 1) whether a two component model of committed romantic relationship quality (with one positive and one negative factor) can be constructed for those with anxiety disorders; 2) whether these positive and negative components can be used to construct meaningful and distinct profiles of committed romantic relationships for those with anxiety disorders; and 3) whether unique or more pronounced patterns of positivity and negativity occur in the committed romantic relationships of those with anxiety disorders when compared to those without.

The committed romantic relationships of those with anxiety disorders may be marked by more negativity than those without anxiety disorders. Chambless et al. (2002) has found this to be the case for women with agoraphobia; however, this has not been replicated for both men and women with different anxiety disorders. Research has shown that those with a number of different anxiety disorder show stronger reaction to angry faces, and that those with high trait anxiety have greater difficulty extinguishing negative emotions (Damsa et al., 2009; Campbell-Sills et al., 2011). Moreover, those with anxiety disorders have demonstrated difficulty balancing individuality and togetherness in their relationships (Newman & Erikson, 2007; Newman & Erikson, 2010). These unique individual and relational processes may contribute to those with anxiety expressing and experiencing more negativity and less positivity in their committed romantic relationships (Chambless et al., 2002; Whisman, 2007). It may be that, when compared to those without anxiety disorders, those with anxiety disorder have a greater frequency and

degree of negativity and a lesser frequency and degree of positivity in their committed romantic relationships.

If negativity exists in greater frequency and positivity in lesser frequency for those with anxiety disorders, it is likely that a larger percentage of those with anxiety disorders would have profiles resembling the Distressed, Volatile, or Languishing profiles and a smaller percentage would have profile resembling the Flourishing profile. If negativity exists to greater degree and positivity exists to a lesser degree for those with anxiety disorders, those with anxiety disorders with negative committed romantic relationship profiles (i.e. Distressed, Volatile, or Languishing) may report more negativity and less positivity when compared to those without anxiety disorders with similar committed romantic relationship profiles. Similarly, those with anxiety disorders and positive committed romantic relationship profiles (i.e. Flourishing) may report less positivity and more negativity than those without anxiety disorders but with similar profiles.

In order to test these assertions, it would first be necessary to test whether using a two factor model of committed romantic relationship quality can be constructed for those with anxiety disorders. The studies addressing the measurement of romantic relationship quality suggest that for couples without anxiety disorders relationship quality is better measured as two factors (one positive and one negative) than as a single bipolar factor (Fincham & Linfield, 1997; Mattson et al., 2007; Mattson et al., 2012). Therefore, before constructing profiles similar to those proposed by Fincham (2010), it would be necessary to replicate these findings by determining if a two factor model of committed romantic relationship quality can be constructed for those with anxiety disorders, and if the two factor model can provide a better fit for those with anxiety disorders than currently established measures.

The purpose of this study is to expand upon the current knowledge of anxiety disorders and committed romantic relationships by using measures of positive and negative components of committed romantic relationship quality to construct profiles of romantic relationship for those with anxiety disorders, and to compare these profiles to the profiles of those without psychopathology. This is done in order to identify the ways in which patterns of positivity and negativity in committed romantic relationships of those with anxiety disorder may be different in frequency or degree from those without anxiety disorders. These purposes will be addressed through the examination of four hypotheses:

1. For those with anxiety disorders, a constructed model of committed romantic relationship quality that has two separate but related constructs (one positive and one negative) will have better fit than currently established measures used to address committed romantic relationship quality.
2. The committed romantic relationship profiles of those with anxiety disorders will demonstrate four romantic relationship profiles similar to those proposed by Fincham and Beach (2010).
3. When compared to those without anxiety disorders, individuals with anxiety disorders will be more likely to have negative committed romantic relationship profiles (i.e. Distressed, Volatile, or Languishing) and less likely to have positive profiles (i.e. Flourishing).
4. Those with anxiety disorders will have a greater degree of negativity and a lesser degree of positivity in their relationships Specifically, a) when compared to those without anxiety disorders, those with anxiety disorders will report more negativity and less positivity; b) those with anxiety disorders and with negative committed

romantic relationship profiles (i.e. Distressed, Volatile, or Languishing) will have more negativity and less positivity than those without anxiety disorders with negative profiles; and c) those with anxiety disorders with positive profiles (i.e. Flourishing) will have more negativity and less positivity than those without anxiety disorders with positive profiles.

Summary

Research exploring the measurement of committed romantic relationship quality for those without anxiety disorders suggests that measuring committed romantic relationship quality with two distinct positive and negative factors provides more valid measurement and can be used to construct distinct committed romantic relationship profiles. Additionally, research suggests that individuals with anxiety disorders have unique individual and relational processes that might lead to unique patterns of negativity and positivity in their committed romantic relationships. Therefore, this study examines 1) if a two component measure of committed romantic relationship quality can be constructed for those with anxiety disorders; 2) if those with anxiety disorders have committed romantic relationship profiles similar to those proposed by Fincham and Beach (2010); 3) if those with anxiety disorders are more likely to have negative profiles; and 4) if couples with anxiety disorders have a greater degree of negativity and a lesser degree of positivity in their relationships.

CHAPTER THREE

DATA AND METHODS

Introduction

In this chapter, the data and methods used to test the hypotheses of this study are presented. First, a description of the data used in the analyses is given. Then the process of selecting the anxiety disorder sample and the comparison no mental disorder sample, and a description of the variables used in the analyses is provided. This is followed by a description of the statistical methods used to test the proposed hypotheses. These methods included a confirmatory factor analysis to construct and compare measures of committed romantic relationship quality, latent profile analyses to construct committed romantic relationship profiles, and logistic regression analysis, ANOVA, and t-tests to test for differences in frequency and degree between the anxiety disorder sample and the no mental disorder sample.

Data

Data for this study came from the National Comorbidity Survey - Replication (NCS-R; Kessler et al., 2005). NCS-R was designed to assess the prevalence of mental health disorders in the United States. NCS-R is a nationally representative probability sample of those 18 years old and older who speak English. The NCS-R excluded those who were in prison, nursing homes or other long-term care facilities, and military personnel. Respondents were chosen through a clustered multistage probability sample of households. A total of 13,053 addresses were obtained and 10,622 of the addresses were deemed eligible for the study

Responses were gathered by face-to-face interviews conducted between February 2001 and April 2003. In total, 9,282 adult interviews were completed (a response rate of 70.9%). On average these interviews lasted 126 minutes (Kessler et al., 2005). The interviewers for the NCS-

R were mostly female (82.7%), white (75.3%), and had completed at least some college (87.6%; Pennell et al., 2004). All interviewers received training. This included two days of general interviewing techniques, and a NCS-R specific training that lasted from 5 to 7 days. Interviewers were required to pass certification process before beginning interviews in the field. This certification assessed whether the interviewer could successfully apply the skills taught in training (Pennell et al., 2004). Additionally, interviewers received ongoing training throughout the data collection process to try and reduce non-response (Pennell et al., 2004).

The core questionnaire of the NCS-R was the World Health Organization's Composite Interactional Diagnostic Interview (CIDI; Kessler & Ustun, 2004). The CIDI generates lifetime and 12 month DSM-IV diagnoses. The CIDI asks all participants several screening questions about broad psychological symptoms. If the responses to the screening questions indicate potential DSM-IV disorders, participants are asked follow up questions regarding their symptoms. The follow up questions are disorder specific and the responses to these questions determine whether the respondents meet criteria for a DSM-IV diagnoses. A subset of respondents ($n = 5,692$) completed the second part of the NCS-R questionnaire. This subset included all the respondents who had at least one DSM-IV diagnosis and a probability sample of the respondents who did not. Those in this subset of respondents who reported being married or cohabitating ($n = 2321$) were asked additional questions about the quality of their romantic relationships. From this sample of $n = 2321$, two samples were created: the anxiety disorder sample and the comparison no mental disorder sample.

After the responses were collected, weights were developed to make the NCS-R data representative of the U.S. population. These weights were based on two dimensions: race/ethnicity and geographic domain. The NCS-R data used 12 race/ethnicity categories:

Vietnamese, Filipino, Chinese, All Other Asian, Cuban, Puerto Rican, Mexican, All Other Hispanic, Afro-Caribbean (non-Hispanic) African-American (non-Hispanic), White, and All Other (Pacific Islander, Native American, etc.). Geographic domains were assigned based upon the 2000 Census block groups. The weights accounted for unequal probabilities of selection, resulting in weighted data that ensures that no group is over or underrepresented (Heeringa et al., 2004)

Sample

This study included two samples taken from the NCS-R. The first sample included those who reported meeting diagnostic criteria for at least one anxiety disorder during the past 12 months, were married or cohabiting, and who completed the questions regarding their committed romantic relationships. The second is comprised of a randomly selected sample of those not meeting diagnostic criteria for any mental disorder during the past 12 months but who were married or cohabiting, and completed the questions regarding their committed romantic relationships.

The anxiety disorder sample consisted of those in the NCS-R who reported meeting diagnostic criteria for agoraphobia without panic disorder, agoraphobia with panic disorder, GAD, panic disorder, PTSD, or social phobia, who self-identified as being married/cohabiting, and were a part of the subsample of the NCS-R who were asked questions regarding their committed romantic relationships ($n = 251$). One outlier was identified and removed from this sample. During the process of creating committed romantic relationship profiles for this sample using latent profile analysis, one respondent from this sample was consistently put into a unique profile without any other respondent. The positive score of this respondent was more than three standard deviations below the mean, and the negative score was more than two standard

deviations above the mean. As such, this respondent was deemed an outlier and removed. All analyses reported here were conducted with a sample of $n = 250$ participants. The weighted demographic characteristics of the sample are presented in Table 1.

The second sample consisted of a random sample of those who did not meet diagnostic criteria for any mental disorder, who self-identified as married/cohabiting, and completed questions regarding their committed romantic relationships. In total, there were 1736 respondents in the NCS-R who meet these criteria. Using the randomization function in SPSS 21, a sample of $n = 250$ was chosen from original $n = 1736$ sample to create the no mental disorder sample. Weighted demographic characteristics of the no mental disorder sample are presented in Table 1. No outliers were identified in this sample.

Table 1. *Weighted Demographic Characteristics of the Anxiety Disorder and No Mental Disorder Samples.*

	Anxiety Disorder Sample	No Mental Disorder Sample
% Female	63.3%	46.2%
Mean Age	42.13	50.71
Race/Ethnicity		
Non-Latino White	81.1%	78.6%
Latino/Hispanic	8.3%	9.3
African American	6.1%	8.5%
Other	4.2%	1.7%
Education		
0-11 Years	13.7%	14.3%
12 Years	28.2%	26.7%
13-15 Years	30.8%	30.3%
16 Years or More	27.2%	28.7%

Variables

The NCS-R questionnaire included questions regarding committed romantic relationships. This section was given to those who were selected to participate in the second part of the NCS-R interview and who reported being married or cohabiting. The items that were used in this analysis are adapted from the Dyadic Adjustment Scale (Spanier, 1976) and from a measure of romantic partner social support and strain developed by Whalen and Lachman (2000).

The NCS-R adapted 14 questions from the Dyadic Adjustment Scale (Spanier, 1976). These items correspond with the questions numbered 1, 2, 5, 8, 12, 20, 21, 24, 25, 26, 27, and 28, on the original Dyadic Adjustment Scale. The response options of these questions were changed for use in the NCS-R. The first 9 items were originally scored on a 6-point scale, but were changed to a 5 point scale in the NCS-R. The next four items were originally scored on a 6 point scale, but were changed to a 4 point scale, and the last item was originally scored on a 5 point scale but was changed to a 4 point scale in the NCS-R.

Modified Dyadic Adjustment Scale –

1. Frequency you and your spouse disagree on handling family finances.
2. Frequency you and your spouse disagree on matters of recreation.
3. Frequency you and your spouse disagree on friends.
4. Frequency you and your spouse disagree on philosophy of life.
5. Frequency you and your spouse disagree on making major decisions.
6. Frequency you think things between you and your partner are going well.
7. Frequency you and your spouse quarrel.
8. Frequency you regret marrying/living together.
9. Frequency you think about divorce/ending your relationship.
10. How often do you and your spouse engage in outside interests together?
11. How often do you and your spouse work together on a project?
12. How often do you and your spouse calmly discuss something?
13. How often do you and your spouse laugh together?
14. How often do you and your spouse exchange ideas?

Though the wording remained the same for most of the questions, the wording for question 10 was changed. In the original DAS, the question asked, “Do you and your mate engage in outside interests together?” In the NSC-R, this was changed to ask how often partners engaged in outside interests together. For use in this study, each positive question (questions 6, 10, 11, 12, 13, and 14) were coded so that a higher scores reflects more positivity, and each negative question (questions 1, 2, 3, 4, 5, 7, 8, 9) was coded so that a higher score reflects more negativity. In this, study each questions was coded so that the minimum score was 0. The DAS has frequently been used as a one-dimensional, bipolar measure of committed romantic relationship quality (e.g., Riggs, Cusimano, & Benson, 2011; Ward, Lundberg, Zabriskie, & Barret, 2009; Whisman, 2007).

The next set of questions used to assess romantic relationship quality come from the Support and Strain measure developed by Whalen and Lachman (2000). Items from this measure were based on items used by Schuster, Kessler, and Aseltine (1990). This measure assesses relationship support and relationship strain, and has been used as a two dimensional measure of committed romantic relationship quality (Whalen & Lachman, 2000). Four questions were used to assess relationship support, and four questions were used to assess relationship strain. Each of the eight questions has a four point scale, ranging from “a lot” to “not at all.”

Support –

1. Your spouse/partner really cares about you.
2. Your spouse/partner understands the way you feel.
3. You can rely on your spouse/partner to help with serious problems.
4. Can open up and discuss worries with spouse/partner.

Strain –

5. Your spouse/partner makes too many demands on you.
6. Your spouse/partner criticizes you.
7. Your spouse/partner let you down when counting on them.
8. Your spouse/partner gets on your nerves.

No wording changes were made for the NCS-R, and the response scale remained the same. For this study, the items were coded as follows: 0 = “never,” 1 = “rarely,” 2 = “sometimes” and 3 = “often.” Therefore, higher scores represent more reported positivity or negativity.

The original analysis plan was to use the Modified DAS measure and the Support and Strain measure to test if the two component Support and Strain measure provided superior fit than the one dimensional Modified DAS. However, results showed that neither measure provided a valid measurement (see Table 2). Therefore, items from both scales were chosen to create a new measure. In order to differentiate this measure from the other measures used in this study, this measure is referred to as the Positive and Negative measure. The process of choosing the items for this measure is described in more detail in the data analysis plan section of this chapter. The Positive component of this model included five items from the Modified DAS, and the Negative component included the four items from the Strain measure.

Positive –

1. How often do you and your spouse engage in outside interests together?
2. How often do you and your spouse work together on a project?
3. How often do you and your spouse calmly discuss something?
4. How often do you and your spouse laugh together?
5. How often do you and your spouse exchange ideas?

Negative –

1. Your spouse/partner makes too many demands on you.
2. Your spouse/partner criticizes you.
3. Your spouse/partner let you down when counting on them.
4. Your spouse/partner gets on your nerves.

The response categories for both sets of questions were coded as described above. Therefore, for the Positive component a higher score reflects more positivity and for the Negative component a higher score reflect more negativity.

In addition to these items, a scale was created to assess for the amount of psychological distress experienced in the last 30 days. The items used in this study were adapted from the K10 psychological distress measure (Kessler et al. 2002) and were used to make comparisons within samples. For this study, 14 items were used to assess psychological distress. These items asked, “During the past 30 days, how often did you...

1. Feel trapped or caught?
2. Suddenly feel scared for no reason?
3. Blame yourself for things?
4. Feel lonely?
5. Feel blue?
6. Worry too much about things?
7. Feel no interest in things?
8. Feel frightened?
9. Feel hopeless about the future?
10. Have trouble concentrating?
11. Feel tensed or keyed up?
12. Feel that everything was an effort?
13. Feel worthless?
14. Feel exhausted for no good reason?

Responses were coded so that a higher score reflected more psychological distress. This measure demonstrated good reliability for both samples. For the anxiety disorders sample, Chronbach’s $\alpha = .88$, and for the no mental disorder sample, Chronbach’s $\alpha = .83$.

Data Analysis Plan

In this study, data analysis was conducted in three steps. First, confirmatory factor analysis (CFA) was used to compare measures of committed romantic relationship quality. Second, latent profile analysis, using the Positive and Negative measure, was conducted to construct committed romantic relationship profiles. Steps one and two were completed separately for the anxiety disorder sample and the no mental disorder sample. In the third step, comparisons within and between the two samples were made using logistic regression, ANOVAs, and t-tests.

Confirmatory Factor Analysis

The purpose of the CFAs was to construct a two component measure of committed romantic relationship quality for the anxiety disorder sample. The section will discuss the process of choosing the items for the Positive and Negative measure, and then describe how this measure was compared to the other two measures of committed romantic relationship quality (the Modified DAS, and the Support and Strain measure) used in the NCS-R.

All CFAs were conducted in *Mplus* (Muthen & Muthen, 2012) using the TYPE=COMPLEX method. This method can take into account the stratification, clustering, and sampling weights which were developed for the NCS-R (Heering et al., 2004). This approach utilizes these sampling features to compute standard errors and χ^2 tests of model fit. Estimation was done using maximum likelihood with robust standard errors and χ^2 (MLR). MLR is known to be robust to non-normality and non-independence of observations (Asparouhov, 2005).

Model fit was compared using model fit statistics. Specifically, the χ^2 test, the standardized root mean square residual (SRMR), the comparative fit index (CFI), and the root mean square of error approximation (RMSEA) were evaluated to compare fit between the two models. The χ^2 test measures fit by testing if the covariance matrix is equivalent to the model-implied covariance matrix as is predicted by the parameters (Kline, 2011). Therefore, the best fitting model for the data has a chi-square statistic that is small and non-significant. The SRMR is a measure of the overall difference between the observed and applied correlation matrices. This is done by transforming the sample covariance matrix and the predicted covariance matrix into correlation matrices. Values less than .10 are considered to have good model fit (Kline, 2011). The CFI measures the improvement in the fit of the proposed model over that of a baseline model, and scores greater than .95 indicate good model fit (Kline, 2011). The RMSEA

is based on a non-central χ^2 distribution in which the non-centrality parameter allows for difference between model implied and the sample covariance up to the expected value of the χ^2 . The RMEA is considered a “badness of fit” index, meaning scores closer to 0 represent better fit (Kline, 2011). Therefore, the best fitting model would have a small, non-significant χ^2 , a SRMR and RMSEA close to 0, and a CFI close to 1.

To choose questions for the Positive and Negative measure, the skewness and kurtosis of the 14 Modified DAS items and the eight Support and Strain items were inspected for both samples. Skewness measures lack of symmetry in a distribution and kurtosis measures whether data are peaked or flat compared to a normal distribution. Woods, Priest, and Denton (2013) have found that individuals often report higher levels of committed romantic relationship quality when being interviewed than when completing pen and pencil measures of committed romantic relationship quality. They suggested that this results from social desirability (Woods et al., 2013). Given that the items used in this study asked by an interviewer, skewed or peaked distributions may suggest that certain items were more strongly influenced by social desirability than others. Additionally, if items used in CFA or structural equation modeling are skewed or have peaked distributions, models are likely to have poor fit (Gao, Mokhtarian, & Johnston, 2008). Four items were found to have extreme skewness or kurtosis values: item 9 from the Modified DAS and items 1, 3, and 4 from the Support and Strain Measure (see Table 3). Therefore, these items were eliminated.

After these four items were removed, model trimming was used to find a parsimonious, good fitting model (Kenny, 2011; Kline, 2011). Model trimming is commonly used in CFA and structural equation modeling (e.g. Driver & Gottman, 2004; Gallagher, Ting, & Palmer, 2008;

Table 2. Means, Standard Deviations, and Skewness and Kurtosis Values of All Committed Romantic Relationship Quality Items.

Items	Anxiety Disorder Sample				No Mental Disorders Sample			
	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis
Finances	1.14	1.06	.54	.04	.94	.86	.66	.26
Recreation	.95	.84	.90	1.29	.68	.74	.64	-.78
Friends	.83	.96	1.28	1.7	.58	.74	1.05	.27
Life	1.01	1.06	.97	.55	.73	.87	.99	.40
Decisions	1.22	1.04	.84	.65	.82	.77	.68	.33
Going Well	3.0	.79	-1.23	2.98	3.22	.67	-1.10	3.72
Quarrel	1.41	.78	.67	1.4	1.12	.70	.16	.30
Regret	.69	.92	1.45	1.95	.30	.57	1.89	3.0
Divorce/End	.63	.92	1.55	2.18	.19	.50	2.93	9.12
Interests	2.16	.79	-.47	-.77	1.52	.68	.75	-.28
Project	1.93	.92	-.43	-.73	1.64	.82	.22	-.72
Discuss	2.48	.70	-1.16	.71	1.27	.553	1.69	2.34
Laugh	2.62	.61	-1.61	2.45	1.19	.45	2.10	4.26
Ideas	2.34	.67	-.57	-.51	1.53	.67	.69	-.34
Cares	2.87	.43	-3.9	17.0	2.95	.26	-5.30	30.27
Understands	2.37	.83	-1.28	1.0	2.68	.58	-1.85	3.36
Rely	2.79	.60	-3.22	10.4	2.91	.38	-5.51	29.25
Discuss	2.56	.69	-1.74	3.07	2.81	.41	-2.81	9.25
Demands	1.16	.90	.41	-.56	1.69	1.31	-.31	-1.65
Criticize	1.02	.88	.52	-.45	1.79	1.33	-.37	-1.65
Let you down	.91	.87	.61	-.44	1.11	1.39	.51	-1.67
Nerves	1.59	.81	-.22	-.41	1.94	1.19	-.71	-1.05

Note: Items in bold were removed due to extreme skewness or kurtosis values

Sidora-Arcoleo, Feldman, & Spray, 2012), and is normally done by removing nonsignificant factor loadings or pathways. Using the anxiety disorder sample, a CFA was conducted with all of the items from the Modified DAS and Support and Strain measure, except for those that had been removed due to extreme skewness or kurtosis values. Positive items were loaded on one factor and negative items on another. This model demonstrated poor fit ($\chi^2 = 254.12$, $df = 134$, $p < .00$, $RMSEA = .06$, $CFI = .89$; $SRMR = .06$). Since this model also demonstrated poor fit, items were trimmed to found a more parsimonious model. First, all positive items were inspected to ensure that each item was significantly loading onto the positive factor. All positive items had significant factor loadings. Then, all negative items were inspected to ensure that each item was significantly loading onto the negative factor. All negative items also had significant factor loading. Since no items were removed in the first trimming step, a second step was applied.

The purpose of this step was to eliminate items that may be redundant in order to find a more parsimonious model. After the removal of the four items due to extreme skewness or kurtosis values, 11 negative items and 6 positive items remained. Seven of the remaining negative items came from the modified DAS, and four came from the Support and Strain measure. Since the negative items from the Support and Strain measure had been previously used as a distinct factor (Whalen & Lachman, 2000), and since the poor model fit found in the CFA of the two factor Support and Strain measure likely resulted from the extreme values of skewness or kurtosis found for the positive items of this model, it was determined that the negative items from the Support and Strain measure would be kept, and the negative items from the Modified DAS would be eliminated. Six of the remaining positive items came from the Modified DAS, and one came from the Support and Strain measure. Given the extreme skewness or kurtosis values of the other positive items from the Support and Strain measure, it was determined that

this one remaining item would be eliminated. Finally, item 6 of the Modified DAS was removed since the response category of this item was different from the remaining positive items. This left five positive items (items 10, 11, 12, 13, and 14 from the Modified DAS) and four negative items (items 5, 6, 7, and 8 from the Support and Strain Measure). As noted above, this measure is referred to as the Positive and Negative measure.

Following this process, five CFAs were conducted for each sample in order to compare which measure provided the best fit for each sample. The first CFA included all of the items from the Modified DAS loading onto a single factor. The second CFA had the positive items of the Modified DAS loading onto a one factor and the negative items of the Modified DAS loading onto another factor. The third CFA had all of the items from the Support and Strain measure loading onto one factor. The fourth CFA had all of the support items loading onto one factor and all of the strain items loading onto another. Finally, the fifth CFA examined the Positive and Negative measure. Specifically, the five positive items loaded onto one factor, and the five negative items loading onto another. For all CFAs with two factors, the factors were modeled as correlated factors. A detailed description of the results of the five CFAs for each sample is provided in Chapter 4.

Latent Profile Analysis

Following the CFAs, latent profile analysis (LPA) was conducted to test the second hypothesis of this study. This hypothesis states that committed romantic relationship profiles of those with anxiety disorders will demonstrate four romantic relationship profiles similar to those proposed by Fincham and Beach (2010). The purpose of LPA is to fit latent profile models to continuous data. Similar to other methods of finding clusters of observations (e.g. median split or cluster analysis), LPA identifies clusters of respondents that have similar values on indicators

(Pastor, Barron, Miller, & Davis, 2007). However, LPA is unique from these other methods in that it is model based. Additionally, LPA is advantageous because indicators do not need to be standardized prior to their use in analysis, and it has more rigorous criteria for determining the optimal number of clusters, (Pastor et al., 2007). In this study, these clusters are referred to as profiles.

LPA was conducted in *Mplus* (Muthen & Muthen, 2012) using TYPE = MIXTURE, which allows for the use of sample weights, but does not allow for the use of stratification or clustering. Therefore, only sample weights were employed in this analysis. As in the CFA, MLR was used as the estimator.

LPA is conducted by comparing model fit for models with different numbers of profiles. For example, models are compared with one profile, two profiles, three profiles, etc. until the best fitting model can be identified. The best fitting model is identified through fit statistics. In this study, Bayesian information criterion (BIC, Schwartz, 1978) and sample-size adjusted BIC (Sclove, 1987) were used to assess the optimal number of latent profiles. Research suggests that BIC provides the most reliable indication of model fit (Nylund, Asparouhow, & Muthen, 2008). In addition, the Vuong-Lo-Mendall-Rubin (VLMR; Vuong, 1989; Lo, Mendall, & Rubin, 2001) difference test was used. This test assesses fit between nested models that differ by one profile and gives a p value that indicates which model better fits the data. For example, if a four profile model had a nonsignificant p value, this would indicate that a three profile model fits better than a four profile model. Finally, entropy was used as an indicator of how well the model classifies people. Overall, the best fitting model would have the smallest BIC, a significant VLMR and the VLMR of the model with an additional profile will be nonsignificant, and the entropy score will be close to 1. In addition to using these fit statistics, it is also recommended that profiles are

examined with consideration given to theory and uniqueness (Pastor et al., 2007). In other words, profiles should show theoretical meaning and should be distinct from one another.

The Positive and Negative measure was used in the LPA. Specifically, the scores of the positive items from this measure were added together to create the positive indicator in the LPA, and the scores of the negative items of this measure were added together to create the negative indicator. These two indicators were modeled as correlated variables to determine the optimal number of latent profiles and the characteristics of these profiles. Models with 1, 2, 3, 4, 5, and 6 profiles were compared for each sample.

Following the identification of the best fitting models, individual respondents were assigned profiles based on their most probable class membership. Using the CPROBABILITY feature in *Mplus* (Muthen & Muthen, 2012), which estimates the probability of each respondent being in a particular profile, each respondent was assigned profile memberships based on the highest posterior probability. For example, if a respondent had a 60% of being in the Flourishing profile, a 10% chance of being in the Volatile profile, a 5% chance of being in the Languishing profile, and a 5% chance of being in the Distressed profile, this respondent would be assigned to the Flourishing profile.

Labeling Profiles

Currently, there is not an established method used to compare the results of LPAs between two samples. In order to ensure some consistency when labeling and comparing the profiles from the two samples, ratio scores were computed. Ratios of positivity and negativity have been used frequently in observational committed romantic relationship research (e.g. Gottman, 1994; Gottman, Coan, Carrere, & Swanson, 2008). This research has shown that during conflict, the ratio of positive interactions to negative interaction for happy couples is 5 to

1, and for distressed couples, this ratio is .8 to 1 (Gottman, 1994). Extrapolating these findings to the data used in this study is difficult given that all items in the data are self-report. However, drawing on these findings, ratios were computed for each profile for each sample and used to assign either positive labels (i.e., Flourishing) or negative labels (e.g. Distressed, Volatile, or Languishing) to the profiles resulting from the LPA.

The ratio scores were calculated by taking the mean positive and negative score for each profile and then dividing this score by the number of questions that make up each measure. Therefore, each profile's mean positive score was divided by 5, and each profile's mean negative score was divided by 4. The resulting positive score was divided by the resulting negative score to produce a ratio score. For example, if a profile had a mean positive score of 8 and a mean negative score of 3, the resulting positive score would be 1.6 and the negative score .75, producing a ratio of 2.13. This score would suggest that the average positive score was more than twice that of the average negative score for the profile.

Fincham and Beach (2010) posited that Flourishing profiles are marked by high levels of positivity and low levels of negativity. Therefore, it would be assumed that the amount of self-reported positivity would be at least twice the amount of negativity, therefore all profiles with ratio scores greater than 2 were deemed positive profiles. If Flourishing profiles were assumed to have ratio scores greater than 2, Volatile and Languishing profiles would have scores close to 1, but be differentiated by the degree of negativity and positivity: Volatile profiles would have high levels of both positivity and negativity, whereas the Languishing profiles would have low levels of positivity and negativity. The Distressed profiles would have ratios below 1, meaning that the amount of negativity was greater than the amount of positivity.

Ratios scores were also used to make comparisons between samples. As noted above, if a profile had a ratio score above 2, then this profile was categorized as a positive profile (e.g. Flourishing profile). In other words, this profile was characterized by having relatively high positivity compared to negativity. If a profile had a ratio score less than 2, then this profile was categorized as a negative profile (e.g. Distressed, Negative, or Volatile). In other words, these profiles would be characterized by high levels of positivity and negativity, greater negativity than positivity, or by low levels of both negativity and positivity. Therefore, a ratio score of 2 was determined to be the cutoff between positive and negative profiles when making comparisons between samples. This cutoff score was also supported by the findings across both samples (see Chapter 4). In both samples, positive and negative profiles were easily delineated by a ratio score of two. In other words, profiles were either well above 2 or well below 2.

Comparisons

Comparisons of profiles were made both within and between samples. This was done using logistic regression, ANOVA and t-tests. For all comparisons, NCS-R weights were applied.

For both samples, logistic regression analysis was used to compare the demographic characteristics of each profile, and for the anxiety disorder sample, logistic regression was used to determine if specific anxiety disorder diagnoses occurred more frequently in one profile or another. In addition to comparing the profiles of the anxiety disorders sample by anxiety disorder diagnosis, comparisons were also made to see if major depressive disorder (MDD) occurred more frequently in one profile or another. MDD is frequently comorbid with anxiety disorders (Kessler et. al, 2005), and associations have been found between committed romantic relationship distress and MDD (Whisman, 2007). Therefore, this diagnosis was also included in

the logistic regression comparing diagnoses of the profiles. Moreover, logistic regression was used to test the third hypothesis of this study, specifically, that those in the anxiety disorder sample would be more likely to have negative committed romantic relationship profiles (ratio scores less than 2) than those in the no mental disorder sample. Odds ratios (OR) and 95% confidence intervals (CI) are reported for all significant findings.

Additionally, ANOVA was used to make within sample comparisons of psychological distress, for both samples. Finally, t-tests were used to test the fourth hypothesis which proposed that those with anxiety disorders will have a greater degree of negativity in their relationships and a lesser degree of positivity. Specifically, when compared to those without anxiety disorders with committed romantic relationships marked by more negativity, those with anxiety disorders with similar profiles will report higher levels of negativity. To test this hypothesis, three t-tests were conducted. The first t-test compared the positive and negative scores of all respondents between the two samples. The second t-test compared the positive and negative scores for those with negative profiles (ratio scores less than 2) from both samples, and the third t-test compared the positive and negative scores of those with positive profiles (ratio scores greater than 2) from both samples.

Summary

This study explores whether a two component model of committed romantic relationship quality (with one positive and one negative factor) provides more valid measurement than a one factor, bipolar model; whether positive and negative components of committed romantic relationship quality can be used to construct meaningful and distinct profiles for those with anxiety disorders; and whether unique or more pronounced patterns of positivity and negativity occur in the committed romantic relationships of those with anxiety disorders when compared to

those without. To evaluate the hypotheses of this study, data from the NCS-R was used to create an anxiety disorder sample and a no mental disorder sample. CFA was used to compare models of committed romantic relationship quality. LPA was used to construct committed romantic relationship profiles. Logistic regression and t-tests were used to test whether those with anxiety disorders had unique patterns of positivity and negativity in their relationships.

CHAPTER FOUR

RESULTS

Introduction

In this chapter, the results of statistical analyses used to test the hypotheses of the study are presented. First, the results of the CFAs for the four measurement models for both samples are presented. Then, the LPA for the anxiety disorder group is presented, along with the results of the logistic regression analysis comparing demographic characteristics and diagnoses of this sample, along with the results of the ANOVA comparing psychological distress. Next, the results of the LPA for the no mental disorder sample are presented, along with the results of the logistic regression comparing demographic characteristics and the ANOVA comparing psychological distress. Finally, the results making between groups comparisons are presented. Specifically, the results of the logistic regression analysis comparing the frequency of negative committed romantic relationship profiles between samples and t-tests comparing levels of positivity and negativity are presented.

Confirmatory Factor Analysis

Anxiety Disorder Sample

For the anxiety disorder sample, the Positive and Negative measure had better fit than the one factor and two factor Modified DAS and the one and two factor Support and Strain measure (see Table 5). The results of this analysis suggest that for the anxiety disorder sample, a model of committed romantic relationship quality that has two separate but related constructs (one positive and one negative) has better fit than more frequently used measures. The correlations of each of the items used in the CFAs for the Positive and Negative measure for the anxiety disorder sample

are reported in Table 3. Factor loadings for the two factor model of the Positive and Negative measure for the anxiety disorder sample are presented in Table 6.

No Mental Disorder sample

For the no mental disorder sample, the Positive and Negative measure also provided better fit than any other measure (See Table 5). The correlations of each of the items used in the CFAs for the Positive and Negative measure for the no mental disorder sample are reported in Table 4. Factor loadings for the two factor model of the Positive and Negative measure for the anxiety disorder sample are presented in Table 6.

Table 3. *Correlations of Items that Comprise the Positive and Negative Measure of the Anxiety Disorder Sample.*

Measures	10	11	12	13	14	19	20	21	22
1. Interests	1.0								
2. Project	.33**	1.0							
3. Discuss	.39**	.36**	1.0						
4. Laugh	.30**	.38**	.57**	1.0					
5. Ideas	.37**	.46**	.56**	.57**	1.0				
6. Demands	-.08	-.14*	-.32**	-.24**	-.21**	1.0			
7. Criticize	-.19**	-.17**	-.37**	-.32**	-.27**	.59**	1.0		
8. Let you down	-.24**	-.24**	-.40**	-.32**	-.33**	.44**	.48**	1.0	
9. Nerves	-.15*	-.24**	-.38**	-.35**	-.29**	.37**	.43**	.46**	1.0

* p<.05, **p<.01

Latent Profile Analysis

The CFA demonstrated that for both samples, using the Positive and Negative measure provided the best measurement. Therefore, the five positive items from the measure were added together to create the positive indicator used in the LPAs. Additionally, the four negative items were added together to create the negative indicator for the LPAs. These indicators were used as

two separate but correlated indicators in the LPA for the anxiety disorder sample and then for the no mental disorder sample.

Table 4. *Correlations of Items that Comprise the Positive and Negative Measure of the No Mental Disorder Sample.*

Items	1	2	3	4	5	6	7	8	9
1. Interests	1.0								
2. Project	.32**	1.0							
3. Discuss	.10	.29**	1.0						
4. Laugh	.40**	.13*	.37**	1.0					
5. Ideas	.23**	.29**	.38**	.33**	1.0				
6. Demands	-.03	-.06	.01	-.06	.05	1.0			
7. Criticize	-.06	-.01	.02	-.09	-.07	.32**	1.0		
8. Let you down	.10	-.08	.03	.11	.03	.31**	.29**	1.0	
9. Nerves	.07	.15*	-.01	-.10	.03	.32**	.34**	.32**	1.0

* $p < .05$, ** $p < .01$

Anxiety Disorder Sample

To test for the optimal number of profiles for the anxiety disorder group, fit statistics were compared for models with 1 through 6 profiles. Fit statistic indices for these models are summarized in Table 7. The three profile model emerged as the optimal fit for this sample as evidenced by the BIC and Adjusted BIC values, and by the VLMR p values. Entropy for the three profile model was not as high as the four profile model; however, given that the three other fit indices indicated the three profile model provided the best fit, it was chosen as the optimal fit for the data.

Posterior probabilities for each of the three profiles were calculated for each respondent. Based on these probabilities, 145 respondents were assigned to the first profile, 85 respondents were assigned to the second profile, and 20 respondents were assigned to the third profile. The

average posterior probability of being in the first profile for those who were assigned this profile was 94.8%, for the second profile it was 87.6%, and for the third it was 94.3%.

Table 5. *Goodness of Fit Statistics of the Modified Dyadic Adjustment Scale, Support and Strain Measure and the Positive and Negative Measure.*

Model	χ^2	df	p	RMSEA	CFI	SRMR
Anxiety Disorder Sample						
Modified DAS - 1 factor	238.83	77	.00	.09	.80	.08
Modified DAS - 2 factor	157.817	76	.00	.06	.90	.06
Support and Strain - 1 factor	125.91	20	.00	.15	.75	.08
Support and Strain - 2 factor	65.54	19	.00	.10	.89	.06
Positive and Negative Measure	34.12	26	.13	.04	.99	.04
No Mental Disorder Sample						
Modified DAS - 1 factor	182.06	77	.00	.07	.77	.08
Modified DAS - 2 factor	163.66	76	.00	.07	.81	.07
Support and Strain - 1 factor	120.43	20	.00	.14	.41	.09
Support and Strain - 2 factor	138.34	19	.00	.16	.30	.09
Positive and Negative Measure	32.28	26	.18	.03	.98	.04

Table 6. *Unstandardized and Standardized Loadings for the Two Factor Positive and Negative Measure.*

	Anxiety Disorder Sample				No Mental Disorder Sample			
	Positive		Negative		Positive		Negative	
	B (SE)	β (SE)	B (SE)	β (SE)	B (SE)	β (SE)	B (SE)	β (SE)
Outside Interest	1.00 (--)	.494 (.065)			1.00 (--)	.601 (.065)		
Work Together	1.259 (.178)	.540 (.054)			1.285 (.155)	.628 (.064)		
Calmly Discuss	1.407 (.152)	.783 (.035)			.712 (.158)	.547 (.082)		
Laugh Together	1.180 (1.59)	.745 (.043)			.734 (.150)	.661 (.088)		
Exchange Ideas	1.298 (.165)	.759 (.042)			1.060 (.156)	.652 (.070)		
Demands			1.00 (--)	.661 (.070)			1.00 (--)	.700 (.065)
Criticize			1.127 (.129)	.757 (.056)			.900 (.102)	.679 (.051)
Let You down			1.015 (.166)	.690 (.045)			.579 (.119)	.546 (.078)
Get on Nerves			.851 (.141)	.618 (.053)			.786 (.139)	.586 (.062)

Note: Dashes (--) indicate the standard error was not estimated.

Table 7. *Model Fit Indices for Models with 1 to 6 Profiles for the Anxiety Disorder Sample.*

Anxiety Disorder Sample	BIC	Adjusted BIC	Entropy	VLMR
1 Profile	2366.95	2351.10	-	-
2 Profiles	2352.81	2330.62	.79	.002
3 Profiles	2334.70	2303.00	.82	.001
4 Profiles	2345.24	2304.03	.87	.26
5 Profiles	2385.35	2334.63	.77	.49
6 Profiles	2363.34	2303.10	.80	1.00

Note: Bolded profile denotes best fitting model

Figure 1 summarizes the characteristics of the three latent profiles for the anxiety disorder sample. Profiles were assigned labels based on ratio score and similarity to the couple profiles proposed by Fincham and Beach (2010). The first profile had a positive mean score of 13.3, and a negative mean score of 3.78. This profile also had a ratio score 2.81, meaning the amount of positivity reported for the respondents in this profile was, on average, 2.81 times greater than the amount of negativity. Fincham and Beach (2010) proposed the Flourishing couples have high relationship health and low relationship distress, therefore this profile was labeled the Flourishing profile. This profile accounted for 61.3% of the sample.

The second profile had a positive mean score of 9.84 and a negative mean score of 5.45, creating a ratio score of 1.44. The ratio score of this profile was in between 1 and 2 and was not consistent with the Volatile or Languishing profile proposed by Fincham and Beach (2010); additionally, with a ratio score greater than 1, this profile could not be labeled Distressed. Therefore, it was labeled Frustrated. It may be that those in this sample with this profile can recognize the positive aspects of their committed romantic relationship, but are also frustrated by many aspects of this relationship. As such, this profile was given the label Frustrated. This profile accounted for 30.9% of the sample.

The final profile had a positive mean score of 5.34 and a negative mean score of 8.31, creating a ratio score of 0.51. Fincham and Beach (2010) described Distressed couples as having low levels of positivity and high levels of negativity in their relationships. This profile reflected this pattern with a ratio score of 0.51 and was labeled the Distressed profile. This profile accounted for 7.8% of the sample.

The results of the LPA for the anxiety disorder sample showed mixed support for the second hypothesis of this study. This hypothesis stated that the committed romantic relationship profiles of those with anxiety disorders will demonstrate four romantic relationship profiles similar to those proposed by Fincham and Beach (2010). The LPA suggested that a three profile model best fit the data. These profiles were labeled Flourishing, Frustrated, and Distressed. The first and the last profile had characteristics similar to those proposed by Fincham and Beach (2010). However, none of the profiles had characteristics similar to the Languishing or Volatile profiles proposed by Fincham and Beach (2010).

The demographic characteristics of each of the three profiles are presented in Table 8. Only education was found to be significant predictors of group membership. The significant differences for education were found between the Flourishing and Distressed profiles. Specifically, when compared to the Flourishing profile, those in the Distressed profile had greater odds of endorsing 12 years of education than endorsing 16 years of more (OR = 7.29, 95% CI = 1.88 – 28.24). No other demographic characteristics differences were found between profiles.

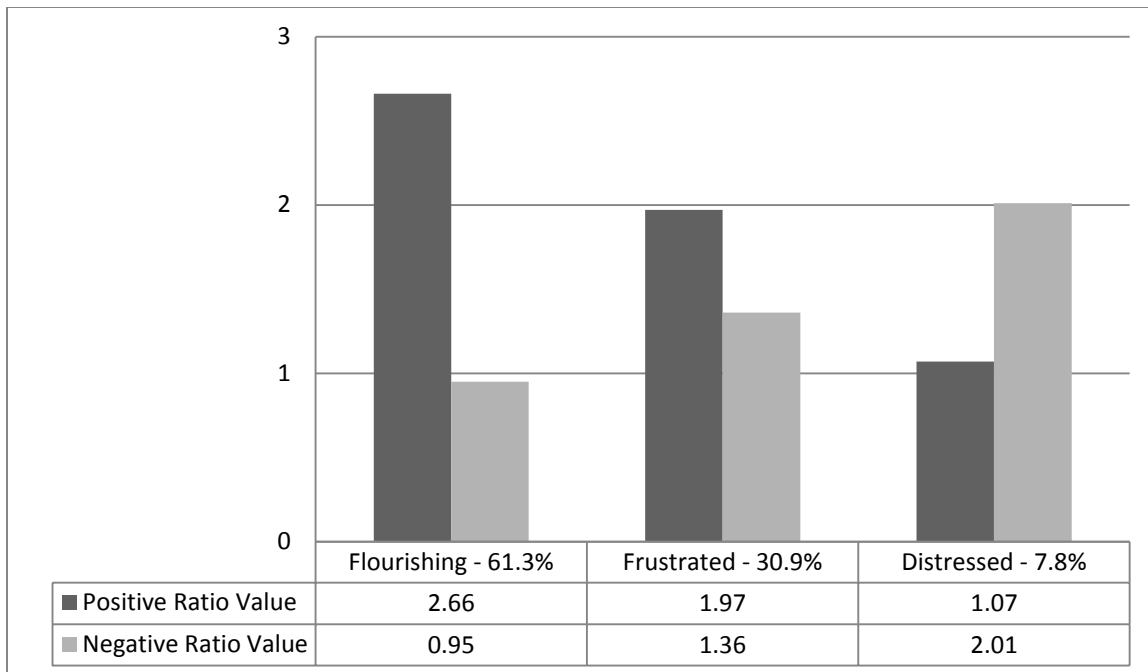


Figure 1. *Characteristics of the Committed Romantic Relationship Profiles of the Anxiety Disorder Sample.*

Note: Positive ratio values computed by dividing the positive mean score of each profile by 5; negative ratio values computed by dividing the negative mean score of each profile by 4.

The profiles of the anxiety disorder sample were also compared by diagnosis. Significant differences were only found between the three profiles for only one diagnosis: GAD. When compared to those with the Flourishing profile, those with Frustrated and Distressed profiles were more likely to meet diagnostic criteria for GAD (Frustrated: OR = 2.24, 95% CI = 1.06 – 4.726; Distressed: OR = 4.38, 95% CI = 1.72 – 11.12). No other diagnostic differences were found between groups.

Finally, the profiles of the anxiety disorder sample were compared by self-reported levels of psychological distress. Significant differences were found between the three profiles ($F = 5.28$, $df = 228$, $p < .01$). Those in the Flourishing profile had a mean psychological distress score of 14.44, those in the Frustrated profile had a mean of 18.02, and those in the Distressed profile had a mean of 19.87. Post hoc Tukey HSD tests revealed significant difference only between

those in the Frustrated and Flourishing profiles (MD = 3.57, $p < .05$); however, the difference between the Distressed and Flourishing profiles approached significance (MD 5.43, $p = .051$).

No significant differences were found between those in the Frustrated and Distressed profiles.

Table 8. *Profile Demographic Characteristics for the Anxiety Disorder Sample.*

	Flourishing	Frustrated	Distressed
% Female	64.8%	59.1%	67.9%
Mean Age	41.37	43.40	43.09
Race/Ethnicity			
Non-Latino White	79.1%	86.8%	74.2%
Latino/Hispanic	10.4%	4.7%	10.4%
African American	5.1%	6.9%	10.8%
Other	5.5%	1.5%	4.6%
Education			
0-11 Years	13.3%	14%	16.3%
12 Years	23.1%	31.4%	55.7%
13-15 Years	36.2%	23.2%	18.6%
16 Years or More	27.4%	31.4%	9.3%
Mean # of Anxiety Disorder Diagnoses	1.33	1.52	1.73
% with Agoraphobia	9.9%	16.9%	8.3%
% with GAD	26.2%	38%	50%
% with Panic Disorder	23.4%	11.3%	27.8%
% with PTSD	22%	25.4%	22.2%
% with SAD	50.4%	60.6%	50%
% with MDD	23.4%	26.8%	16.7%

No Mental Disorder Sample

To test the optimal number of profiles of the no mental disorder group, fit statistics were compared for models with 1 through 6 profiles. Fit statistic indices for these models are presented in Table 9. The 4 profile model emerged as the best fit for this sample as evidenced by the BIC and Adjusted BIC values which were the lowest of any model. The VLMR was approaching significance and Entropy for the 4 profile model was nearly as high for this model as any other.

Posterior probabilities for each of the four profiles were calculated for each respondent. Based on these probabilities, 148 respondents were assigned to the first profile, 76 respondents were assigned to the second profile, 20 respondents were assigned to the third profile, and 5 respondents were assigned to the fourth profile. The average posterior probability of being in the first profile for those who were assigned to this profile was 96.2%, for the second profile it was 93.1%, for the third it was 94.5%, and for the fourth it was 99.1%.

Table 9. *Model Fit Indices for Models with 1 to 6 Profiles for the No Mental Disorder Sample.*

No Mental Disorders Sample	BIC	Adjusted BIC	Entropy	VLMR
1 Profile	2264.79	2248.93	-	-
2 Profiles	2266.44	2241.08	.86	.45
3 Profiles	2254.90	2220.03	.84	.27
4 Profiles	2243.90	2199.52	.89	.08
5 Profiles	2246.38	2192.49	.90	.56
6 Profiles	2257.53	2194.13	.88	.11

Note: Bolded profile denotes best fitting model

Figure 2 summarizes the characteristics of the four latent profiles of the no mental disorder sample. Unlike the anxiety disorder sample, there was very little difference between the profiles in terms of negativity. Differences between the profiles in this sample were mainly seen between the amounts of positivity. Therefore, as with the anxiety disorder sample, the profile labels proposed by Fincham and Beach (2010) were altered to accommodate the unique characteristics of profiles.

The first profile had a positive mean score of 14.13, a negative mean score of 3.06, a ratio score of 3.69, and accounted for 58.1% of the sample. This profile was labeled the Flourishing profile. The second profile had a positive mean score of 11.3, a negative mean score of 4.1, and a ratio score of 2.20, and accounted for 30.3% of the sample. This profile was labeled Content due

to the relatively high amounts of positivity, almost average amounts of negativity and ratio score above 2. The third profile had a positive mean score of 8.45, a negative mean score of 4.26, and a ratio score of 1.59. This profile accounted for 8.8% of the sample. This profile was labeled Frustrated due to the ratio score being similar to that of the Frustrated profile in the anxiety disorder sample. The fourth profile had a positive mean score of 4.5, negative mean score of 4.71, and a ratio score of 0.76. This profile accounted for 2.1% of the sample. This profile was labeled the Distressed profile.

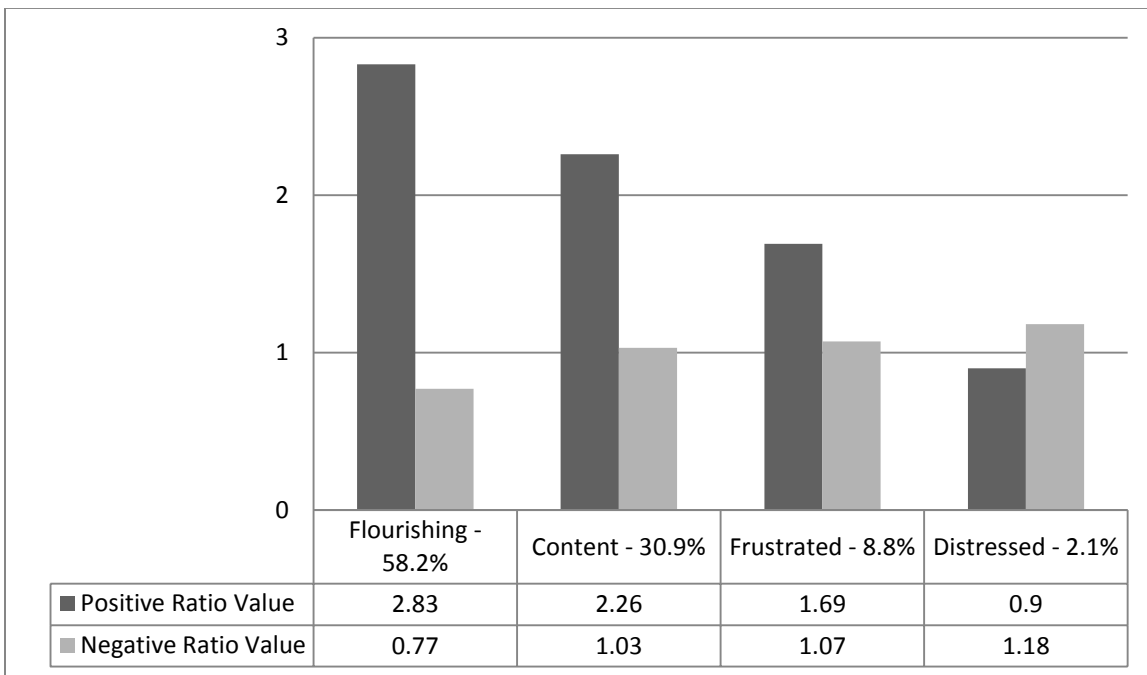


Figure 2. *Characteristics of the Committed Romantic Relationship Profiles of the No Mental Disorder Sample.*

Note: positive ratio values computed by dividing the positive mean score of each profile by 5; negative ratio values computed by dividing the negative mean score of each profile by 4.

The demographic characteristics for each profile are presented in Table 10. Only race/ethnicity and education were shown to be significantly related to profile membership. When compared to those in the Flourishing profile, those in the Content and Frustrated profiles were

more likely to report being African American than being White (Satisfied - OR = 3.21, 95% CI = 1.08 – 9.63; Dissatisfied – OR = 5.95, 95% CI = 1.41 – 25.05). No other significant race/ethnicity differences were found between profiles.

No education differences were found between the Flourishing and Content profiles, or between the Flourishing and the Distressed profiles. However, when compared to those with the Flourishing profile, those with the Frustrated profile had higher odds of endorsing 0 – 11 years of education than 16 years or more (OR = 6.35, 95% CI = 1.90 – 21.28).

No significant differences were found between profiles on self-reported psychological distress ($F = 1.166$, $df = 237$, $p = .324$). The mean of psychological distress for the Flourishing profile was 7.59, the mean for the Content profile was 9.75, the mean for the Frustrated profile was 9.75, and the mean for the Distressed profile was 8.32.

Table 10. *Profile Demographic Characteristics for the No Mental Disorder Sample.*

	Flourishing	Content	Frustrated	Distressed
% Female	47.2%	43.5%	41.8%	70.2%
Mean Age	52.12	47.77	50.48	54.2
Race/Ethnicity				
Non-Latino White	84.4%	71.5%	67%	67.4%
Latino/Hispanic	9.7%	9.9%	8.7%	20.8%
African American	3.9%	12.8%	24.3%	11.8%
Other	3%	5.8%	0%	0%
Education				
0-11 Years	9.6%	14.6%	45.2%	20.8%
12 Years	26%	32%	7.5%	45.8%
13-15 Years	31.6%	32.3%	19%	9.9%
16 Years or More	32.8%	21.2%	28.3%	23.5%

Comparison of Samples

In order to test the third hypothesis of this study, if compared to those without anxiety disorders, individuals with anxiety disorders will be more likely to have committed romantic relationship profiles marked by more negativity, a logistic regression was conducted where sample membership (anxiety disorder versus no mental disorder) was used to predict type of profile (positive [ratio score greater than 2] versus negative [ratio score less than 2]). Those in the anxiety disorder sample were more likely to have negative profiles than positive profiles when compared to those in the no mental disorder sample (OR = 5.36, 95% CI = 3.151 – 9.108). The results of the logistic regression suggest support for the third hypothesis of this study.

T-tests were used to evaluate the fourth hypothesis of the study. This hypothesis stated that those with anxiety disorders will have a greater degree of negativity in their relationships and a lesser degree of positivity. Specifically, this hypothesis tests if a) when compared to those without mental disorders, those with anxiety disorders will report more negativity and less positivity in their committed romantic relationships; b) when compared to those without mental disorders with negative committed romantic relationships profiles (ratio scores less than 2), those with anxiety disorders with similar profiles will report higher levels of negativity and lower levels of positivity; c) when compared to those without mental disorders with positive committed romantic relationship profiles (ratio scores greater than 2), those with anxiety disorders with positive committed romantic relationship profiles will have more negativity and less positivity.

Three t-tests were conducted. The first compared the positive and negative scores from all respondents in both samples. Those in the anxiety disorder sample showed significantly lower positive scores and significantly higher negative scores (see Table 12). The second t-test compared the positive and negative scores for those with negative profiles (ratio scores less than

2). Those in the anxiety disorder sample with negative profiles had significantly higher positive and negative scores (See Table 12). The third t-test compared the positive and negative scores for those with positive profiles (ratio scores greater than 2). No significant differences were found between the two samples (see Table 12). The results of the t-test showed mixed support for the fourth hypothesis. Overall, those in the anxiety disorder sample showed more negativity and less positivity than those in the no mental disorders sample. However, there were no differences between those with positive profiles (ratio score greater than 2) for both samples, and those with negative profiles (ratio scores less than 2) had higher negative and higher positive scores.

Summary

In order to create a more accurate way to identify those with anxiety disorders who might benefit from couples based interventions, and to aid in the adaptation of couples based interventions for those with anxiety disorders, this study tested if a two component model of committed romantic relationship quality (with one positive and one negative factor) provided a more valid measurement than a one factor, bipolar model; if these positive and negative components could be used to construct meaningful and distinct profiles of committed romantic relationships for those with anxiety disorders; and if unique or more pronounced patterns of positivity and negativity occur in the committed romantic relationships of those with anxiety disorders when compared to those without. The results of the CFAs for both samples suggested that a two component model of committed romantic relationship quality provided a more valid measurement than a one component model. The results of the LPAs suggested that a three profile model best fit the data for the anxiety disorder sample, and that a four profile model best fit the data of the no mental disorder sample. The results of the logistic regression and t-tests suggested that those with anxiety disorders were more likely to have negative committed romantic

relationship profiles, and that these negative profiles were marked by more negativity and more positivity than the negative profiles of those without anxiety disorders.

Table 12. *Results of T-Test Comparing Levels of Positivity and Negativity of All Respondents from Both Samples, from Respondents with Negative Profiles from Both Samples, and from Respondents with Positive Profiles from Both Samples.*

	Anxiety Disorder Sample Mean (SD)	No Mental Disorder Sample Mean (SD)	T	Cohen's d
Total from Both Samples				
Positive	11.55 (2.70)	12.54 (2.38)	-4.24**	.39
Negative	4.69 (2.67)	3.53 (2.35)	5.00**	.46
Negative Profiles (Ratio Score < 2)				
Positive	8.78 (2.05)	7.48 (1.86)	3.01**	.65
Negative	6.11 (2.60)	4.4 (2.80)	2.74**	.65
Positive Profiles (Ratio Score >2)				
Positive	13.30 (1.17)	13.14 (1.59)	1.05	.11
Negative	3.79 (2.30)	3.42 (2.72)	1.46	.16

CHAPTER FIVE

DISCUSSION

Introduction

This study investigated if using a two component measure of committed romantic relationship quality could be constructed for those with anxiety disorders and if it provided a more valid form of measurement than currently used measures of committed romantic relationship quality. Additionally, this study investigated if a two component measure would reveal unique patterns of positivity and negativity in the committed romantic relationships of those with anxiety disorders. By testing a two component measure of committed romantic relationship quality for those with anxiety disorders and using these two components to create and compare profiles of committed romantic relationships, the purpose of this study was to identify a more accurate method of screening for those who might benefit from couples based interventions and identify unique patterns of positivity and negativity for those with anxiety disorders.

In this chapter, the results of each of the hypotheses of this study will be discussed. First, the comparison of the multiple measurement models used in the study is discussed. Then, the results of the latent profile analysis of both samples are presented and possible explanations for why the profiles found in this study are similar or different from the profiles proposed by Fincham and Beach (2010) are presented. Next, a discussion of the results of the comparisons of the samples in frequency and degree are given. This includes a discussion of how these findings suggest possible ways in which couples based interventions could be adapted to accommodate the higher levels of negativity found in those with anxiety disorders. Finally, some of the limitations of the study are presented.

Two Factor Measurement of Committed Romantic Relationship Quality

In order to effectively identify those with anxiety disorders who might benefit from couples based interventions, this study compared different measurement models of committed romantic relationship quality for the anxiety disorder sample and the no mental disorder sample.

For both the anxiety disorder and the no mental disorder samples, using the Positive and Negative measure as a two factor model provided better model fit than either the Modified DAS or the Support and Strain measure. This finding supports the first hypothesis of this study and extends the work of Fincham and Littlefield (1997), and Matson et al. (2012) to individuals with anxiety disorders.

The results of this study suggest that clinicians or researchers who are using measures of committed romantic relationship quality as assessments for those with anxiety disorders may have a more valid measurement if positive and negative components are measured as separate but related constructs. Moreover, the findings of this study suggest that using a two factor measure may be a more accurate way of identifying those who might benefit from couples based interventions.

Often, one dimensional measures of committed romantic relationship quality have cutoff points that delineate happy couples from distressed couples (e.g. Norton, 1983; Spainer, 1976). If a clinician or researcher tries to identify those who might benefit from a couples based intervention by using a one dimensional measure of committed romantic relationship quality, some of those who might benefit from this type of intervention may be misidentified. Using a two component measure demonstrated that many individuals with anxiety disorder may have Frustrated committed romantic relationship profiles. If one dimensional measures are used to identify those who might benefit from couples based interventions, then those with Frustrated

profiles may be identified as happy. If those with these profiles are identified as happy, they may not receive couples based interventions, and therefore, relationship problems that may maintain or exacerbate anxiety disorder symptoms may continue leading to poorer anxiety disorder treatment response.

These findings also demonstrated that currently used measure of committed romantic relationship quality might not be providing valid measurement for individuals with and without anxiety disorders. The Support and Strain measure developed by Whalen and Lachman (2000) did not demonstrate adequate model fit for either sample, neither did the modified DAS (Spainer, 1976). The Whalen and Lachman (2000) measure was not altered for use in the NCS-R; however, both the number of questions, the wording of the questions, and response categories of the DAS were modified for the NCS-R. Though this modification uses the same questions as a modified version of the DAS developed by Busby, Christensen, Crane, and Larson (1995), the version used in this study had different wording and had different response categories than the Busby et al. (1995) version. Therefore, the changes made to the questions and the response categories limits the ability to compare how Positive and Negative measure used in this study compares to the full DAS (Spainer, 1976) or the more recent modified DAS (Busby et al., 1995). The results of this study shows the importance of continued evaluation of frequently used committed romantic relationship quality measures in order to ensure they are valid measures.

Committed Romantic Relationship Profiles

Fincham and Beach (2010) proposed four profiles of committed romantic relationships: Flourishing, Volatile, Languishing, and Distressed. This study tested if these four profiles could be found for those with anxiety disorders and those without.

Anxiety Disorder Sample

The results of the LPA for the anxiety disorder sample suggests that a three profile model best fit the data. These profiles were labeled Flourishing, Frustrated, and Distressed. The Flourishing and Distressed profiles had characteristics similar to those proposed by Fincham and Beach (2010); however, the three profile model did not have a profile similar to the proposed Languishing of Volatile profiles.

There are some possible explanations for the absence of the Languishing profile. First, given the unique internal and relational processes seen in those with anxiety disorders (e.g. Damsa et al., 2009; Newman & Erikson, 2007; Newman & Erikson, 2010), it may be that the Languishing profile is rare. Those with anxiety disorders demonstrate strong internal reactions to negative faces (Damsa et al., 2009), have a harder time extinguishing negative emotions (Cambell-Sills et al., 2010), and self-report poor emotion regulation (Menin et al., 2005). It may be that these strong internal reactions lead to more positive or negative engagement within a committed romantic relationship. The Languishing profile is characterized by low positivity and low negativity suggesting a limited amount of engagement between partners. Therefore, due to the strong reactions of those with anxiety disorders, the Languishing profile may be rare. Second, if the Languishing profile is rare due in part to the strong emotional reactions seen in those with anxiety disorders, it may be that the sample size of the anxiety disorder sample was not large enough to include those with Languishing committed romantic relationship profiles. These factors may account for the absence of the Languishing profile in the anxiety disorder sample.

The LPA also did not show a profile similar to the Volatile profile proposed by Fincham and Beach (2010). However, a third profile, labeled Frustrated, was found. The absence of the Volatile profile and the presence of the Frustrated profile may have resulted from the way and

order the items assessing committed romantic relationship quality were administered in the NCS-R. Specifically, all questions regarding committed romantic relationship quality were asked consecutively which may have biased the responses by priming the respondents (Tulving & Schacter, 1990). For example, if respondents are asked how much their partners care for them, this may bring to mind positive experiences or feelings regarding the partner. Therefore, when they are asked negative questions regarding their committed romantic relationships, these respondents may be thinking more about the positive experiences of their relationship, and therefore, report that their relationships are less negative than they actually are. Additionally, those with Volatile profiles may be less likely to report negativity due to social desirability. As mentioned in Chapter 3, administering questions about committed romantic relationship quality through an interview may increase positive reports due to social desirability (Woods et al., 2013). It may be that due to social desirability, those with Volatile profiles underreported the negativity occurring in their relationship. It is possible that the effects of priming and social desirability helped contribute to the absence of the Volatile profile.

Even though the Volatile and Languishing profiles were not found in the anxiety disorder sample, the results still point to the importance of using a two factor measure to identify those who might benefit from couples based interventions. As discussed above, the findings of this study suggest that using a two factor measure to create profile may help more accurately identify those who might benefit from couples based interventions. Specifically, by creating profiles from two factor measures, clinicians and researcher may more accurately identify individuals with Frustrated profiles. It may be that those with Frustrated profiles have enough negativity in their committed romantic relationship, that these relationship problems inhibit response to anxiety disorder treatment. Therefore, research examining the effectiveness of couples based

interventions for those with anxiety disorders may more accurately identify those who would benefit from these interventions by using a two factor measure.

Not only could the construction of these profiles help identify individuals who might benefit from couples based interventions, but they may help demonstrate if there is an optimal time or sequence to introduce these interventions. For example, many have begun to use sequential, multiple assignment, randomization trials (SMART; e.g., Almirall, Compton, Gunlicks-Stoessel, Duan, & Murphy, 2012; Murphy, Collins, & Rush, 2007). The purpose of the SMART design is to discover if there is a sequence of treatments that may lead to optimal outcomes (Almirall et al., 2012; Murphy et al., 2007). Using these profiles as a means to classify individuals with anxiety disorders may help determine how couples based interventions might be used sequentially to lead to optimal outcomes. By classifying those with anxiety disorder by profiles and then randomizing them to receive couples based interventions at different times during individual anxiety disorder treatment, it may be possible to distinguish if different profiles are more likely to benefit from couples based interventions if this intervention is introduced through a certain sequence. For example, it may be that for those with Distressed profiles, anxiety disorder treatment and a couples based interventions may be most effective when started simultaneously. Or, for those with Flourishing profiles, gains from anxiety disorder treatment may persist if they participate in couples based interventions after individual anxiety treatment is completed. Using these profiles to classify individuals with anxiety disorders in SMART design studies may reveal a sequential pattern for using couples based interventions that might be unique depending upon the committed romantic relationship profile of the person with the anxiety disorder.

The construction of profiles and the use of the SMART design might be especially useful to help improve treatment outcome for those with GAD. When diagnosis comparisons were made between the three profiles, those in the Frustrated and Distressed profiles were more likely to meet diagnostic criteria for GAD when compared to those in the Flourishing profile. Specifically, those in the Frustrated profile were 2.24 times more likely to meet criteria for GAD than those in the Flourishing profile, and those in the Distressed profile were 4.38 times more likely to have GAD. These findings are similar to results found by others which show larger associations between committed romantic relationship distress and GAD than for other anxiety disorders (e.g., Whisman, 2007). Many with GAD have been shown to have interpersonal styles marked by over functioning or cutting off (Newman & Erikson, 2010; Salzer et al., 2008; Salzer et al., 2011). It may be that the interpersonal styles shown by those with GAD increase the risk of having a negative committed romantic relationship profile. Specifically, those with GAD have a tendency to seek excessive reassurance or often come off as cold or avoidant (Newman & Erikson, 2007). In a committed romantic relationship, this could lead to increased amounts of negativity. Moreover, individual psychotherapy treatment of GAD has not been as effective as it has been for other anxiety disorders (e.g., Hoffman & Smits, 2008; Siev & Chambless, 2007). One way to improve treatment outcomes for those with GAD may be to compare how adding couples based intervention to augment anxiety disorder treatment changes response to treatment for those with GAD. Additionally, using a SMART design for those with GAD, it might be possible to identify, for each committed romantic relationship profile, the optimal time to introduce a couples based intervention.

No Mental Disorder Sample

The profiles for the no mental disorder sample did not follow the profiles proposed by Fincham and Beach (2010). Though the results of the latent profile analysis for this sample found that a four profile model best fit the data, only two of the profiles had the characteristics of the profiles proposed by Fincham and Beach (2010). Specifically, the results here found profiles with characteristics similar to the Flourishing and Distressed profiles. The other two profiles found for this sample, the Content and Dissatisfied profiles, did not have characteristics similar to the Volatile or Languishing profiles proposed by Fincham and Beach (2010).

The findings for this sample may be different for two reasons. First, this study used LPA to determine the optimal number and characteristics of profiles. Other studies that have created profiles based on two factor measures of committed romantic relationship quality have used other methods to create profiles. For example, Fincham and Littlefield (1997) used a median split technique to create four profiles. It may be that LPA provides a more accurate view of the characteristics and optimal number of profiles than other techniques. Future research could compare the use of different group techniques (e.g., median split, cluster analysis, latent class analysis) to that of LPA in creating committed romantic relationship profiles. Second, the differences in this study might be occurring through the use of different questions. For example, Mattson et al. (2012) used positive and negative adjectives in their study. In this study, the questions used to assess positive and negative components tended to ask how frequently positive and negative interactions occurred in these relationships. It may be that the use of different items would produce profiles similar to those proposed by Fincham and Beach (2010).

Though the Positive and Negative measure of committed romantic relationship quality demonstrated the best fit for both samples used in this study, the unique profiles for each sample

that were created using these factors may help guide how couples therapy interventions may be adapted for those with anxiety disorders. The four profiles found for the no mental disorder sample showed very little difference in the amount of self-reported negativity. Specifically, the difference between the mean self-reported negativity between the Distressed and Flourishing profiles was 1.04; whereas, in the anxiety disorder sample, this difference was 4.53. This may suggest that for couples without mental disorders, distress may come into relationship not by increased conflict or criticism, but through the lack of positive interactions. It may be that current couples based interventions used to treat relationship distress in couples without anxiety disorders may need to be adapted to accommodate the increased negativity for those with anxiety disorders. Priest (2013) has suggested that in order to use emotionally focused couples therapy (EFT) with couples where a partner has GAD, it would be necessary to expand the steps of EFT to accommodate how poor emotion regulation may heighten emotional responses and exacerbate negative couple behaviors. The findings of this study support these types of adaptations.

Comparison of the Samples

The two samples used in this study were compared to see whether the amount of negativity was different in frequency or degree. Specifically, this study tested if those with anxiety disorders would more frequently have committed romantic relationship profiles marked by more negativity, and if those with anxiety disorders would report negativity to a greater degree than those without.

The results of this study suggest that those with anxiety disorders more frequently have committed romantic relationship profiles marked by negativity than those without these disorders. For example, 38.7% of those in the anxiety disorder sample were in a profile with a ratio score less than two, whereas 10.9% of those in the no mental disorder sample were in

profiles with a ratio score less than two. Additionally, the results of the logistic regression comparing the samples showed that those in the anxiety disorder sample were 5.36 times more likely to have a negative profile than those in the no mental disorder sample.

It should be noted, that even though those in the anxiety disorder sample were much more likely to have negative committed romantic relationship profiles, the majority of those with anxiety disorders had positive committed romantic relationship profiles. This suggests that for many, the symptoms of anxiety disorders may not significantly impact their committed romantic relationships. It may be that those whose anxiety disorder symptoms are not affecting their committed romantic relationship are also those who are more likely to respond to individual psychotherapy treatment. On the other hand, if an individual with an anxiety disorder and a positive committed romantic relationship profile is not responding to individual psychotherapy, this individual may benefit from partner assisted therapy (Baucom, Stanton, & Epstein, 2003). In other words, if the committed romantic relationship is positive, it may be a resource that could help lessen anxiety disorder symptoms (Zinbarg et al., 2007).

However, the results of this study show that those with anxiety disorder are at much greater risk of having a negative committed romantic relationship profile than those without. Bowen's family system theory suggests that those with poor emotion regulation and difficulty balancing individuality and togetherness in relationships are more likely to have distressed romantic relationships (Kerr & Bowen, 1988). Individuals with anxiety disorders have shown poor emotion regulation (Damsa et al. 2009; Cambell-Sills et al., 2011) and interpersonal styles marked by assurance seeking or cutoff (Salzer et al., 2008; Salzer et al., 2011). The findings of this study may be reflecting this process. Therefore, it would be important to investigate if those with anxiety disorders and negative committed romantic relationship profiles are more likely to

have poorer emotion regulation and more difficulty balancing individuality and togetherness in relationship than those with anxiety disorder and positive profiles.

This study also tested if those with anxiety disorders experienced negativity to a greater degree than those without. The results suggested some support for this hypothesis. For example, when comparing all of the respondents in both samples, those in the anxiety disorder sample had higher negative scores and lower positive scores than those in the no mental disorder sample. However, when the samples were split based on ratio score, different patterns emerged.

When those in the anxiety disorder sample with positive profiles (ratio score > 2) were compared to those in the no mental disorder sample also with positive profiles, there were no differences found between the samples in levels of self-reported positivity or negativity. In other words, the positive committed romantic relationship profiles of those with anxiety disorders were similar to those without. As noted above, the majority of those with anxiety disorders had positive committed romantic relationship profiles, and the results here suggest that not only are these relationships positive, but also were similar in terms of self-reported positivity and negativity to the committed romantic relationship of those without these disorders.

This similarity may be occurring for two reasons. First, it may be that the psychological distress that is occurring for those in the Flourishing profile may not be impacting the committed romantic relationship. Those with anxiety disorders in the Flourishing profile had significantly less self-reported psychological distress than those in the Frustrated profile, and the difference in self-reported psychological distress between those in the Flourishing and Distressed profile approached significance. It may be that the distress experienced by those in the Flourishing profile is not sufficient to create more negativity in these relationships. Second, it may be that the partners of those with Flourishing profiles are better able to manage and support the person with

anxiety disorders. For example, Zaider, Heimberg, and Iida (2010) found that wives with anxiety disorders reported that, more often than not, their husbands helped alleviate their anxiety disorder symptoms. Therefore, it may be that the positive profiles for those with anxiety disorders are similar to the positive profiles of those without due in part to the ability of the partner to alleviate anxiety disorder symptoms. However, the data used in this study did not ask about the partner's ability to alleviate symptoms, therefore this assertion needs to be tested.

This study also hypothesized that those with anxiety disorders and negative committed romantic relationship profiles would have more negativity and less positivity than those without anxiety and with negative profiles. The results of this study only partially supported this hypothesis. Those with anxiety disorders and negative profiles had more negativity than those without, however, contrary to the hypothesis, the anxiety disorders sample also had more positivity. This finding points to increased volatility in the committed romantic relationships of those with anxiety disorders. Though a Volatile committed romantic relationship profile was not found for the anxiety disorder sample, the results of this t-test comparison suggests that those with anxiety disorder may have more volatility in their relationships than those without these disorders.

Bowen's family systems theory (Kerr & Bowen, 1988) may help explain the increased volatility found in the committed romantic relationships of those with anxiety disorders. This theory suggests that poor emotion regulation is associated with difficulty balancing individuality and togetherness (Kerr & Bowen, 1988). It may be that for those with anxiety disorders the problems balancing individuality and togetherness in relationships may lead to more volatility. For example, if a person with an anxiety disorders is feeling a heightened level of anxiety, this person may turn to their partner for help to alleviate these symptoms, which the partner may do

effectively (Zaider et al., 2010). However, there may be times when the partner does not help alleviate these symptoms or makes them worse. Therefore, the same relational process of turning to the partner for more connection to manage symptoms may produce positive and negative results. This inconsistency may lead to greater volatility.

Therefore, it may be necessary to adapt couples based interventions to accommodate for the increased volatility for those with anxiety disorders. Bowen's family systems theory suggests that in order to reduce volatility in romantic relationships, it may be important to have couples gain a greater understanding of their own and their partner's internal emotional reactions. For those with anxiety disorders this may be especially relevant. Since those with anxiety disorders may have stronger internal reactions (Damsa et al., 2009) and may take longer to distinguish negative emotions (Cambell-Sill et al., 2011), it may be important to adapt current interventions so that partners can understand these reactions and have more patience when reactions are stronger or have a longer duration.

Additionally, these stronger reactions may lead to negative patterned behavior (Kerr & Bowen, 1988; Newman & Erikson, 2010; Salzer et al., 2011). Bowen family systems theory would suggest that when individuals have strong emotional reactions they are likely to engage in behavior that previously helped reduce those reactions. As noted above, some with anxiety disorder may turn to a romantic partner to reduce anxiety symptoms (Zaider et al., 2010). However, it may be that repeatedly turning to a partner to reassure and quell the strong emotional responses may lead to greater negativity in that relationship. In order to effectively adapt couples based interventions for those with anxiety these processes would need to be taken into account. Additionally, it may be useful to help couples develop alternative behavioral or interactional

strategies that can be employed when emotion reactions are strong or when anxiety symptoms are elevated.

Limitations

The results of this study show support for some of the hypotheses; however, these findings should be understood in terms of the limitations of this study. One of the major limitations of this study was the use of the Positive and Negative measure. This measure has not been used in previous studies since the process of choosing the items were unique to this study, and therefore the only psychometric properties of this measure available are the results of the CFA for the two samples used in this study. Though the other measures used in this study (the Modified DAS and the Support and Strain measure) have been used in previous studies (e.g Whalen & Lachman, 2000; Whisman, 2007), they did not demonstrate good model fit. Therefore, it may be that the Positive and Negative measure used in this study provides a more valid measure of committed romantic relationship quality than these measures, or it may just provide better fit for the two samples used in this study.

Another limitation of this study was the use of single report data to construct committed romantic relationship profiles. Most committed romantic relationships are comprised of two individuals; therefore, the use of single report data limits the findings of this study in at least two ways. First, the committed romantic relationship profiles do not account for the perspective of the partner that was not interviewed. This study hypothesized that committed romantic relationship for the samples would be similar to the profile proposed by Fincham and Beach (2010). The results showed little support for this hypothesis. It may be that if both partners' reports of positivity and negativity were used to construct profiles, both samples would have profiles similar to those proposed by Fincham and Beach (2010) or different profiles would

emerge. Future research examining committed romantic relationship profiles for couples with and without anxiety disorders would benefit from using reports from both partners.

Second, since the data used here only had the perspective of one partner in the couple and was self-report, the difference between the samples found here may just reflect the propensity of those with anxiety disorders to have stronger emotional reactions. These stronger emotional reactions may lead those with anxiety to report more negativity or positivity, even though the actual difference between the amount of positivity or negative occurring in the committed romantic relationship of those with anxiety may not be different than those without. By including both partner perceptions of the committed romantic relationship, it would be possible to examine whether the difference found here reflects this propensity of those with anxiety disorders, or if the profiles for those with and without anxiety disorders are distinct.

The use of self-report measures of committed romantic relationship quality may also limit the findings. It may be that different findings would occur if observational measures were employed. As noted above, priming (Tulving & Schacter, 1990) and social desirability (Woods et al., 2013) may have biased the results of the self-report measures. One way to account for these issues would be to use observational measures along with self-report measures.

Observational studies comparing couples with and without anxiety disorders have shown differences between these couples, however, these studies have mostly included individuals with agoraphobia or panic disorders (e.g., Chambless et al., 2002). Future research would benefit from the use of observational methods comparing the interaction of couples with different anxiety disorders to couples without anxiety disorders.

Finally, the randomly chosen comparison group may also limit the findings. The anxiety disorder sample was 63.3% female, whereas the no mental disorder sample was 46.2%

female. Therefore, there were more men in the no mental disorder sample. Also noted earlier, Woods et al. (2013) have shown that, when questions regarding committed romantic relationship are administered by interview, positive reports of committed romantic relationships quality for both men and women may increase; however, they found that this effect was stronger for men than it was for women. It may be that the frequency of positive profiles found in no mental disorder sample stems from social desirability bias that may be stronger in men (Woods et al. 2013). In other words, more positive committed romantic relationship profiles may have been found in the no mental disorder sample not because the committed romantic relationships of this sample are unique, but because men are more likely to report more positivity in their committed romantic relationship when being interviewed. Though the gender make-up of the two samples does reflect findings that show that women are more likely to have anxiety disorders than men (Kessler et al. 2005), it may be that if the two samples matched based on gender, the differences here found in frequency and degree may be small or nonexistent.

Another limiting factor of the randomly chosen comparison group was that using a comparison group without any mental disorders makes it difficult to determine if the profiles found for the anxiety disorder sample are unique to those with anxiety or if they are reflective of those with all mental disorders. Anxiety disorders are frequently comorbid with mood disorders and substance use disorders (Kessler et al., 2005). Though MDD was not linked to any of the committed romantic relationship profiles for the anxiety disorder sample, it would be important for future research to use comparison samples of those with mood disorders or substance use disorders to determine if the profiles found for the anxiety disorder sample are unique to committed romantic relationship for those with anxiety or if they are similar to all those with mental disorders.

Conclusion

Even with these limitations, the results of this study support the use of a two component measure of committed romantic relationship quality for those with anxiety disorders. Not only did a two component measure demonstrate better model fit, but it was also shown that a two component measure could be used to construct committed romantic relationship profiles of individuals with anxiety disorders. The three profile model found for the anxiety disorder sample included the Frustrated profile. It is likely that those with the Frustrated profile may be misidentified if a single factor measure of committed romantic relationship quality is used to assess whether individuals seeking anxiety disorder treatment might benefit from a couples based intervention. Therefore, the results of this study suggest that a two factor model of committed romantic relationship quality provides a more accurate means to identify those with anxiety disorders who might benefit from couples based interventions. Additionally, the results of this study suggest that those with anxiety disorders have more negativity and possibly more volatility in their committed romantic relationship. Therefore, it may be necessary to adapt currently used couples based interventions to account for these differences.

Though many with anxiety disorders respond well to currently available treatments, some may not respond as well or may be more likely to drop out of treatment if they have distressed committed romantic relationships (Chambless & Steketee, 2002; Zinbarg et al., 2007). Therefore, response to anxiety disorder treatment may be improved for those with distressed committed romantic relationships if anxiety disorder treatment is augmented by a couples based intervention (Chambless, 2012). Those who might benefit from this type of intervention are likely to be more accurately identified by using a two component measure of committed romantic relationship quality. Moreover, relationship problems stemming from distressed committed romantic

relationships may not be effectively alleviated for those with anxiety disorders by currently available couple based interventions; these interventions may need to be adapted to accommodate the increased negativity and volatility of the committed romantic relationships of those with anxiety disorder. By more accurately identifying those with anxiety disorders who might benefit from couples based interventions and by adapting couples based interventions to accommodate the increased negativity of those with anxiety disorders, treatment outcomes for those with these disorders may improve.

APPENDIX A

IRB APPROVAL

The Florida State University
Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
[\(850\) 644-8673](tel:8506448673) · FAX [\(850\) 644-4392](tel:8506444392)

EXEMPTION MEMORANDUM

Date: 2/15/2013

To: Jacob Priest

Address: 225 Sandels Building
Dept.: FAMILY & CHILD SCIENCE

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Romantic Relationships and Anxiety Disorders

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and one member of the Human Subjects Committee. The proposed research protocol is Exempt from human subjects regulations as described in per 45 CFR § 46.101(b)4.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This memorandum does not replace any departmental or other approvals, which may be required.

The Committee expects that all relevant subject protection measures and ethical standards will be followed, as outlined in your proposal. No continuing review is required unless the nature of the project changes and it would affect the project exemption status.

You are advised that any change in protocol for this project that would affect the exemption status must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Wayne Denton, Advisor
HSC No. 2013.9797

The formal PDF approval

letter: http://humansubjects.magnet.fsu.edu/pdf/printapprovalletter.aspx?app_id=9797

REFERENCES

- Almirall, D., Compton, S. N., Gunlicks-Stoessel, M. Duan, N., & Murphy, S. A. (2012). Designing a pilot sequential multiple assignment randomization trial for developing an adaptive treatment strategy. *Statistics in Medicine, 31*, 1887-1902.
- Asparouhov, T. (2005). Sampling weights in latent variable modeling. *Structural Equation Modeling, 12* 411-434.
- Baucom, D. H., Staton, S., & Epstein, N. B. (2003). Anxiety disorders. In D. K. Snyder and M. A. Whisman (Eds), *Treating difficult couples: Helping clients with coexisting mental and relationship disorders* (57-87). New York: The Guilford Press.
- Busby, D. M., Christensen, C., Crane, D. R., Larson, J. H. (1995). A revision of the dyadic adjustment scale for use with distressed and nondistressed couples: Construct hierarchy and multidimensional scale. *Journal of Marital and Family Therapy, 21*, 289-308.
- Campbell-Sills, L., Simmons, A. N., Lovero, K. L., Rochlin, A. A., Paulus, M. P., & Stein, M. B. (2011). Functioning of neural systems supporting emotion regulation in anxiety-prone individuals. *Neuroimaging, 54*, 689-696.
- Chambless, D. L., Fauerbach, J. A., Floyd, F. J., Wilson, K. A., Remen, A. L., & Renneberg, B. (2002). Marital interactions of agoraphobia women: A controlled, behavioral observation study. *Journal of Abnormal Psychology, 111*, 502-521.
- Chambless, D. L., & Steketee, G. (1999). Expressed emotion and behavior therapy outcome: A prospective study with obsessive-compulsive and agoraphobic outpatients. *Journal of Consulting and Clinical Psychology, 67*, 658-655.
- Chambless, D. L. (2012). Adjunctive couple and family interventions for patients with anxiety disorders. *Journal of Clinical Psychology: In Session, 68*, 548-560.
- Cisler, J. M., & Olatunji, B. O. (2012). Emotion regulation and anxiety disorders. *Current Psychiatry Reports, 14*, 182-187.
- Damsa, C., Kosel, M., & Moussally, J. (2009). Current status of brain imaging in anxiety disorders. *Current Opinion in Psychiatry, 22*, 96-110.
- Driver, J. L., & Gottman, J. M. (2004). Daily marital interactions and positive affect during marital conflict among newlywed couples. *Family Process, 43*, 301-314.
- Fincham, F. D., & Beach, S. R. H. (2010). Of memes and marriage: Toward a positive relationship science. *Journal of Family Theory & Review, 2*, 4-24.
- Fincham, F. D., & Linfield, K. J. (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? *Journal of Family Psychology, 11*, 489-502.

- Fincham, F. D., & Rogge, R. (2010). Understanding relationship quality: Theoretical challenges and new tools for assessment. *Journal of Family Theory & Review*, 2, 227-242.
- Fincham, F. D., Stanley, S., & Beach, S. R. H. (2007). Transformative processes in marriage: An analysis of emerging trends. *Journal of Marriage and the Family*, 69, 275-292.
- Gallagher, D., Ting, L., & Palmer, A. (2008). A journey into the unknown; taking the fear out of structural equation modeling with AMOS for the first-time user. *The Marketing Review*, 8, 255-275.
- Gao, S., Mokhtarian, P. L., & Johnston, R. A. (2008). Nonnormality of data in structural equation models. *Transportation Research Record*, 2082, 116-124.
- Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, New Jersey: Erlbaum.
- Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and marital stability from newlywed interactions. *Journal of Marriage and the Family*, 60, 5-22.
- Hahlweg, K., & Conrad, M. (1983). *Coding manual: Kategoriensystem Zur beobachtung partnerschaftlicher Interaktion* [Interaction Coding System]. Unpublished manual available from Kurt Hahlweg, Institut für Psychologie, TU Braunschweig, Spielmannstrasse 12a, 38106 Braunschweig, Germany.
- Heeringa, S. G., Wagner, J., Myriam, T., Duan, N., Adams, T., & Berglund, P. (2004). Sample designs and sampling methods for the Collaborative Psychiatric Epidemiology studies. *International Journal of Methods in Psychiatric Research*, 13, 221-240.
- Hoffman, D. L., Dukes, E. M., & Wittchen, H. (2008). Human and economic burden of generalized anxiety disorder. *Depression and Anxiety*, 25, 72-90.
- Hoffman, S. G., & Smits, J. A. (2008). Cognitive-behavioral therapy for adult anxiety disorders: A meta-analysis of randomized placebo-controlled trials. *Journal of Clinical Psychiatry*, 69, 621-632.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56, 885-892.
- Horowitz, L. M. (2004). *Interpersonal foundation of psychopathology*. Washington D. C.: The American Psychological Association.
- Kenny, D. A. (2011). *Path analysis*. Retrieved from <http://davidakenny.net/cm/pathanal.htm>
- Kerr, M. E., & Bowen, M. (1988). *Family evaluation: An approach based on Bowen theory*. W.W Norton and Company: New York.

- Kessler, R. C., Andrews, G., Colpe, L. J., Hirirpi, E., Mroczek, D. K., Normand, S. L. T., Walters, E. E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32, 959-976.
- Kessler, R. C., Chui, W. T., Delmer, O., & Walters, E. E. (2005). Prevalence, severity, and Comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62, 617-627.
- Kessler, R. C., & Frank, R. G. (1997). The impact of psychiatric disorders on work loss days. *Psychological Medicine*, 27, 861-873.
- Kessler, R. C., & Ustun, T. B. (2004). The world mental health survey initiative version of the World Health Organization Composite International Diagnostic Interview. *The International Journal of Methods in Psychiatric Research*, 93-121.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.
- Locke, H. J., & Wallace, K. M. (1959). Short marital-adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living*, 21, 251-255.
- Lo, Y., Mendall, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88, 767-778.
- Marciniack, M. D., Lage, M. J., Dunayevich, E., Russell, J. M., Bowman, L., Landbloom, R. P., & Levine, L. R. (2005). The cost of treating anxiety: The medical and demographic correlates that impact total medical costs. *Depression and Anxiety*, 21, 178-184.
- Mattson, R. E., Paldino, D., Johnston, M. D. (2007). The increased construct validity and clinical utility of assessing relationship quality using separate positive and negative dimensions. *Psychological Assessment*, 19, 146-151.
- Mattson, R. E., Rogge, R. D., Johnson, M. D., Davidson, E. K. B., & Fincham, F. D. (2012). The positive and negative semantic dimension of relationship satisfaction. *Personal Relationships*.
- Mendolwicz, M. V., & Stein, M. B. (2000). Quality of life in individuals with anxiety disorders. *American Journal of Psychiatry*, 157, 669-682.
- Mennin, D. S., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behavior and Research Therapy*, 43, 1281-1310.
- Murphy, S. A., Collins, L. M., & Rush, A. J. (2007). Customizing treatment to the patient: Adaptive treatment strategies. *Drug and Alcohol Dependence*, 88, S1-S3.
- Muthén, L.K., & Muthén, B.O. (2012). *Mplus* (Version 7). Los Angeles, CA.

- Newman, M. G., & Erkison, T. M. (2010). Interpersonal and emotional processes in generalized anxiety disorder analogues during social interaction tasks. *Behavior Therapy, 38*, 364-377.
- Newman, M. G., & Erickson, T. M. (2010). Generalized anxiety disorder. In J. G. Beck (Ed.), *Interpersonal process in the anxiety disorders: Implications for understanding psychopathology and treatment (235-259)*. Washington, D. C.: American Psychological Association.
- Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family, 45*, 141-151.
- Nylund, K. L., Asparouhov, T., & Muthen, B. O. (2007). Deciding on the number of classes in latent class and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling, 14*, 535-569.
- Osgood, C. E., Suci, G., & Tannenbaum, P. (1957). *The measurement of meaning*, Urbana, IL: University of Illinois Press.
- Overbeek, G., Vollebergh, W., de Graaf, R., Scholte, R., de Kemp, R., & Engels, R. (2006). Longitudinal associations of marital quality and marital dissolution with the incidence of DSM-III-R disorders. *Journal of Family Psychology, 30*, 284-291.
- Pastor, D. A., Barron, K. E., Miller, B. J., & Davis, S. L. (2007). A latent profile analysis of college students' achievement goal orientation. *Contemporary Educational Psychology, 32*, 8-47.
- Pennell, B., Bowers, A., Carr, D., Chardoul, S., Cheung, G., Dinkelmann, K., Gelber, N., Hansen, S. E., Pennell, S., & Torres, M. (2004). The development and implementation of the National Comorbidity Survey Replication, the National Survey of American Life, and the National Latino and Asian American Survey. *International Journal of Methods in Psychiatric Research, 13*, 241-268.
- Priest, J. B. (2013a). Anxiety disorders and the quality of relationships with friends, relatives, and romantic partners. *Journal of Clinical Psychology, 69*, 78-88.
- Priest, J. B. (2013b). Emotionally focused therapy as treatment for couples with generalized anxiety disorder and relationship distress. *Journal of Couple and Relationship Therapy, 12*, 22-37.
- Riggs, S. A., Cusimano, A. M., Benson, K. M. (2011). Childhood emotional abuse and attachment processes in the dyadic adjustment of dating couples. *Journal of Consulting and Counseling Psychology, 58*, 126-138.
- Sidora-Arcoleo, K., Feldman, J. M., & Spray, A. (2012). A multi-factorial model for examining racial and ethnic disparities in acute asthma visits by children. *Annals of Behavioral Medicine, 43*, 15-28.

- Salzer, S., Pincus, A. L., Hoyer, J. Kresiche, R., Leichsenring, F., & Leigin, E. (2008). Interpersonal subtypes within generalized anxiety disorder. *Journal of Personality Assessment, 90*, 292-299.
- Salzer, S., Pincus, A. L., Winkelbach, C., Leichsenring, F., & Leibing, E., (2011). Interpersonal subtypes and change of interpersonal problems in the treatment of patients with generalized anxiety disorder: A pilot study. *Psychotherapy, 48*, 304-310.
- Schnarch, D., & Regas, S. (2012). The crucible differentiation scale: Assessing differentiation in human relationships. *Journal of Marital and Family Therapy, 38*, 639-652.
- Schuster, T. L., Kessler, R. C., & Aseltine, R. H. (1990). Supportive interactions, negative interactions and depressed mood. *American Journal of Community Psychology, 18*, 423-438.
- Siev, J., & Chambless, D. L. (2007). Specificity of treatment effects: Cognitive therapy and relaxation for generalized anxiety and panic disorders. *Journal of Consulting and Clinical Psychology, 75*, 513-522.
- Simon G , Ormel, J., VonKorff, M., & Barlow, W. (1995). Health care costs associated with depressive and anxiety disorders in primary care. *American Journal of Psychiatry 152*, 352–357.
- Spanier, G. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 36*, 57-62.
- Tulving, E., & Schacter, D., L. (1990). Priming and human memory systems. *Science, 247*, 301-306.
- Young, Q. H. (1989). Likelihood ratio test for model selection and non-nested hypotheses. *Econometrica, 57*, 307-333.
- Ward, P., Lundberg, N. Zabriskie, R., & Barret, K. (2009). Measuring martial satisfaction: A comparison of the revised dyadic adjustment scale and the satisfaction with married life scale. *Marriage and Family Review, 45*, 412-429.
- Werner, K., & Gross, J. J. (2010). Emotion regulation and psychopathology. In A. Kring & D. Sloan (Eds.), *Emotion Regulation and Psychopathology* (pp. 13-37). New York: The Guilford Press.
- Whalen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships, 17*, 5-30.
- Whisman, M. A., Sheldon, C. T., & Goering, P. (2000). Psychiatric disorder and dissatisfaction with social relationships: Does type of relationship matter? *Journal of Abnormal Psychology, 109*, 803-808.

- Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Family Psychology, 116*, 638-643.
- Woods, S. B., Priest, J. B., & Denton, W. H. (2013). A preliminary investigation of a telephone administration of the Quality of Marriage Index. *Journal of Marital and Family Therapy, 39*, 261-627.
- Yonkers, K. A., Dyck, I. R., Warshaw, M., & Keller, M. B. (2000). Factors predicting the clinical course of generalized anxiety disorder. *The British Journal of Psychiatry, 176*, 544-549.
- Zaider, T. I., Heimberg, R. G., & Iida, M. (2010). Anxiety disorders and intimate relations: A study of daily process in couples. *Journal of Abnormal Psychology, 119*, 163-173.
- Zinbarg, R. E., Lee, J. E., & Yoon, K. L. (2007). Dyadic predictors of outcome in a cognitive-behavioral program for patients with generalized anxiety disorder in committed relationships: A spoonful of sugar and a dose of non-hostile criticism may help. *Behavior Research and Therapy, 45*, 699-713.

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