THE RELATIONSHIP BETWEEN PERCEIVED PARTNER BEHAVIORS AND EATING DISORDER SYMPTOMOLOGY

By:

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(Under the Direction of Lee N. Johnson)

ABSTRACT

Research suggests an interaction between partner support and eating disorder (ED) symptomology in coupled women. However, no literature describes the routine partner behaviors that contribute to ED symptom severity. This study addresses this issue by utilizing an Event History Calendar methodology and a symbolic interactionist perspective to examine supportive partner behaviors and symptom severity over a three month period in women with anorexia nervosa (AN) and bulimia nervosa (BN). Results indicate that certain partner support variables and behaviors account for differences in measures of symptom distress. There are also differences between those with AN and those with BN. Implications for couple therapy and future research are discussed.

INDEX WORDS: Eating Disorders, Couples, Symptomology, Event History Calendar, Symbolic Interactionism

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DEDICATION

For Pea, Peanut, Wynne, and Potato.

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CHAPTER 1

Introduction

Contrary to popular belief, a considerable amount of women with eating disorders (EDs) form intimate partner relationships, and a number of them present for treatment (Bulik, Sullivan, Fear, Pickering, Dawn, 1999). Committed romantic relationships provide a distinct context for ED symptomology. Because of this, there is a developing interest in the interpersonal and intimate relationships of women with EDs (e.g. Bulik, Baucom, Kirby, & Pisetsky, 2011; Evans & Wertheim, 1998; Newton, Boblin, Brown, & Ciliska, 2005, 2006; Van den Broucke, Vandereycken, & Vertommen, 1995). Specifically, it is important to understand the relationship between routine couple interaction and ED symptomology (Newton et al., 2005). Studies of other mental health problems (e.g. anxiety disorders, affective disorders, personality disorders) in the context of couple relationships indicate an interaction between decreased marital functioning and increased symptom distress (Carlson & Sperry, 1998; Coyne, 1976). Research also suggests a similar interaction in couples facing weight management problems (Ledyard & Morrison, 2008). Since eating disorders involve an intricate combination of struggles with both mental health and weight management, it follows there may also be an interactional effect between symptomology and partner behaviors in this population.

This dynamic can be studied best through a symbolic interactionist (SI) framework. This perspective argues that it is most important to study the patient's perceptions of her partner's behaviors and her related ED symptomology. Therein, the researcher can gain deeper understanding of how intimate relationships and ED symptomology interact, instead of

investigating superficial concepts such as relationship satisfaction or martial status (LaRossa & Reitzes, 1993). However, there is a dearth of information examining this topic. Most available research is spread across domains such as communication/conflict resolution, characteristics of married women with EDs, sexuality of women with EDs, and ED symptomology and perceptions/use of social support (e.g., Abraham, 1998; Grissett & Norvell, 1992; Van den Broucke et al., 1995). No studies have examined relationship functioning over time and none have included the relationship between routine couple interaction and symptom severity. This study addresses these concerns by examining the relationship between perceived partner behaviors and the course of ED symptomology in adult women from an SI perspective.

According to this view, numerous factors affect a patient's understanding of the relationship between her intimate relationship and ED (LaRossa & Reitzes, 1993). Adult women with EDs face unique stressors, increased symptom severity, and deficits in social functioning and attachment. For these reasons, examining the couple relationship is crucial in understanding the maintenance, course, and prognosis of the disorder. Presently, investigation of the couple relationship and EDs suggests an intricate interaction with both negative and positive implications. For instance, partnered patients struggle with intimacy, physical and emotional closeness, communication, poor marital adjustment, body image disturbance, severe symptomology, and unsatisfactory sexual relationships (Abraham, 1998; Bussolutti, Fernández-Aranda, Solano, Jiménez-Murcia, Turón & Vallejo, 2002; Newton et al., 2006; Van den Broucke, et al.,1995). Partners report similar struggles but face the added burdens of caretaking, lack of ED knowledge and understanding the patient, and lack of resources (Huke & Slade, 2006; Perkins, Winn, Murray, Murphy, & Schmidt, 2004; Winn, Perkins, Murray, Murphy, & Schmidt, 2004). Although there are many troubles within intimate relationships, these

relationships can also serve as a resource for support and motivation to seek change, treatment, and recovery (Bussolutti et al., 2002; Tozzi, Sullivan, Fear, McKenzie, & Bulik, 2003). Compared to single women, partnered women exhibit greater motivation to change (Bussolutti et al., 2002). Partners may provide patients with the necessary emotional support and encouragement to seek treatment and recover (Kenyon, 2007). Yet, it remains unclear what behaviors constitute this support and how they contribute to lessening symptom severity on a regular basis. These gaps point to the importance of investigating patient/partner interaction at various time points.

Current understanding of the interaction between intimate relationships and ED symptomology is complicated by small sample sizes, use of community samples, inconsistent methods of ED diagnosis, and a dearth of current or replicated research. There is still little understanding of the specific daily or routine behaviors that may impact symptom distress and prognosis and vice versa, especially when comparing patients with anorexia nervosa (AN) to those with bulimia nervosa (BN). Moreover, ED symptom distress tends to oscillate, marked by periods of full or partial recovery or severe distress (Eckert, Halmi, Marchi, Grove, & Crosby, 1995; Löwe, Zipfel, Buchholz, Dupond, Reas, & Herzog, 2001). This pattern is more pronounced in adults, as they exhibit longer illness duration and greater symptom severity (Bussolutti et al., 2002; Heavey, Parker, Bhat, Crisp, & Gowers, 1989). However, current literature neglects this dynamic when examining couple relationships. Without such information, couple therapy treatment options are limited and uninformed.

In order to address these issues, this study utilizes an SI perspective to investigate whether partner support variables and specific behaviors are related to ED symptom distress over time. Furthermore, it compares those with AN and BN to determine whether different variables

and habitual behaviors are related to symptom distress based on diagnosis. Findings from this study suggest that certain forms of partner support and specific behaviors account for variance in measures of symptom distress. There are differences between diagnoses as well. Based on the findings, implications for couple interventions are discussed.

CHAPTER 2

Literature Review

There is a dearth of information examining the intimate partner relationships of adult women with eating disorders (EDs). Whereas other areas of psychiatric illness suggest a connection between relationship distress and symptom distress, this association and its underlying processes have not been examined in women with EDs (Carlson & Sperry, 1998). The purpose of this review is to examine research relevant to couple relationships and eating disorders critically and from a symbolic interactionist (SI) perspective. The following areas of literature are explored: a) symbolic interactionism as a conceptual framework, b) the nature of eating disorders; c) social functioning and support in women with EDs; and d) the couple relationship of women with EDs. A summary and discussion of the present study follows.

Conceptual Framework

Symbolic interactionism focuses on the shared meanings and communication among individuals. Self-concept and identity are developed through social interaction (LaRossa & Reitzes, 1993). Emphasis is placed on the importance of meaning for human behavior. According to LaRossa and Reitzes (1993), meaning arises from social interaction. Individuals' actions towards a stimulus are impacted by the meaning the stimulus carries for each individual. These meanings and future actions are handled and adjusted through each individual's personal interpretive process. This framework has been applied to understanding couple interaction in the context of illness or couple therapy (e.g., Hétu, Jones, & Getty, 1993; Lally & Maddock, 1994; Powell-Cope, 1995; Rosenbaum, 2009). As such, SI provides a fitting perspective for

understanding and examining the relationship between perceived partner behaviors and ED symptomology. EDs in the context of couple relationships hold specific meaning for each partner as individuals as well as a shared meaning. Interactions between a patient and her partner create and define meanings for both about the ED and the relationship. The partners will continue to interact with each other in accordance with these meanings. A partner may increase care giving behaviors when symptom severity increases because he or she interprets it as the patient seeking attention or asking for help. Instead, the patient may be attempting to assert independence from her partner and the care giving response exacerbates her symptoms. The increased symptoms and care giving activities are related to the partner's identity as caregiver and the patient's sense of independence and control. These identities may become more salient with further interaction, as the meanings behind each partner's behaviors become more solidified.

As the example demonstrates, an SI perspective allows researchers to go into the very behaviors that create meaning and drive future actions for both patients and their partners. The process of meaning-making through partner interaction continuously influences behavior, thus involving both partners in a dynamic interplay between understanding their own and each other's actions and behaving accordingly (LaRossa & Reitzes, 1993). Most literature of intimate relationships and EDs does not address this dynamic. Instead, it focuses on relationship satisfaction or comparing married versus single women in areas such as symptom severity, illness duration, or sexual experiences (Bussolutti et al, 2002; Heavey et al, 1989; Wiederman & Pryor, 1997b). Although these types of studies are necessary in putting together a picture of adult EDs and intimate relationships, they cannot shed light into what processes underlie couple interactions and the course of symptom severity. An in-depth understanding enhances research

and specifies treatment. This type of understanding is incomplete without a description of EDs, associated personality characteristics, and relevant implications for couple relationships.

The Nature of Eating Disorders

Anorexia nervosa and bulimia nervosa.

Both anorexia nervosa (AN) and bulimia nervosa (BN) are marked by an intense fear of gaining weight, disturbed body image, and self worth based on body image. Patients with AN do not maintain body weight at or above 85% of the expected body weight based on height, whereas patients with BN are typically within these parameters. In order to lose weight, patients with AN severely restrict caloric intake or purge (self-induced vomiting, or misuse of laxatives, enemas, or diuretics) after eating. With longer illness duration, women may begin binging and purging or receive a full BN diagnosis (Eckert et al., 1995; Wiederman & Pryor, 1997a). Those with BN experience recurrent episodes of binge eating characterized by uncontrollably eating large amounts of food in a discrete period of time and persistent inappropriate compensatory measures to prevent weight gain (self-induced vomiting, misuse of laxatives, fasting, excessive exercise).

Throughout the illness, symptom severity oscillates between periods of symptom distress and symptom alleviation (Löwe et al., 2001). This variability has important implications for couple interactions and the meanings they attach to the ED, the relationship, themselves, and each other at different times throughout illness and recovery. Even though it is reasonable to hypothesize that relationship functioning is related to symptomology, it is unclear exactly whether or how changes in symptom severity are related to partner behaviors in this population (Van den Broucke, Vandereycken, & Norré, 1997). Some of this dynamic may be different based on diagnosis.

Certain variables that may influence couple interaction and meaning making are distinct to each diagnosis. Major depressive disorder, anxiety disorders including obsessive compulsive disorder, and impulse control problems tend to occur comorbidly with AN (APA, 2000). Women with AN have been described as being rigid, controlling, perfectionists, distant, less capable of sexual expression, having fewer intimate relationships, conflict avoidant, and having feelings of ineffectiveness (APA, 2000; Ghizzani & Montomoli, 2000; Wiederman, 1996). Those with the purging subtype are more likely to have other impulse-control problems (e.g. alcohol/drug abuse, increased sexual activity) (APA, 2000). Diagnoses that tend to be comorbid with BN include major depressive disorder, dysthymic disorder, and borderline personality disorder (APA, 2000). Those with BN also may have an increased lifetime prevalence of substance abuse or dependence, increased impulsivity, increased hostility-especially towards significant others, high social desirability, more sexual expressivity, and are likely to have more sexual partners (APA, 2000; Van den Broucke & Vandereycken, 1988; Wiederman 1996).

Based on these personality characteristics, some have theorized differences in the intimate partner relationships between women with AN and those with BN. The relationships of women with AN are marked by lack of sexual expressiveness, conflict avoidance, and lack of intimacy. Couples with BN have been described as more hostile and chaotic, fluctuating between extremes of rigidity/distance and over involvement- especially once the BN is discovered. However, there is little empirical evidence to sustain these claims and the research is mostly outdated (Van den Broucke & Vandereycken, 1988).

The last relevant area of research about the nature of EDs is related to recovery. Although the current study focuses on women in treatment, outcome studies indicate that at least half of patients continue to experience ED symptomology in recovery (Fichter & Quadflieg, 1997;

Löwe et al., 2001). For some, these are experienced in the same manner as during treatment, which may indicate these patients are not qualitatively very different from those in treatment. Due to the continued symptomology, they are considered to have poor recovery. Patients may meet a full or partial diagnosis. Poor recovery outcomes are associated with low social functioning and distressed intimate relationships (e.g. few lasting intimate relationships, low-quality intimate relationships, unstable living situations, less time spent in social activities, and low occupational status) (Löwe et al., 2001; Reiss & Johnson-Sabine, 1995). Because forming and maintaining intimate relationships is a component of social functioning, findings in that body of literature offer important insight. Therefore, social functioning and support in patients with EDs will be examined before the literature on couple relationships.

Social Functioning and Support

Social functioning.

Women with active EDs and those with poor recovery struggle with social functioning. These struggles can help clarify some of the issues faced by women in intimate relationships since maintaining romantic relationships is a part of social functioning. Among those with ED symptomology, poor social functioning is characterized by high degrees of social anxiety, shyness, loneliness, and interpersonal distrust (Heesacker & Neimeyer, 1990; Moulton, Moulton, & Roach, 1998; Striegel-Moore, Silberstein, & Rodin, 1993). They may experience elevated levels of separation anxiety and oscillate between compulsive care seeking and self-reliance (Ward, Ramsey, Turnbull, Benedellini, & Treasure, 2000). They may fear loss of their attachment figure, hold strong beliefs about social rejection, and exhibit a diminished sense of self-worth during separation (Ward et al., 2000). Symptom severity also appears to be an indicator of poor social functioning. Drive for thinness and increased ED behaviors are linked

with higher levels of social incompetence as measured by loneliness, interpersonal anxiety, and less self-disclosure, especially about eating behaviors (Evans & Wertheim, 2002; Heesacker & Neimeyer, 1990). In women with AN, struggles to form positive relationships are directly related to symptom severity (Ghizzani & Montomoli, 2000). In clinical samples, attachment difficulties are predictive of ED symptomology as well (Latzer, Hochdorf, Bacher, & Canetti, 2002).

These variables impact the meaning a patient attaches to her romantic relationship and how that relationship interacts with ED symptomology. For example, women with EDs have reported not feeling trusted by their partners and an unwillingness to disclose information about the ED. During those times, they use their ED to create distance in the relationship by increasing ED symptoms (Newton et al., 2005). If the woman continues feeling distrusted in the relationship, she may interpret it as unsafe and continue distancing. At this point, the ED may represent security and intimacy, not her relationship. Future interactions with her partner are dictated by this dynamic and understanding. These struggles may expand and apply to others in her social network, thus decreasing overall social support.

Social Support.

According to clinical and community samples, women with ED symptomology perceive they have less social support from parents, friends, and partners. Compared with control groups, they experience less support, even during crisis, and report few support figures (Grissett & Norvell, 1992; Jacobson & Robbins, 1989; Troop, Holbrey, & Treasure, 1998). It appears there are also differences in perceived social support between those with AN and BN, which may have implications for differences in couple functioning between the two diagnoses. A clinical study of 44 patients with AN and 81 with BN found that all patients set low expectations for emotional and practical support and reported similarly low levels of perceived support. However those with

BN were more dissatisfied with the overall emotional and practical support they received. Patients with AN set lower ideals of partner support, which may explain why they were as satisfied as controls with the amount of social support (Tiller, Sloane, Schmidt, Troop, Power, & Treasure, 1997). Differences in expectations of partner support may contribute to variability in patient/partner interaction between patients with AN and those with BN.

In non-clinical samples, individuals with high BN scores on the Bulimia Test (*BULIT*; Smith & Thelen, 1984), report more conflict with family members and greater needs for social dependency (Grissett & Norvell, 1992; Jacobson & Robins, 1989). As BN symptomology increases, perceived social support from family and friends decreases (Grissett & Norvell, 1992). It has been hypothesized that perceived lack of social support and dissatisfaction might make an individual vulnerable to certain types of stress which may contribute to the development and maintenance of bulimic symptoms. Or, it may also be that BN symptomology interferes with the ability to develop and maintain a strong, positive support system (Grissett & Norvell, 1992).

Although use of community sampling generally increases sample size and statistical power, it is uncertain whether or how findings from these studies apply to patients and it is difficult to compare findings across studies. Many are also cross-sectional and do not follow patients over time. Taking these limitations into account, the literature on social functioning and support provides hypotheses for how social support functions in those with ED symptomology and how this can affect intimate relationships. For example, a woman may feel anxious both with and without her partner. She may identify her partner as the main support figure but not view her partner as supportive-especially when her symptoms are worse. Her perceptions of her partner's support and subsequent couple interactions creates further meaning about her sense of self, the relationship, the ED, and influences future behaviors. Due to these suggested implications, it is

important to further examine married women and couple relationships, especially with regard to symptom severity.

The Couple Relationship

The couple relationship provides an important context for psychological problems. Because both patients and their partners may exhibit psychological struggles and their intimate relationships are often considered to be strained, it is logical to theorize an association between relationship functioning and symptomology (Van den Broucke et al., 1997). According to Duck (1990), marital partners are always influencing each other's behaviors. Psychological symptoms are part of mutually dependent behaviors. One partner's behaviors will influence the other's functioning and vice versa. Studies in the areas of affective disorders, addiction, anxiety disorders, and personality disorders suggest a relationship between poor marital functioning and increased symptom distress (Carlson & Sperry, 1998). Furthermore, preliminary work examining obesity and marriage indicates that weight-related issues can be divisive for couples, causing marital conflict and emotional and sexual distancing. At the same time, the relationship may also serve as a source of support (Ledyard & Morrison, 2008). Patients with EDs struggle with both mental health and weight maintenance problems. Because research in these domains indicates an interaction between relationship functioning and symptom distress, it follows that a similar process could be at play in patients with EDs and their partners.

Relationship Status.

A review of the characteristics of married women with EDs increases understanding of the factors that can influence partner and ED dynamics. This literature generally does not address relationship status other than marriage or singlehood, even though singlehood may include an intimate relationship with equal importance and commitment to a marriage. Although some

empirical research exists, use of clinical case reports and reviews is not uncommon as well (e.g. Dally, 1984; Van den Broucke & Vandereycken, 1988). It is also dated, with few studies occurring within the past 10 years. Taking these limitations into consideration, research suggests that approximately half of adults with EDs ages 20-45 are married, with slightly more being single, divorced, or separated (Wiederman & Pryor, 1997b). Married women tend to be older, exhibit longer illness duration, more severe symptomology, an increased chance of the disorder becoming chronic, and have more previous stays in treatment than singles (Bussolutti, et al., 2002; Heavy, et al., 1989; Van den Broucke & Vandereycken, 1988). They face different stressors from single women such as spousal death, conflict with grown children, fear of being good mothers, and detachment from parents due to the marital relationship. These may trigger the ED or exacerbate symptomology (Dally 1984; Hill, Haslett, & Kumar, 2001; Van den Broucke & Vandereycken, 1988). Longer illness duration prior to treatment may be another reason symptom severity is greater among married women. Clinical patient case reports and qualitative studies of partners' experiences indicate eating disorders can remain undetected and untreated for a longer period of time in coupled patients, as they tend to successfully hide behaviors from their partner (Huke & Slade, 2006; Perkins et al., 2004).

However, there is controversy over whether marital status is the variable related to these findings. When examining ED symptomology and relationship status in 314 ever-married and never-married women, Wiederman and Pryor (1997b) found that once age was controlled for, marital status was unrelated to diagnosis or symptom severity. On the other hand, when Bussolutti et al. (2002) controlled for age effects across a sample of 332 patients, they found that those living with a stable partner exhibited greater ED symptomology, higher perfectionism, and greater weekly frequency of purging than those who were not cohabiting with their intimate

partner. The authors suggested couple conflict and discussion may trigger and maintain the ED (Bussolutti et al., 2002). The partner may be uncertain how to preserve the relationship and help the patient without extreme conflict or avoidance (Winn et al., 2004). The patient's understanding of these behaviors can threaten the secrecy, intimacy, and protection the patient has with her ED, thus increasing symptom severity (Newton et al., 2005). These findings suggest the couple relationship is related to ED symptomology and symptom distress.

The Marital Relationship.

Other authors agree that the marital relationship itself is an important context for maintaining the eating disorder (Barrett & Schwartz, 1987). In addition to creating distress, the couple relationship may help decrease symptom severity. According to a grounded-theory dissertation, women with EDs reported their intimate relationship helped provide motivation to seek treatment and recover, a source of emotional and financial support, a decrease in secrecy, and a sense of purpose with the partner and/or children (Kenyon, 2007). Another study of 332 patients indicated that those in a partnered relationship exhibited more motivation to change and seek treatment (Bussolutti et al., 2002). In a follow-up study of 70 women 10 years post treatment, having a supportive partner was the most commonly reported factor related to recovery (Tozzi, et al., 2003). These studies indicate the couple relationship plays a role in decreasing symptomology and/or providing motivation to change. However, they did not directly address the specific daily or routine partner behaviors or couple interactions considered supportive or related to these changes.

Some studies have been more purposeful in exploring the dynamic of couple relationships in women with EDs. Newton and colleagues (2005; 2006) reported on the experiences of 11 women with AN in intimate relationships. They described an "engagement and

distancing flux" (p. 324) with regard to intimate partner relationships (Newton et al., 2005). Participants experienced a desire to gain attention and attraction from their partners via the eating disorder, indicating that symptom severity may increase if the patient does not perceive sufficient partner attention. Women also needed to feel understood, supported, heard, and listened to. They feared feeling judged, rejected, and unknown by their partner (Newton et al., 2005, 2006). Establishment of connection and trust through self-disclosure and partner support was integral in maintaining the relationship, but no connection was made between these activities and ED symptom severity (Newton et al., 2005, 2006). Instead, patients reported using the ED for protection, secrecy, and to avoid emotional risks (Newton et al., 2005). Kenyon (2007) also found that the eating disorder became something special and intimate for the patient, which created barriers in intimacy-building with her partner. Patients may become more absorbed in ED symptomology as a way to not experience perceived partner rejection, misunderstanding, or conflict. Indeed, other research has examined conflict resolution and communication and found patients have few problem solving skills and admit to using their ED to avoid conflict.

Communication/Conflict Resolution.

Another body of research has focused on communication and conflict resolution in women with EDs. In a study comparing couple communication among couples with EDs, maritally distressed couples, and non-distressed couples, investigators found that couples with EDs are less likely than maritally distressed couples to start negative escalations, but are also less likely to reciprocate positive nonverbal cues than non-distressed couples during conflict. They may edit negative messages during conversations, but use less positivity and meta-communication about specific behaviors and situations related to problems (Van den Broucke et al., 1995). If communication about specific problems causes the patient to feel threatened by

perceived partner rejection or feeling misunderstood (Newton et al., 2006), she may not engage in this type of communication or be less positive during the conversation. She may also retreat into ED symptoms to avoid the emotional risk of discussing relationship problems (Newton et al, 2005).

Others have noted that patients are similar to women seeking marital therapy in terms of possessing few problem solving skills and degree of conflict withdrawal (Van Buren & Williamson, 1988). Problem solving skills in this population may be characterized by self-protection via increasing ED symptoms. Van Buren and Williamson (1988) suggested that dealing with unsatisfactory and distressed marital relationships can affect the amount of stress the patient experiences, which may increase symptom severity, thus impacting disease course and/or outcome. Another report described purposeful increases in binging and purging behaviors to avoid directly addressing relationship conflict (Levine, 1988). This literature suggests that patient/partner interactions are related to symptom severity, highlighting a need for a more thorough investigation of the relationship between specific routine partner behaviors and symptom severity.

Summary

Research suggests that women with EDs often struggle with perceiving social functioning and intimate relationships as supportive, secure, and non-threatening. Thus, the intimate relationships of women with EDs offer a context for ED symptomology to worsen or improve based on the patient's understanding of partner support, her ED, and how they interact. Relationship status, patient/partner interaction, communication, and conflict resolution all appear to be related to ED symptom severity even though research is scarce and underdeveloped. More emphasis has been placed on exploring the connection between deficits in relationship

functioning and ED symptomology as opposed to examining patients' understanding of commonly used partner behaviors that may be linked with fluctuations in symptom severity and relationship quality. Overall, this research is limited in that it is older, mostly consists of smaller sample sizes, utilizes clinical case histories and reviews, screens for ED symptomology and diagnoses in community samples, and very little is conducted in the United States (e.g., Dally, 1984; Heavey et al., 1989; Newton et al., 2005, 2006; Van Buren & Williamson, 1988; Van den Broucke et al, 1995). These practices limit generalizability, statistical power and methodological choices. For these reasons, more exploration is needed to uncover specifically what types of partner behaviors and patient/partner interaction influence symptom severity in patients with adult eating disorders.

The Present Study

This study examines the proposed link between eating disorder symptomology and intimate partner behaviors. Since ED symptoms wax and wane, there may be periods when symptoms are present, but the patient feels they are under control and not adversely affecting his/her life. On the other hand, there may be time periods where the severity increases and the patient finds them disturbing and problematic (Löwe et al., 2001). It is unclear whether patients' perceptions of their partners' behaviors are related to symptom severity during these episodes of symptom distress and symptom alleviation. Research suggests interaction between poor martial functioning and increases in symptom distress, but does little to identify specific behaviors related to the oscillation of ED symptoms. Therefore, this investigation attempts to gain an understanding of the co-occurrence of ED symptom severity and partner support variables. This study fills a few of the methodological and theoretical gaps in the literature. First, the study uses a calendar methodology to examine symptom severity and partner support over time. Participants

report both degree of partner support and specific helpful and unhelpful partner behaviors at three time points. The sample is split by diagnosis to make comparisons between AN and BN. Finally, the study utilizes a symbolic interactionist perspective to offer a theoretical perspective to the literature.

Research Questions.

1. Do rankings of symptom distress and partner support change over time?
2. Do changes in symptom distress over time occur independently of partner support?
3. Does type of helpful and unhelpful behaviors change over time?
4. Does symptom distress vary in relation to the type of helpful and unhelpful partner behaviors over time?
5. Are there differences in questions 1-4 among patients with anorexia and those with bulimia?

CHAPTER 3

Methods

In the following section, sample criteria are delineated, followed by a discussion of sample recruitment. A symbolic interactionist perspective suggests the importance of examining perceptions of behaviors and interactions. Therefore, an event history calendar (EHC) methodology is chosen because it allows the researcher to follow specific sequences and patterns of eating disorder (ED) symptomology and perceived partner behaviors over time and increases the accuracy of participants' recall. An examination of EHC's usefulness in memory retrieval, design, and psychometric properties is offered. Next, the use of the EHC for the present study is explained. Preliminary statistical analyses include coding of partner behaviors and ED symptoms, followed by attrition analyses to determine whether data are missing at random. Lastly, the primary analyses determine whether symptom distress and partner support behaviors vary over time and whether symptom distress varies in relation to partner support over time. These are examined in the sample as a whole and between those with AN and those with BN.

Sample

Participants consisted of 34 females who filled out an online calendar. The calendar measured participants at three monthly time points. Two participants did not complete the three months. One of those participants had only been in a committed relationship for 2 months, and it is unclear why the other only filled out 1 month. Demographic information is available for 27 participants. The sample had a large range of relationship history and ED history values (e.g., participant age= 56 years old to19 years old; length of time with an ED= 15 years to 5 years). To

offer a clear description, Table 1 offers both median and mean scores are for all variables. To determine if there were significant differences among responses from those with AN and BN, independent samples *t* tests were run for continuous variables and Pearson's chi-square tests were run on categorical variables. The majority of these were non-significant. Significant findings are reported with the corresponding variable.

Table 1. *Comparisons of Mean and Median Scores of Demographic and Eating Disorder Variables*

Variable	***Mean (SD) (n= 27)***	***Median (Range) (n=27)***
Demographics		
Participant Age	30.09 (10.52)	26.00 (19 - 59)
Partner Age	34.74 (12.68)	30.00 (20 - 64)
Length of relationship (years)	6.04 (8.15)	2.00 (1 mo - 36 yrs)
Eating Disorder		
Length of Current Diagnosis (years)	8.78 (9.61)	5.00 (under 1 yr - 34)
Age at Onset of ED Patterns	17.41 (7.49)	16.00 (7 - 41)
Age at First Diagnosis	23.07 (10.04)	19.00 (10 - 46)
Number of Different Times Diagnosed with an ED	1.93 (1.71)	1.00 (1 - 7)
Number of Times in Treatment	2.77 (2.18)	2.00 (0 - 7)
BMI-AN	18.46 (2.54)	18.11 (15.22 - 23.37)
BMI-BN	22.46 (4.14)	21.07 (18.64 - 34.43)

Median participant age was 26.00, and partner age was 30.00. Median length of relationship was 2.00 years. The majority of participants were not married (58.8%), living with

their partner (67.6%), did not have children (80.0%), had at least a college degree (62.9%), were employed at least part time (61.6%) and had a yearly combined family income greater than $20,000 (38.4%). Aside from one African American woman, all identified as Caucasian and two did not have health insurance.

At time 1, 52.9% (*N*=18) were diagnosed with anorexia nervosa. The participant who only filled out one month was diagnosed with AN as was the participant who had only been in a relationship for 2 months. The median number of years with the current diagnosis was 5.00. Just under half the participants reported AN as their first ED diagnosis (48.1%), approximately one quarter reported BN or eating disorder not otherwise specified (EDNOS). The most common first eating disordered patterns were restricting or binging and purging. The median age at onset of ED patterns was 16.00 and median age at first diagnosis was 19.00. Two-thirds of participants reported other mental health diagnoses; depression and anxiety were the most common. Other diagnoses included posttraumatic stress disorder, obsessive compulsive disorder, and bipolar II. Three quarters of participants were currently in ED treatment; outpatient (71.9%) and individual treatment (61.8%) were the most common. Median body mass index (BMI) at T3 (most recent month) for those with anorexia was 18.11 and 21.07 for those with bulimia. An independent samples *t* test indicated BMI difference was significant $t(25)= -3.10$, $p<.01$. BMI under 18.5 is considered underweight, and 18.5-24.9 is considered normal. These findings are consistent with diagnostic criteria, indicating that BMI for those with AN is underweight and those with BN is within normal limits (APA, 2000).

Procedure

Sample criteria included: 1) female; 2) age 18 years or older; 3) clinically diagnosed with AN or BN; 4) in a committed romantic relationship; and 5) no DSM-IV Axis II disorders.

Participants were recruited via purposive sampling through national eating disorder treatment centers, therapists who specialize in eating disorder treatment, university campuses, and online social networking sites aimed at the prevention, treatment, and awareness of eating disorders or mental illness. Participants followed an online link to an introduction, informed consent, and survey. They completed the survey once. To determine study eligibility, participants provided the following information: age, diagnosis, treatment status, relationship status, gender. Height was also reported here. Height was necessary to calculate body mass index (BMI). It was repetitive to record height in the calendar, and fewer participants filled out this variable when it was included in the demographic questionnaire. Interested participants could leave their contact information, which was not attached with their responses. Compensation included a drawing for one of eight $25 gift cards.

Research Design and Measure

A self-administered online event history calendar (EHC) (Belli, James, Van Hoewyk, & Alcser, 2009) was used to gather information about patients' experiences of their eating disorder and their intimate relationship. The calendar history obtains linked information in life context. It allows researchers to see patterns, relationships, behavioral trends, and facilitate participant perception and understanding (Martyn, 2009). For example, EHCs have been used to assess trends in adolescent risky behaviors, childhood experiences associated with adult health outcomes, and patterns of domestic violence (Belli, et al., 2009). Specifically, it has been suggested that patterns of disordered sleep, elimination, and eating could be retrieved more easily using EHCs (Martyn & Belli, 2002). The EHC is calendar grid wherein the columns represent time units and the rows gather information regarding research-specific domains (e.g., eating disorder symptoms) (See Appendix E). Thus, the researcher is able to see what specific

events or behaviors co-occurred within a specific time frame. EHCs are considered to be optimal for memory retrieval due to their ability to cue specific memory mechanisms.

Event history calendars and memory retrieval.

Event history calendars are used to address retrospective data collection problems typically encountered with standardized question-list (Q-list) methods. Concerns have been raised regarding Q-list's abilities to optimize responses to factual questions, especially in retrospective reports (Belli, Shay, & Stafford, 2001). Problems arise from difficulty in memory retrieval. Whereas Q-list methods only utilize one form of memory cuing, top-down, EHC methods rely on cuing from the three mechanisms found in a person's autobiographical memory: top-down, sequential, and parallel cuing. Top-down cuing refers to the nested relationship among the types of memories. Those at the top index each level of memory located below them. For example, within the domain of ED symptoms, one might collect information first about changes in life events (e.g., moving or career change) that precipitated symptoms before asking about symptoms. "Sequential cuing refers to the chronological sequencing of events within the same domain on the basis of what happened earlier and later in time" (Belli et al., 2001, p. 50). Respondents might be asked to report on periods of time when their symptoms were more or less stable in their severity. This would help the respondent recall specific symptoms within those time periods and provide information on the sequencing of their behaviors. Lastly, parallel cuing is the associations that occur across different themes or domains. For example, a change in body image satisfaction or relationship problems might impact degree of caloric restriction.

These three mechanisms are linked with autobiographical memories and their interrelationships and set within a hierarchical memory structure (Belli, 1998; Belli et al., 2001). At the top of the hierarchy are lifetime memories, which characterize temporal changes in self-

concept and the thematic divisions of autobiographical memory that are important in determining a sense of self (e.g. student, wife, sister, etc). General event memories are in the middle of the hierarchy and are composed of memories for extended (e.g., period of time in school) and summarized events (e.g. "We visited their house every summer", "I worked for so-and-so"). Lastly, specific events characterize the bottom of the hierarchy. Specific events are catalogued by extended or summarized events (Belli et al., 2001).

EHC use & design.

EHCs have been used to study the timing, occurrence, and sequencing of a variety of life events. Data have been generated regarding specific activities, behaviors, events, and transitions occurring over time (Martyn & Belli, 2002). They have been recommended for use of health risk trajectories and transitions (Caspi, Moffit, Thornton, Freedman, Amell, Harrington et al., 1996). For this reason, they are an optimal choice for following patterns of ED symptomology and partner interactions over specific time periods. EHCs can be self-administered or administered by an interviewer. If the EHC is self-administered, it has been suggested the instructions be thorough and easy to understand.

The EHC is designed by the researcher to specifically address research aims. It consists of a calendar grid that provides a set of timing cues in columns labeled by age and time unit (e.g., day, week, month, year) at the top of the calendar. Time units are chosen to meet data needs (e.g., monthly tracking of ED symptomology and perceived partner behaviors). The rows are labeled by specific domains relevant to the research (e.g., ED symptom severity, helpful and unhelpful partner behaviors) (Martyn & Belli, 2002). Only those domains that are most important to the research should be included because of the large amount of data. Domain choices are informed by the literature and research aims. The domains can be labeled

horizontally on both the left and right sides of the grid for easy reference. The domains should be listed in order of those that will be easiest to recall and least threatening (e.g., age, relationship history, employment status). Following these domains should be those activities, behaviors, or events in which the researcher is most interested (e.g., ED treatment history, and ED symptom severity). Furthermore, if the EHC is self-administered, it is important to include specific memory probe questions or items throughout the interview guide to facilitate recall (Martyn & Belli, 2002). For example, in the current study, before recalling ED symptoms, participants are asked to remember important events or occurrences associated with those symptoms. Currently, computer-assisted interviewing EHCs (CAI-EHC) have been created. These have been created to ease some of the disadvantages to paper and pencil EHCs such as eliminating transcription and data entry errors and costs (Belli et al., 2009). The current study is piloting the use of a CAI-EHC within the ED population.

EHC psychometric properties.

Because EHCs utilize all three memory cuing mechanisms, research indicates they have a high validity and reliability regarding retrospective data collection. This methodology helps participants relate past events to the timing of others, especially when they are asked to recall sequential events in detail (Freedman, Thornton, Camburn, Alwin, & Young-DeMarco, 1988). EHCs demonstrate high agreement when comparing their reports to those found in survey reports obtained one year earlier (Belli et al., 2001). Freedman and colleagues reported high agreement (91%) between an EHC conducted five years after initial survey (Q-list) administration (Freedman et al., 1988). Further evidence of EHCs promoting accurate recall up to 18 years earlier was found by Furstenberg, Brooks-Gunn, and Morgan (1987) whose reliability estimates ranged from α=.68-.85. These studies mostly examined demographic information in domains

such as marriage, school, and employment. EHCs have also been used in mental health research to document the accuracy of recall and reporting in mental disorders. For example, one study examined how the course of psychopathology interacts with life history (Lyketsos, Nestadt, Cwi, Heithoff, & Eaton, 1994). Kessler and Wethington (1991) used an EHC to document the enhanced recall of the timing of depressive episodes and identification of potential trigger events. Because of the similarities between these studies and the current investigation, EHCs should also be useful in improving recall of ED symptomology and partner behaviors during periods of symptom alleviation and distress.

Present study.

This study pilots the use of self-administered computer assisted EHCs to examine the relationship between partner support and ED symptoms. Participants were given information about the purpose of calendar studies, instructions, and an example of how to fill out the survey. For this study, participants were asked to recall average symptom severity and helpfulness of partner behaviors over the past three months, beginning with the most recent month. To understand change over time, the most recent month is time 3. In order to establish context and temporal cues, demographic information related to relationship history and employment status were gathered first. Information regarding important events and treatment history followed. Then participants reported symptoms experienced most and least frequently, most and least distressful symptoms and ranked these and their overall average monthly symptom distress on a scale 1-10 (10= *most distressing*). Next, they reported partner behaviors that were helpful and unhelpful and ranked these on a scale 1-10 (10= *most helpful*). Lastly, they ranked overall level of partner support and relationship quality from 1-10 (10= *highest*). The demographic questionnaire was at the end (See Appendix A-E).

Independent Variables

Partner support variables.

Partner support variables include helpful and unhelpful partner behaviors, the ranked helpfulness of these behaviors (1-10), and overall rank of partner support and relationship quality (1-10).

Demographic variables for each month.

The following demographic variables established context for each month: length of current relationship in years or months, cohabitation status, marital status, whether participants were separated from their current partner, employment status, important events and occurrences. Treatment related variables included treatment type (inpatient, outpatient, residential, hospitalization) and treatment format (individual, couple, family, group).

Other demographic and treatment variables.

The following demographic variables were assessed in a questionnaire at the end of the survey: date of birth, partner date of birth, marital status, length of current romantic relationship in years and months, cohabitation status, whether participants have ever separated from their current partner, number of times married, number of times divorced, parental status, ages of children, race/ethnicity, education level, employment status, total gross household income, and insurance status. Other ED variables assessed on the demographic sheet included: current primary ED diagnosis, length of current diagnosis (years/months), age of first ED patterns, description of first ED patterns, age at first ED diagnosis, first ED diagnosis, number of ED diagnoses, type of different diagnoses and corresponding age, number of times in treatment, length of time for each treatment (days/weeks/months), and other current mental health diagnoses.

Dependent Variables

Symptom severity.

Participants recorded which symptoms occurred the most and least during each month, the distress level of these symptoms, and overall level of symptom distress (scale 1-10; 10=*most distressing*). Body mass index was also calculated for each month.

Statistical Analyses

Some participants filled out the entire survey (*N*=34), whereas others completed all but the demographic questionnaire (*N*=27). Chi square analyses were run using information gathered from the most recent month (diagnosis, treatment status, relationship status, cohabitation status, employment status, treatment type, treatment format) to assess whether data appeared to be missing at random. All tests were nonsignificant indicating that, as far as could be determined, data were missing at random. Independent samples *t* test were also run using age, ranks of symptom distress, and ranks of partner support. Overall level of symptom distress was significant $t(29)= 2.28$, $p<.05$. Those who filled out the whole survey (*N*=27) (*M*=6.76, *SD*= 1.76) experienced less overall symptom distress than those who did not complete the entire survey (*N*=34) (*M*=8.67, *SD*= 2.16). The remaining *t* tests were nonsignificant.

Data Coding.

According to Bakeman, Adamson, & Strisik (1995), event codes ought to be mutually exclusive and exhaustive. An event is segregated; a "bounded unit" (p. 281) that shares no properties with other events (Bakeman et al., 1995). The investigator specifies the rules and definitions of such events. In this investigation events are coded on two dimensions: helpful partner behaviors and unhelpful partner behaviors. Within each dimension, there are "levels" (p. 281) that further specify the codes (Bakeman et al., 1995). First, the data were coded using

different levels within the codes. However, including levels of the unhelpful behaviors codes in some analyses reduced the cell counts. Only the larger codes were used in those statistical analyses. The codes and levels are reported in Table 2.

Table 2. *Coding of Partner Support*

Code	Description	Example
	Helpful Partner Behaviors	
0	*Nothing*	"nothing", "n/a"
1	*Encouragement and Support*	
	1.1 Encourage positive behaviors	"encouraged me to eat"
	1.2 Provide emotional support	"voiced his love and acceptance" "support me even though I started slipping"
	1.3 Participate/show interest in treatment	"asks how treatment's going"
2	*Communication*	
	2.1 Talk/offer advice	"talked to me", "communicated"
	2.2 Listen/no judgment	"listened to my underlying emotions" "doesn't judge me"
3	*Physical Affection/Comfort*	"held me in his arms"
4	*Directly Addressing the Eating Disorder*	
	4.1 Allow patient to have ED symptoms	"allowed me to cry", "would let me have space to calm down"
	4.2 Help with food	"cooked for me", "helped me add in fear foods"
	Unhelpful Partner Behaviors	
0	*Nothing*	"none", "nothing"
1	*Pulling Away*	"might to be around whenever I was feeling panicked or upset" "too busy for support at times when I needed it", "seemed uninterested in me"
2	*Create Conflict*	
	2.1 Complain/show frustration	"got angry when I didn't eat or exercised too much", "get visibly

		frustrated"
	2.2 Comment/criticize patient	"questioned and criticized"
3	*Guilt Patient*	"said he was so sad for me, said I was taking years of our life together, said I was breaking his heart"
4	*Focus on food*	
	4.1 Control food choices/intake	"coerced me into eating something" "take me out to eat", "tried to be the food police"
	4.2 Comment/criticize food choices/intake	"questioned eating habits"

Across the three time points, participants reported 164 helpful partner behaviors and 117 unhelpful behaviors. The 164 helpful behaviors were coded into 5 codes and 7 levels. The most common helpful partner behaviors included providing emotional support (24.4%), talking (15.2%), and listening (14.6%). There were 5 codes and 4 levels of the 117 unhelpful behaviors. The most frequently used unhelpful partner behaviors were pulling away (23.9%), negative comments or criticizing the patient (15.5%), and complaining/showing frustration (15.4%). When split by diagnosis, the use of certain behaviors differed- in the table, the larger percentage was bolded to clarify comparisons between diagnoses. See Table 3 for a frequency distribution of all coded variables.

Table 3. *Percentage of Helpful and Unhelpful Partner Behaviors*

Helpful Behavior	**% *n*=164**	**AN% *n*=107**	**BN% *n=57***	**Unhelpful Behavior**	**% *n*=117**	**AN% *n*=65**	**BN% *n*=52**
Nothing	7.9%	2.8%	**17.5%**	*Nothing*	12.8%	**13.8%**	11.5%
Encouragement and Support				*Pulling Away*	23.9%	12.3%	**21.2%**
Encourage positive behaviors	10.4%	10.3%	**10.5%**				
Provide emotional support	24.4%	20.6%	**31.6%**	*Create Conflict*			

Participate/show interest in treatment	5.5%	4.7%	**7.0%**	Complain/show frustration	15.4%	**18.5%**	11.5%
				Comment/criticize patient	15.4%	**16.9%**	13.5%
Communication							
Talk/offer advice	15.2%	**20.6%**	5.3%	*Guilt Patient*	10.3%	**13.8%**	3.8%
Listen/no judgment	14.6%	**17.8%**	8.8%				
				Focus on Food			
Physical Affection/Comfort	3.7%	**4.7%**	1.8%	Control food choices/intake	11.1%	10.8%	**11.5%**
				Comment/criticize food choices/intake	11.1%	**13.8%**	7.7%
Directly Addressing the Eating Disorder							
Allow patient to have ED symptoms	7.3%	**8.4%**	5.3%				
Help with food	11.0%	10.3%	**12.3%**				

CHAPTER 4

Results

In the following section, statistical analyses and results are reported for each research question. Questions 1-2 examine the relationship between rankings of symptom distress and partner support. Questions 3-4 study the relationship between types of partner behaviors and symptom distress levels. The last question splits the sample by diagnosis (AN versus BN) and compares the groups across questions 1-4. Before reporting the results it is noted that analyses were conducted to maintain the greatest cell sizes and statistical power, and allowed all available data to be analyzed (e.g., four one-way ANOVAs instead of a two-way repeated measures MANOVA). Because of the exploratory nature of this study, it was also deemed important to explore and report trends that may approach statistical significance. Reporting these trends offers a more thorough description of the data and maintains statistical assumptions.

Research Questions

1. Do rankings of symptom distress and partner support change over time?

ANOVAs.

Four one-way ANOVAs were conducted with the factor being time (T1-T3) and the dependent variables being the monthly levels of: most distressing symptoms, overall distress, helpfulness of helpful partner behaviors, and overall rank of partner support. The means and standard deviations for scores of symptom distress are presented in Table 4 and in Table 5 for partner support. The results for the ANOVAs were not significant (see Table 6), indicating that

most distressing symptoms, overall symptom distress, helpfulness of helpful behaviors, and overall partner support do not change over time.

Table 4. *Means, Medians, Standard Deviations, and Range for Symptom Distress Variables*

Symptom	***Month (N)***	***Mean (SD)***	***Median (Range)***
BMI*	1 (25)	20.63 (3.88)	20.17 (15.66 – 34.29)
	2 (25)	20.57 (4.21)	19.97 (15.66 – 36.58)
	3 (28)	20.75 (4.69)	19.88 (15.22 – 34.92)
Distress Level of Most Distressing Symptoms	1 (31)	7.39 (2.06)	8.00 (3 – 10)
	2 (32)	7.48 (1.73)	8.00 (4 – 10)
	3 (32)	7.68 (1.64)	8.00 (4 – 10)
Distress Level of Least Distressing Symptoms*	1 (23)	3.26 (2.63)	2.00 (0 - 10)
	2 (22)	3.45 (2.65)	3.00 (0 - 10)
	3 (25)	3.40 (2.40)	3.00 (0 - 10)
Overall Symptom Distress Level	1 (30)	6.97 (2.31)	7.00 (2 – 10)
	2 (30)	7.30 (1.84)	7.50 (4 - 10)
	3 (33)	7.10 (1.99)	7.00 (3 – 10)

*Friedman tests were run to account for skewness

Table 5. *Means, Medians, Standard Deviations and Range for Partner Support Variables*

Support	***Month***	***M (SD)***	***Median (Range)***
Helpfulness of Helpful Behaviors	1 (32)	6.22 (3.61)	7.50 (0 – 10)
	2 (33)	6.41 (3.11)	7.00 (0 – 10)
	3 (34)	6.34 (3.33)	7.00 (0 – 10)
Helpfulness of Unhelpful Behaviors*	1 (26)	3.00 (3.29)	1.00 (0 – 10)
	2 (29)	2.55 (2.90)	1.00 (0 – 10)
	3 (29)	2.31 (2.54)	1.00 (0 – 10)
Overall Relationship Support	1 (32)	6.44 (3.26)	7.50 (0 – 10)
	2 (34)	6.69 (3.11)	8.00 (0 – 10)
	3 (34)	6.63 (3.23)	8.00 (0 – 10)

Overall Relationship Quality*	1 (32)	8.00 (2.93)	7.00 (0 – 10)
	2 (34)	8.00 (2.73)	7.44 (0 – 10)
	3 (34)	8.00 (2.36)	7.88 (1 - 10)

*Friedman tests were run to account for skewness.

Table 6. *One-Way ANOVAs for Effects of Time (Months) on Symptom Distress and Partner Support Variables*

Variable	***Wilks's λ***	***F(df$_1$,df$_2$)***	***p***	***η^2***
Most Distressing Symptoms	.98	.31 (2,29)	.74	.02
Overall Symptom Distress	.96	.66 (2,28)	.52	.05
Helpful Partner Behaviors	.99	.15 (2,30)	.86	.01
Overall Partner Support	.97	.54 (2,30)	.59	.04

Note. η^2= effect size

Friedman tests.

Four non-parametric Friedman tests were also run. Time was the factor (T1-T3) and the dependent variables were monthly reports of: body mass index (BMI), distress level of least distressing symptoms, helpfulness of unhelpful partner behaviors, and overall rank of relationship quality. See Table 4 for median scores and standard deviations for symptom distress variables and Table 5 for partner support variables. The results for the Friedman test of overall relationship quality was significant, χ^2 (2, *N*=32)= 9.00, *p*<.05. The Kendall coefficient of concordance was .14, indicating moderate differences among the three scores. Follow-up pairwise comparisons used a Wilcoxon test with the LSD procedure to control for Type I error at the .05 level. The median rank of relationship quality at time 3 (*N*= 34) was greater than at time 1 (*N*= 32) *p*<.01, and time 2 (*N*=34) *p*<.05. Time 2 relationship quality was not significantly greater than at time 1 *p*=.053. It appears that relationship quality increases over time. All other tests were not significant. See Table 7 for Friedman tests.

Table 7. *Friedman Tests for Effects of Time on Symptom Distress and Partner Support Variables*

Variable	χ^2	(df_1,N)	***p***
Body Mass Index	.51	(2,25)	.78
Distress of Least Distressing Symptom	1.20	(2,22)	.55
Unhelpful Partner Behaviors	.07	(2,26)	.97
Overall Relationship Quality	9.00	(2,32)	**.01***

***= *p*<.05**

General trends.

The following observations are general trends and not statistically significant. All measures of symptom distress increase over time. The average level of the most distressing symptoms is higher than overall symptom distress. Overall rank of partner support and helpfulness of helpful behaviors increase over time, and the increase is greatest from time 1 to time 2. Additionally, partner support and helpfulness of helpful behaviors do not change across time. Unhelpful partner behaviors become less helpful (perhaps more bothersome) over time. Overall rank of relationship quality is higher than rank of partner support and helpfulness of helpful partner behaviors. Figures 1 and 2 demonstrate these changes.

Figure 1. *Participant Rankings of Average Monthly Symptom Distress*

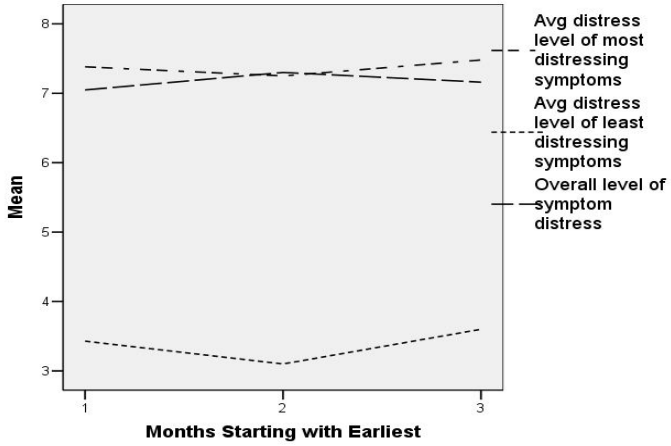
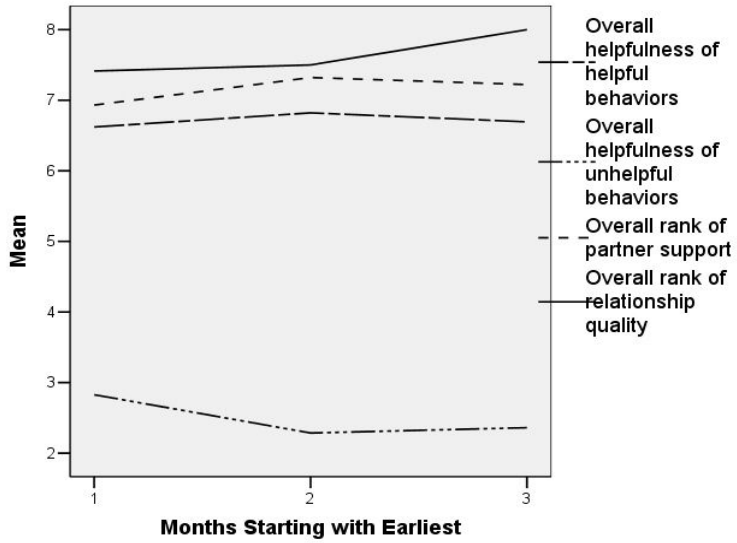


Figure 2. *Participant Rankings of Average Monthly Partner Support*



2. Do changes in symptom distress over time occur independently of partner support?

Correlation coefficients.

Two analyses were used to determine whether levels of symptom distress and partner support occur independently over time. First, correlation coefficients were run among the symptom distress and partner support variables from all times. Each symptom and type of partner behavior was matched with its corresponding distress or helpfulness level. For example, if a participant recorded 3 symptoms that occurred most frequently and the corresponding distress level was 10, each of those symptoms was recorded as a 10 and used in the analysis. The Bonferroni method controlled for Type 1 error across the 16 correlations. A *p* value less than .003 (.05/16) was required for significance. The results demonstrate BMI was negatively correlated with overall rank of relationship quality; low BMI is related to high relationship quality. Some of the symptom distress variables were significantly associated with each other as were some of the partner support variables (see Table 8 for all correlations and significance

levels). It was assumed that nonsignificant correlations indicated those symptoms had no relationship with partner support variables.

Table 8. *Pearson Correlations Among All Symptom Distress and Partner Support Variables*

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. BMI	-							
2. Distress Level of Most Distressing Symptoms	-.03 *(N=106)*	-						
3. Distress Level of Least Distressing Symptoms	.18 *(N=55)*	.25 *(N=69)*	-					
4. Overall Symptom Distress Level	**.28*** *(N=182)*	**.59*** *(N= 124)*	.30 *(N=73)*	-				
5. Helpfulness of Helpful Behaviors	-.23 *(N=122)*	.02 *(N=95)*	.20 *(N=67)*	-.03 *(N=141)*	-			
6. Helpfulness of Unhelpful Behaviors	-.16 *(N=93)*	.01 *(N=89)*	.12 *(N=62)*	-.04 *(N=107)*	.30 *(N=93)*	-		
7. Overall Partner Support	-.18 *(N=201)*	.01 *(N=136)*	.23 *(N=76)*	.02 *(N=232)*	**.56*** *(N=151)*	.19 *(N=113)*	-	
8. Overall Relationship Quality	**-.32*** *(N=201)*	.10 *(N=136)*	.20 *(N=76)*	.05 *(N=232)*	**.39*** *(N=151)*	.21 *(N=113)*	**.83*** *(N=251)*	-

***p*<.003**

ANCOVA.

The partner support variable significantly associated with the symptom distress variable was examined as a covariate to determine how it influenced symptom distress over time. One one-way univariate analysis of covariance (ANCOVA) was planned. Based on the correlations, the dependent variable was BMI and the independent variable was time (months 1-3). The covariate included rank of relationship quality. The homogeneity-of-slopes assumption was tested and indicated that the relationship between BMI and relationship quality did not differ significantly as a function of time $F(2,195)= .57$, $MSE= 7.38$, $p=.57$, partial $\eta^2= .01$. An

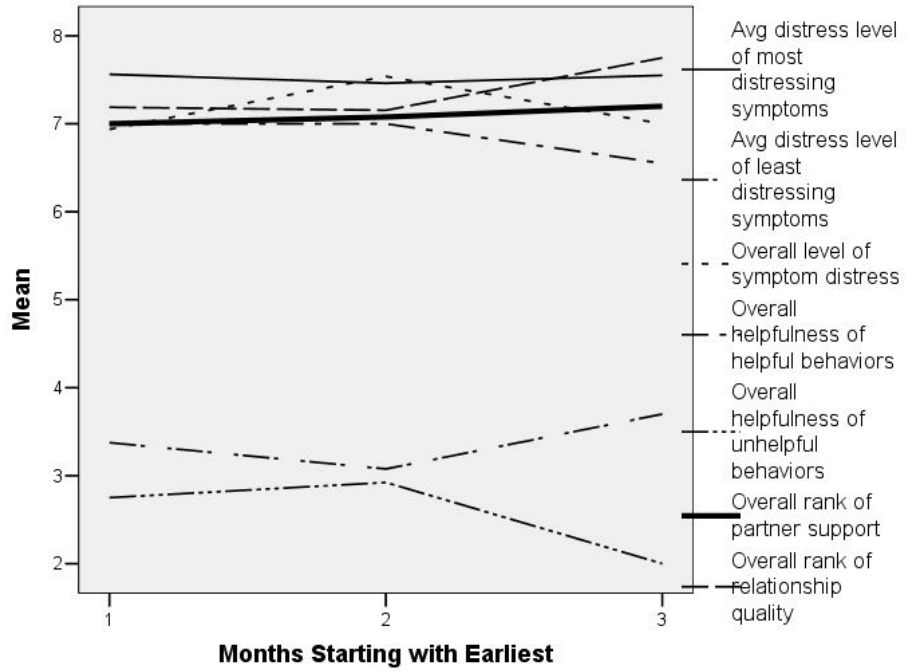
ANCOVA was conducted and not significant. The main effect for relationship quality was significant, accounting for approximately 11% of the variance in BMI. These findings suggest that time has no influence on BMI, holding relationship quality constant (see Table 9). Please see Figure 3 for an illustration of how all symptom distress and partner support variables vary together over time.

Table 9. *Analysis of Covariance of BMI as a Function of Time with Relationship Quality as Covariate*

Source	***df***	***SS***	***MS***	***F***	***Partial η^2***
Relationship Quality	1	308.43	308.43	**23.82***	.11
Time	2	28.88	14.44	1.12	.01
Error	197	2550.97	12.95		

***=$p<.01$**

Figure 3. *Participant Rankings of Average Monthly Symptom Distress and Partner Support Levels*



3. Does type of helpful and unhelpful behaviors change over time?

Two two-way contingency analysis tables evaluated whether types of helpful and unhelpful partner behaviors change over time. The codes for helpful behaviors were: nothing, encouragement and support, communication, physical affection/comfort, and directly addressing the eating disorder. None of these codes were found to be significantly related to time, Pearson χ^2=(8, *N*=164)= 2.32, *p*=.97. The codes for unhelpful partner behaviors were: nothing, pulling away, create conflict, guilt patient, and focus on food. These codes also had nonsignificant relationships with time, Pearson χ^2=(8, *N*=117)= 5.35, *p*=.72. The results indicate that type of helpful and unhelpful partner behaviors do not change over time.

4. Does symptom distress vary in relation to the type of helpful and unhelpful partner behaviors over time?

Helpful partner behaviors.

ANCOVAs are not recommended when the covariate is a categorical variable. In this instance the potential covariate, type of helpful partner behaviors, is categorical. Therefore, a two-way ANOVA was used. The codes were used instead of the specific levels because of low monthly frequency. The ANOVA evaluated the effects of time (months 1-3) and type of helpful partner behavior on overall symptom distress. The means and standard deviations for symptom distress as a function of these factors are presented in Table 10. The main effect for type of helpful partner behavior was not significant, *F*(4, 137)= 2.28, *p*=.06, partial η^2=.06. There was a nonsignificant effect for time *F*(2, 137)= .34, *p*=.71, partial η^2=.01, and a nonsignificant interaction between time and helpful partner behaviors *F*(8, 137)= .85, *p*=.56, partial η^2=.05.

Because the main effect for type of helpful behaviors was significant at the .06 level, it was further examined. Follow-up analyses of the main effect for helpful partner behaviors consisted of pairwise comparisons among all the types of helpful partner behaviors. A Tukey

HSD procedure controlled for Type I error. The results of this analysis indicated that directly attending to eating disorder symptoms tended to result in lower symptom distress scores than doing nothing helpful $p<.05$.

Table 10. *Means and Standard Deviations for Symptom Distress as a Function of Helpful Partner Behaviors*

Helpful Behavior	***Month (N)***	***M***	***SD***
Nothing	1 (3)	7.00	4.36
	2 (3)	9.67	.58
	3 (5)	9.40	.89
Encouragement/Support	1 (19)	7.26	1.97
	2 (21)	7.62	1.88
	3 (18)	7.44	2.71
Communication	1 (14)	6.36	2.17
	2 (16)	7.31	1.66
	3 (17)	7.24	2.17
Physical Affection/Comfort	1 (1)	10.00	*
	2 (2)	8.00	2.83
	3 (3)	7.00	3.61
Directly Attending to Eating Disorder Symptoms	1 (10)	7.20	1.87
	2 (10)	6.90	1.66
	3 (10)	6.10	2.18

*= no SD available because n=1
Medians and range are not included in this type of analysis, so they are not reported

Unhelpful partner behaviors.

The second (3x7) two-way ANOVA evaluated the effects of time and specific code levels of types of unhelpful partner behaviors on overall symptom distress. See Table 11 for the means and standard deviations for symptom distress as a function of time and unhelpful partner behaviors. The ANOVA indicated a significant main effect for type of unhelpful partner behavior, $F(6,90)= 4.32$, $p<.01$, partial $\eta^2=.22$. The main effect for time and the interaction effect

were not significant $F(6, 100)= .25$, $p=.78$, partial $\eta^2=.01$ and $F(6, 100)= .41$, $p=.96$, partial $\eta^2=.05$. Follow-up pairwise comparisons were completed among all the types of unhelpful partner behaviors. Type I error was controlled using a Tukey HSD test. The results of this analysis indicated that using guilt results in higher symptom distress scores than commenting/criticizing, complaining/showing frustration, and pulling away. It should be noted that across time the majority of unhelpful partner behaviors have distress score means of almost eight or greater. This indicates a high level of symptom distress among almost all unhelpful behaviors. Pulling away, complaining/showing frustration, and commenting/criticizing had the lowest average distress scores. See Figure 4.

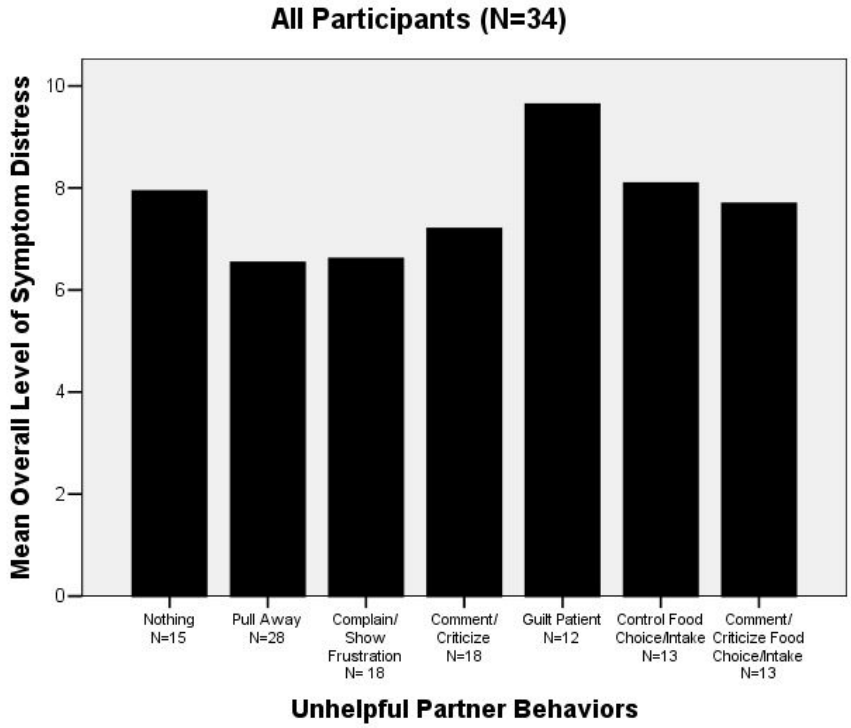
Table 11. *Means and Standard Deviations for Symptom Distress as a Function of Unhelpful Partner Behaviors*

Unhelpful Behavior	***Month (N)***	***M***	***SD***
Nothing	1 (4)	7.75	2.22
	2 (6)	7.67	1.63
	3 (5)	8.40	1.52
Pulling Away	1 (10)	6.70	2.54
	2 (9)	6.33	2.18
	3 (9)	6.56	2.70
Complain/Show Frustration	1 (5)	6.40	.89
	2 (7)	7.57	1.27
	3 (6)	5.67	2.66
Comment/Criticize	1 (3)	7.00	1.00
	2 (7)	7.43	1.62
	3 (5)	7.00	1.00
Guilt Patient	1 (4)	9.00	2.00
	2 (4)	10.00	.00
	3 (3)	10.00	.00
Control Food Choice/Intake	1 (3)	8.33	1.53
	2 (2)	8.50	2.12

	3 (6)	7.83	2.14
Comment/Criticize Food Choice/Intake	1 (3)	8.67	1.16
	2 (3)	7.67	2.52
	3 (7)	7.29	2.50

Medians and range are not included in this type of analysis, so they are not reported

Figure 4. *Mean Symptom Distress Levels and Corresponding Unhelpful Partner Behaviors*



5. Are there differences in questions 1-4 among patients with anorexia and those with bulimia?

Do rankings of symptom distress and partner support change over time?

ANOVAs.

To determine if there were differences between diagnosis in rankings of symptom distress and partner support over time, four two-way within subjects ANOVAs were conducted with the

factors as time and diagnosis, and the dependent variables were distress level of most distressing symptoms, overall distress level, helpfulness of helpful partner behaviors, and overall rank of partner support. Please see Tables 12 and 13 for the means and standard deviations for scores of symptom distress and partner support.

Table 12. *Means, Medians, Standard Deviations, and Range for Symptom Distress Variables*

Symptom	***Month***	***Anorexia***			***Bulimia***		
		N	***M (SD)***	***Median (Range)***	***N***	***M (SD)***	***Median (Range)***
BMI*	1	13	18.87 (2.57)	18.61 (15.66 – 23.37)	12	22.55 (4.24)	21.24 (18.08 – 34.29)
	2	13	18.71 (2.52)	18.60 (15.66 – 23.37)	12	22.59 (4.82)	20.78 (18.24 – 36.58)
	3	15	18.11 (2.54)	18.11 (15.22 – 23.37)	12	22.46 (4.14)	21.07 (18.64 – 34.43)
Distress Level of Most Distressing Symptoms	1	16	7.25 (2.41)	8.00 (3.00 - 10.00)	15	7.53 (1.69)	8.00 (5.00 - 10.00)
	2	16	7.65 (1.58)	8.00 (4.00 - 10.00)	15	7.40 (1.92)	8.00 (4.00 - 10.00)
	3	17	8.24 (1.25)	8.00 (3.00 - 10.00)	15	7.13 (1.85)	8.00 (4.00 - 10.00)
Distress Level of Least Distressing Symptoms*	1	13	2.69 (2.18)	2.00 (0.00 - 7.00)	9	4.00 (3.09)	3.50 (1.00 - 10.00)
	2	13	3.00 (2.31)	2.00 (0.00 - 8.00)	11	4.11 (3.10)	3.00 (1.00 - 10.00)
	3	14	3.21 (2.08)	3.00 (0.00 - 8.00)	15	3.64 (2.84)	3.00 (1.00 - 10.00)

Overall Symptom Distress Level	1	17	6.18 (2.40)	6.00 (2.00 - 10.00)	13	8.00 (1.78)	8.00 (5.00 - 10.00)
	2	17	7.35 (1.41)	8.00 (5.00 - 10.00)	13	7.23 (2.35)	7.00 (4.00 - 10.00)
	3	18	7.00 (1.64)	7.00 (4.00 - 10.00)	13	7.15 (2.41)	7.00 (3.00 - 10.00)

*Mann-Whitney *U* tests were run to account for skewness

Table 13. *Means, Medians, Range, and Standard Deviations for Partner Support Variables Over 3 Months*

Symptom	***Month***	***Anorexia***			***Bulimia***		
		N	***M (SD)***	***Median (Range)***	***N***	***M (SD)***	***Median (Range)***
Helpfulness of Helpful Behaviors	1	17	7.29 (3.27)	8.00 (1.00 - 10.00)	15	5.00 (3.68)	5.00 (0.00 - 10.00)
	2	17	7.06 (2.77)	8.00 (1.00 - 10.00)	16	5.75 (3.30)	6.00 (0.00 - 10.00)
	3	18	7.17 (2.92)	8.00 (0.00 - 10.00)	16	5.63 (3.52)	6.00 (0.00 - 10.00)
Helpfulness of Unhelpful Behaviors	1	13	2.77 (2.95)	1.00 (1.00 - 10.00)	13	3.23 (3.70)	1.00 (0.00 - 10.00)
	2	15	2.07 (2.05)	1.00 (1.00 - 9.00)	14	3.07 (3.61)	1.00 (0.00 - 10.00)
	3	15	2.00 (2.04)	1.00 (1.00 - 9.00)	14	2.64 (3.03)	1.00 (0.00 - 10.00)
Overall Relationship Support	1	17	7.65 (2.64)	9.00 (2.00 - 10.00)	15	5.07 (3.43)	5.00 (0.00 - 10.00)
	2	18	8.00 (2.00)	8.50 (4.00 - 10.00)	16	5.38 (3.42)	6.00 (0.00 - 10.00)

	3	18	7.78 (2.34)	8.00 (3.00 - 10.00)	16	5.50 (3.56)	6.00 (0.00 - 10.00)
Overall Relationship Quality	1	17	7.82 (2.48)	9.00 (2.00 - 10.00)	15	6.07 (3.20)	7.00 (0.00 - 10.00)
	2	18	8.39 (2.17)	8.50 (2.00 - 10.00)	16	6.38 (2.97)	7.00 (0.00 - 10.00)
	3	18	8.50 (1.82)	9.00 (3.00 - 10.00)	16	7.19 (2.74)	8.00 (1.00 - 10.00)

*Mann-Whitney *U* tests were run to account for skewness

Two of the two-way ANOVAs were significant. There was a significant main effect for diagnosis on helpfulness of helpful partner behaviors F (1,145)= 5.68, p<.05, partial η^2=.04. Pairwise comparisons were not possible because this analysis requires three groups; diagnosis has two. Therefore, follow-up analyses consisted of a *t*-test comparing the helpfulness of helpful behaviors between diagnoses. This analysis indicated there is a significant difference in helpfulness of partner behaviors t(149)= 2.36, p<.05. Those with AN report greater overall helpfulness (M=7.45, SD=2.47) of partner behaviors than those with BN (M=6.27, SD=3.68).

There was also a significant main effect for diagnosis on overall rank of partner support, F(1, 245)= 35.77, p<.01, partial η^2=.13. Again, a *t*-test was conducted as follow-up analysis. This result suggested significant difference in rank of partner support t(249)= 6.01, p<.01. Those with AN reported greater partner support (M=7.94, SD=2.13) than those with BN (M=5.80, SD=3.47). All other main effects and interactions were not statistically significant. This suggests that between diagnoses, there were no significant differences over time on distress level of most distressing symptoms and overall symptom distress level. Please see Table 14 for results of all two-way ANOVAs.

Table 14. *Two-Way ANOVAs for Effects of Time and Diagnosis on All Symptom Distress and Partner Support Variables*

			F	
Factors	***Most Distressing Symptoms*** **(N=136)**	***Overall Symptom Distress*** **(N=232)**	***Helpfulness of Helpful Behaviors*** **(N=151)**	***Partner Support*** **(N=251)**
Time	.13	.14	.23	.15
Diagnosis	2.78	3.01	**5.68***	**35.77***
Time x Diagnosis	1.33	2.80	.11	.67

***=p<.05**

Mann-Whitney U.

Four Mann-Whitney *U* tests were conducted to account for skewness on BMI, distress level of least distressing symptoms, helpfulness of unhelpful partner behaviors, and overall rank of partner support. The factor was time and the grouping variable was diagnosis. The dependent variables were the rankings of symptom distress (see Tables 12-13 for medians and range of symptom distress and partner support scores).

Results from the Mann-Whitney *U* tests indicated differences in rank of relationship quality during time 2 between women with AN and those with BN. At time 2, those with AN had a higher average rank than those with BN (see Table 14). This suggests that at time 2, those with AN (*N*= 18) ranked their relationship quality higher than those with BN (*N*=16). Differences in BMI were significant across the three time points; those with AN had significantly lower BMI. The remaining tests (distress of least distressing symptoms and unhelpful partner behaviors) were nonsignificant across the three time points. Table 15 reports results from all Mann-Whitney *U* tests.

Table 15. *Mann-Whitney U Tests of Effects of Time and Diagnosis On Symptom Distress and Partner Support Variables*

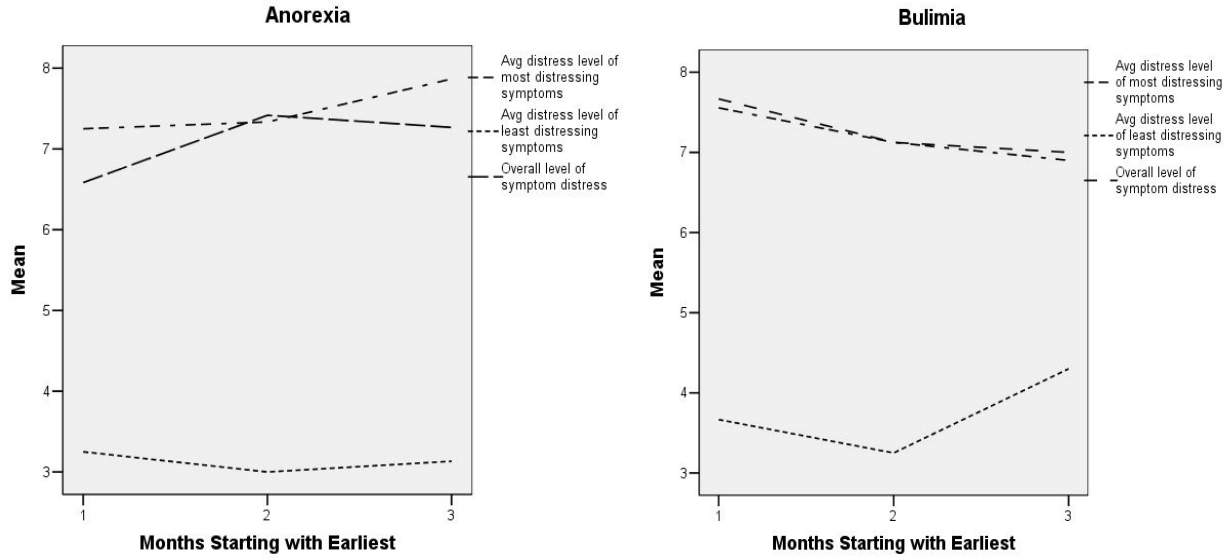
Variable	***Month***		***Anorexia***	***Bulimia***
		z	***Mean Rank***	***Mean Rank***
BMI	1	**-2.61***	9.31	17.00
	2	**-2.72***	9.15	17.17
	3	**-2.60***	11.00	19.17
Distress Level of Least Distressing Symptoms	1	-.98	10.81	13.55
	2	-.81	10.58	12.83
	3	-.06	12.93	13.09
Helpfulness of Unhelpful Behaviors	1	-.25	13.85	13.15
	2	-.24	15.33	14.64
	3	-.26	15.37	14.64
Overall Relationship Quality	1	-1.85	19.32	13.30
	2	**-2.46***	21.39	13.13
	3	-1.54	19.89	14.81

***=p<.05**

General trends.

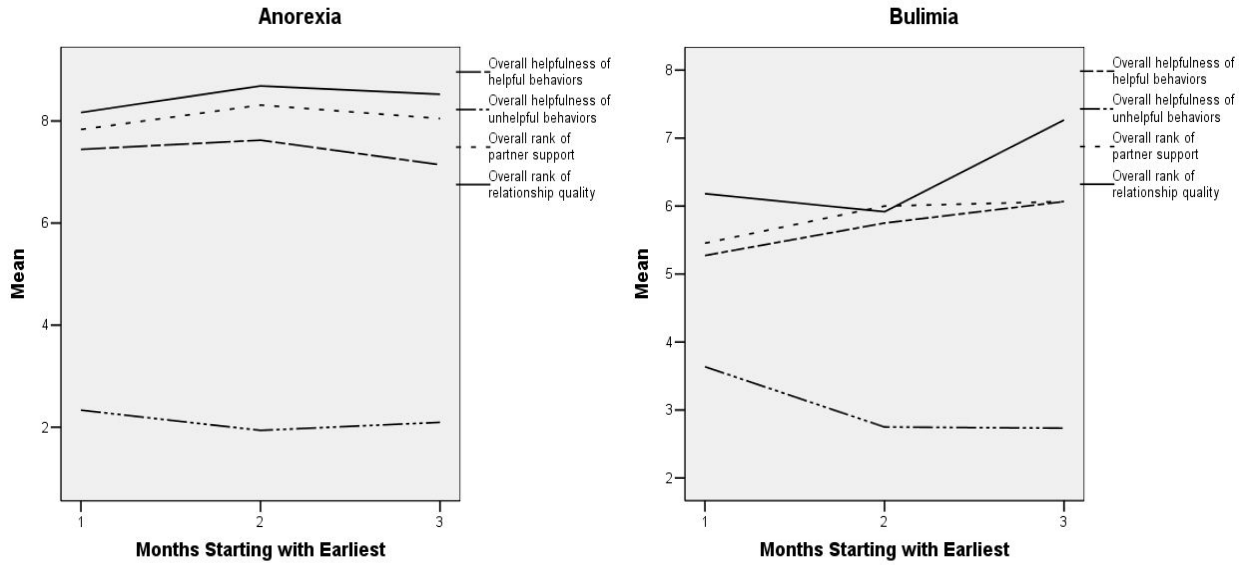
The following observations are general trends. Notably, most distressing symptoms increased in severity over time for those with AN whereas they decreased for those with BN. For those with AN, overall symptom severity increased over time and it decreased over time for those with BN. The interaction effect of time and diagnosis for overall level of symptom severity was not significant (p=.06). In the AN group, least distressing symptoms increased in severity by approximately 1 point from time 2 to time 3 after an initial decrease from time 1 to time 2. In the BN group, overall level of symptom distress was slightly higher than distress level of most distressing symptoms. For those with AN, the distress level of most distressing symptom was higher than overall symptom distress. See Figure 5 for graphs of these results.

Figure 5. *Average Rank of Symptom Distress Over Time Between Diagnoses*



Regarding support variables, those with AN rated helpful behaviors, partner support, and relationship quality higher than those with BN across all time points. Unhelpful partner behaviors were ranked more helpful by the BN group than the AN group across time. Generally, for both diagnoses, relationship quality was ranked highest, then partner support, and finally helpfulness of helpful behaviors across all time points. See Figure 6 for graphs of changes in the support variables for both diagnoses.

Figure 6. *Average Rank of Partner Support Over Time Between Diagnoses*



Do changes in symptom distress over time occur independently of partner support?

Correlation Coefficients.

To determine whether degree of symptom distress and partner support occurred independently over time for each diagnosis, correlation coefficients were run among symptom distress and partner support variables first for AN and then for BN. The significance level was set at .003 (.05/16) using the Bonferroni method. For AN, results indicate that partner support was positively correlated with BMI and overall symptom distress. Relationship quality was positively associated with overall symptom distress level as well. No other correlations among symptom distress and partner support were significant (see Table 16). For BN, relationship quality was negatively correlated with BMI. In participants with bulimia, BMI decreased as relationship quality increased. Other symptom distress variables were correlated with one another as were the partner support variables (see Table 17).

Table 16. *Pearson Correlations Among Symptom Distress and Partner Support Variables in Anorexia Nervosa*

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. BMI	-							
2. Distress Level of Most Distressing Symptoms	-.11 *N=57*	-						
3. Distress Level of Least Distressing Symptoms	.19 *N=35*	**.47*** *N=39*	-					
4. Overall Symptom Distress Level	.24 *N=117*	**.63*** *N=68*	.36 *N=46*	-				
5. Helpfulness of Helpful Behaviors	.01 *N=83*	.12 *N=51*	.24 *N=43*	.03 *N=100*	-			
6. Helpfulness of Unhelpful Behaviors	-.30 *N=52*	-.04 *N=44*	.01 *N=32*	-.21 *N=61*	.24 *N=55*	-		
7. Overall Partner Support	**.28*** *N=117*	.27 *N=68*	.29 *N=46*	**.37*** *N=138*	.10 *N=100*	.09 *N=61*	-	
8. Overall Relationship Quality	.20 *N=117*	.33 *N=68*	.24 *N=46*	**.40*** *N=138*	-.13 *N=100*	-.08 *N=61*	**.76*** *N=138*	-

***p<.003**

Table 17. *Pearson Correlations Among Symptom Distress and Partner Support Variables in Bulimia Nervosa*

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. BMI	-							
2. Distress Level of Most Distressing Symptoms	.24 *N=49*	-						
3. Distress Level of Least Distressing Symptoms	.23 *N=20*	.05 *N=56*	-					
4. Overall Symptom Distress Level	**.43*** *N=65*	**.59*** *N=44*	.23 *N=27*	-				
5. Helpfulness of Helpful Behaviors	-.25 *N=39*	-.09 *N=44*	.20 *N=24*	-.09 *N=41*	-			
6. Helpfulness of Unhelpful Behaviors	-.24 *N=41*	.07 *N=45*	.17 *N=30*	.20 *N=46*	.42 *N=38*	-		
7. Overall Partner Support	-.17 *N=84*	-.25 *N=68*	.29 *N=30*	-.19 *N=94*	**.87*** *N=51*	.35 *N=52*	-	
8. Overall Relationship Quality	**-.39*** *N=84*	-.15 *N=68*	.21 *N=30*	-.18 *N=94*	**.80*** *N=51*	**.49*** *N=52*	**.83*** *N=113*	-

***p<.003**

ANCOVAs: Anorexia symptom distress and partner support.

Based on the significant correlations, four univariate ANCOVAs were planned. Three were conducted in the AN group. For the first, the factor was time and the dependent variable was overall symptom distress level. The covariate was rank of partner support. Preliminary analyses evaluating the homogeneity-of-slopes assumption indicated that ANCOVA was appropriate, $F(2, 132)=2.93$, $MSE= 9.65$, $p=.057$, partial $\eta^2=.04$. The ANCOVA was not significant, indicating that there are no changes in symptom distress over time when support is held constant. The main effect of support was significant, accounting for 14.2% of the variance in overall symptom distress when holding time constant. (See Table 18)

ANCOVAs: Anorexia symptom distress and relationship quality.

For the second ANCOVA, the dependent variable was overall symptom distress, the factor was time, and the covariate was relationship quality. The interaction effect between relationship quality and time was significant. Therefore, ANCOVA was inappropriate. Instead, simple main effects were tested at low, medium, and high values of relationship quality. A p value of .017 was considered significant (.05/3). Pairwise comparisons were conducted using the LSD procedure for significant simple main effects. At the low level of relationship quality, the test was significant $F(2, 132)= 5.94$, $p<.01$. Month 2 had higher symptom distress than months 1 or 3 when relationship quality was low.

ANCOVAs: Anorexia body mass index and partner support.

In the third, the factor was time, dependent variable was BMI, and the covariate was partner support. ANCOVA was appropriate because the interaction effect was not significant $F(2,111)= 2.07$, $MSE= 19.86$, $p=.13$, partial $\eta^2=.04$. The ANCOVA was not significant, indicating that when partner support is held constant over time, it has little effect on BMI. The

main effect for support was significant, and accounted for 8.0% of the variance in BMI when time is held constant (see Table 18).

ANCOVAs: Bulimia body mass index and relationship quality.

For BN, the factor was time, the dependent variable was BMI, and the covariate was relationship quality. The interaction effect was not significant, $F(2,78)= .33$, $MSE=4.24$, $p= .72$, and an ANCOVA was conducted. The ANCOVA was not significant, suggesting that when relationship quality is held constant over time, there is no change in BMI. The main effect for relationship quality was significant, accounting for 16.4% of variance in BMI when time is held constant.

Table 18. *Analyses of Covariance For Partner Support Variables and Symptom Distress*

Diagnosis	***Dependent Variable***	***Source***	***df***	***SS***	***MS***	***F***	***Partial η^2***
Anorexia	Overall Symptom Distress	Partner Support	1	75.08	75.08	**22.12***	.14
		Time	2	15.36	7.68	2.26	.03
		Error	134	454.74	3.39		
Anorexia	BMI	Partner Support	1	95.53	95.53	**9.76***	.08
		Time	2	14.00	7.00	.715	.01
		Error	113	1105.84	9.79		
Bulimia	BMI	Relationship Quality	1	199.28	199.28	**15.74***	.164
		Time	2	16.41	8.20	.65	.02
		Error	80	1012.91	12.66		

***= p<.05**

Does type of helpful and unhelpful behaviors change over time?

To determine if type helpful and unhelpful partner behaviors change over time for each diagnosis, two two-way contingency tables were planned for the AN and BN groups. Partner

behaviors were used at their codes, not levels (see Table 1 for a list of codes). These analyses showed that all contingency tables had 40-80% of cells with expected counts less than five. Based on the novelty of the study, the results are reported and interpreted with caution. All contingency tables were not statistically significant, suggesting that when each diagnosis is examined separately, there are no changes in types of supportive partner behaviors over time.

Does symptom distress vary in relation to the type of helpful and unhelpful partner behaviors over time?

Helpful partner behaviors: Anorexia.

In the first ANOVA (3x5), factors included time and helpful partner behaviors, and the dependent variable was overall symptom distress. The main effects for time, $F(2, 93)= 1.60$, $p=.21$, partial $\eta^2=.03$, and helpful behaviors, $F(2, 93)= 1.76$, $p=.14$, partial $\eta^2=.07$ were not significant. Interaction effects were also nonsignificant $F(7, 93)= 1.54$, $p=.16$, partial $\eta^2=.10$. Means and standard deviations of symptom distress and corresponding helpful partner behaviors for AN and BN are found in Table 19. This indicates that in the AN group, participants' symptom distress did not vary in relation to helpful partner behaviors over time.

Table 19. *Means and Standard Deviations of Helpful Behaviors and Symptom Distress For Anorexia and Bulimia*

Helpful Behavior	***Month***	***Anorexia***		***Bulimia***	
		M	***SD***	***M***	***SD***
Nothing	1	2.00	*	9.50	.71
	2	0	0	9.67	.58
	3	9.50	.71	9.33	1.16
Encouragement/Support	1	7.08	2.06	7.67	1.86
	2	7.71	1.73	7.43	2.30
	3	7.36	3.11	7.57	2.15

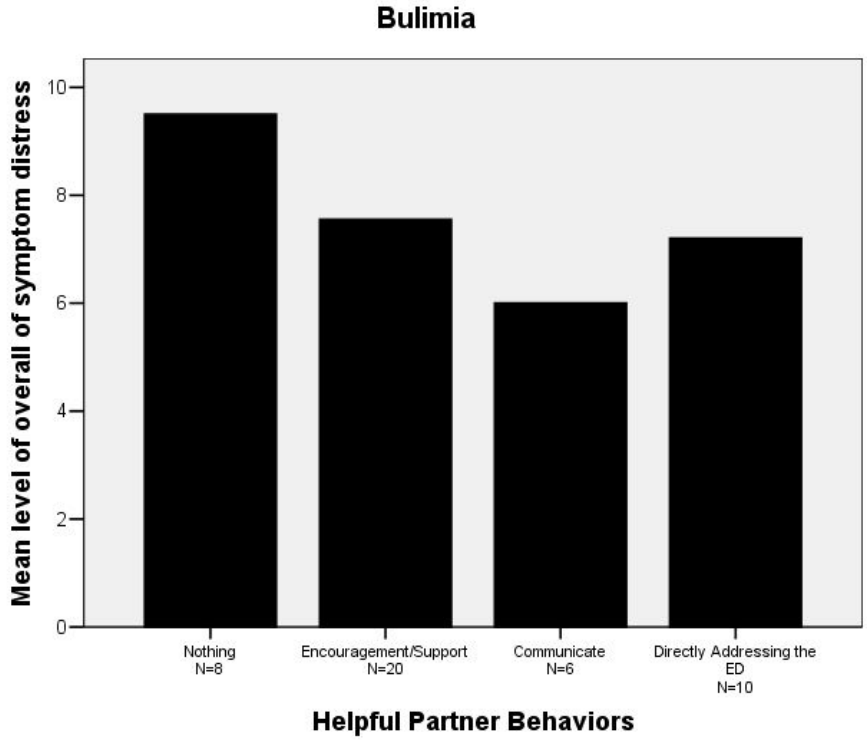
Communication	1	6.33	2.27	6.50	2.12
	2	7.57	1.60	5.50	.71
	3	7.40	2.23	6.00	1.41
Physical Affection/Comfort	1	10	*	n/a	n/a
	2	8.00	2.83	n/a	n/a
	3	9.00	1.41	n/a	n/a
Directly Attending to Eating Disorder Symptoms	1	6.67	1.51	8.00	2.31
	2	7.00	1.16	6.67	2.89
	3	5.86	1.95	6.67	3.06

*= no SD available because *n*=1
n/a= not reported
Medians and range are not included in this type of analysis

Helpful partner behaviors: Bulimia.

The ANOVA (3x4) for BN examined the effects of time and type of helpful partner behaviors on rank of symptom distress. Helpful behaviors for BN included nothing, encouragement/support, communication, and directly attending to the eating disorder. Physical affection was rarely recorded as a helpful behavior (*N*= 3; only recorded in month 3). It was removed from this analysis. The main effect for time was nonsignificant $F(2,32)=.29$, $p=.75$, partial $\eta^2=.02$ and the main effect for helpful behaviors was significant $F(3, 32)=3.50$, $p<.05$, partial $\eta^2=.25$. Interaction effects for time and helpful behaviors were nonsignificant $F(6,32)=.12$, $p=.99$, partial $\eta^2=.02$. Tukey HSD post-hoc tests were conducted on the main effect for type of helpful behaviors and indicated that doing nothing helpful resulted in higher symptom distress than communicating $p<.05$. There were no other significant differences among helpful behaviors and symptom distress levels (see Figure 7).

Figure 7. *Mean Symptom Distress Levels and Corresponding Helpful Partner Behaviors*

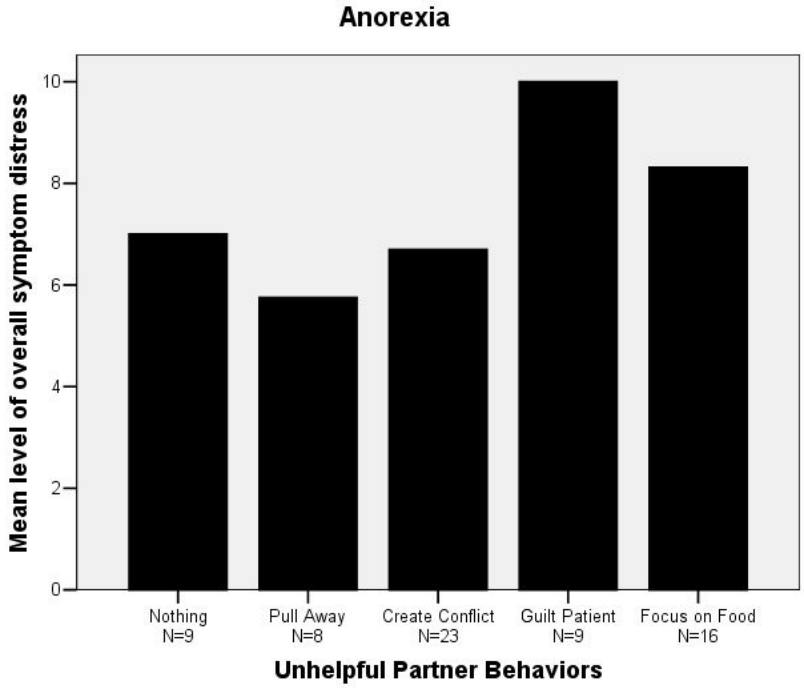


Unhelpful partner behaviors: Anorexia.

For the second ANOVA for AN, factors were time and type of unhelpful partner behaviors, and the dependent variable was rank of symptom distress. See Table 20 for a list of the means and standard deviations for the AN and BN groups. The main effect for time was nonsignificant $F(2,50)=.81$, $p=.45$, and partial $\eta^2=.03$. The main effect for unhelpful behaviors was significant, $F(4,50)=8.52$, $p<.01$, and partial $\eta^2=.41$. The interaction effect of time and unhelpful behaviors was nonsignificant $F(8, 50)= 1.48$, $p=.19$, and partial $\eta^2=.19$. Post hoc pairwise comparisons on the type of unhelpful partner behaviors (Tukey HSD) indicated that using guilt resulted in higher overall symptom distress than doing nothing unhelpful, pulling away, and creating conflict ($p<.01$). Focusing on food (controlling food intake or

commenting/criticizing food choices) had higher symptom distress scores than pulling away and creating conflict (p<.05). None of the other comparisons were statistically significant. See Figure 8.

Figure 8. *Mean Symptom Distress Levels and Corresponding Unhelpful Partner Behaviors*



Unhelpful partner behaviors: Bulimia.

The last ANOVA (3x4) examined the effects of time and unhelpful partner behaviors on symptom distress (nothing, pull away, create conflict, and focus on food). Using guilt was removed from this analysis since it was only reported twice in the BN group. The main effects for time and unhelpful behaviors were nonsignificant $F(2,32)=.11$ $p=.90$, partial $\eta^2=.01$ and $F(4,32)=1.66$, $p=.19$, partial $\eta^2=.17$. The interaction effect was also nonsignificant $F(6,32)=.80$, $p=.60$, partial $\eta^2=.15$. This indicates there is no change in symptom distress over time based on type of unhelpful partner behaviors among those with BN.

Table 20. *Means and Standard Deviations of Unhelpful Partner Behaviors and Symptom Distress For Anorexia and Bulimia*

Unhelpful Behavior	***Month***	***Anorexia***		***Bulimia***	
		M	***SD***	***M***	***SD***
Nothing	1	6.00	1.41	9.50	.71
	2	6.75	.96	9.50	.71
	3	8.00	1.73	9.00	1.41
Pull Away	1	5.20	2.17	8.20	2.05
	2	5.50	.71	6.57	2.44
	3	9.00	*	6.25	2.71
Create Conflict	1	6.67	1.03	6.50	.71
	2	7.56	1.13	7.40	1.95
	3	5.75	2.25	7.67	.58
Guilt Patient	1	10.00	0.00	n/a	n/a
	2	10.00	0.00	n/a	n/a
	3	10.00	0.00	n/a	n/a
Focus on Food	1	8.80	1.10	7.00	*
	2	9.33	1.16	6.00	1.41
	3	7.63	2.67	7.40	1.67

*= no SD available because *n*=1
n/a= not reported
Medians and range are not included in this type of analysis

CHAPTER 5

Discussion

This study explored whether and how changes in ED symptom severity are impacted by perceived partner behaviors and support. An online event history calendar (EHC) was used to assess changes in these variables over three months, offering an innovative manner of examining symptoms and support over time. The findings offer a new perspective on patients' understanding of couple interactions, and how these understandings are related to symptom distress. Changes in degree of perceived partner support over time were noted. Variations in body mass index were associated with partner support variables. Level of symptom distress differed with type of perceived partner behaviors regardless of time, with differences among those with AN and BN. In the following sections, the results are contextualized in the literature, followed by clinical implications, and limitations/directions for future research.

Summary of Results

Changes in symptom severity and partner support.

Contrary to the literature, symptom severity did not change over time in the sample as a whole and when separated by diagnosis. However, the time scale used here is different from that reported in the literature: 3 consecutive months versus two or three time points within 19 months (Löwe et al., 2001; Thelen, Farmer, Mann, & Pruitt, 1990). Significant changes in symptom distress may be better noted over time through studies that utilize longitudinal designs or daily diaries. In general, symptom distress scores indicated a moderately high level of symptom distress. The majority of perceived partner support variables remained stable over time. Their

overall mean scores were close, scoring between a 7.0 and 7.70/10. Partner support was ranked lowest, then helpfulness of partner behaviors, and relationship quality. Relationship quality was the only partner support variable to change over time. Patients noted increases in perceived relationship quality and an overall high level of relationship quality (*M*= 7.67/10.00). Other authors have not examined relationship quality over time or utilized a symbolic interactionist perspective, so it is difficult to draw comparisons. However, cross sectional studies indicate low relationship satisfaction and notable marital difficulties (Evans & Wertheim, 1998; Van Buren & Williamson, 1988). A few factors may help explain differences in findings. Other studies have used specific measures of relationship quality or satisfaction (e.g., Evans & Wertheim, 1998, Van den Broucke et al., 1995). Here, relationship quality was assessed by a single question on a 10 point Likert scale. Secondly, those with AN perceived all partner support variables higher than those with BN. The differences in their rankings may have averaged to higher relationship quality in the overall sample. Or, those with AN often have lower expectations for social support and rank social support higher than those with BN (Grissett & Norvell, 1992; Tiller et al., 1997). Thus, they may have ranked relationship quality higher because partners exceeded their expectations. Without examining this variable in conjunction with symptom distress, it is difficult to ascertain how this finding is meaningful for the purposes of this study.

The relationship between symptom distress and partner support.

In the whole sample and when the BN group was examined separately, perceived relationship quality was higher when BMI was lower and accounted for a significant proportion of change in BMI, regardless of time. This is not surprising given that changes in BMI may be the most noticeable ED symptom. Patients and partners often report the patient can successfully hide her ED for long time periods (Huke & Slade, 2006; Perkins et al., 2004). However, weight

loss may be more difficult to hide than purging, over exercising, or restricting. When partners believe the patient's weight is too low, they may increase attention and other helpful behaviors in an effort to support the patient's weight gain. These types of behaviors may help the patient feel more connected and intimate with her partner. When her partner perceives her weight to be normal, s/he may believe the patient is no longer in danger and reduce the type or degree of attention. During these times, the patient would likely experience a decrease in relationship quality. This interaction sequence becomes more solidified as the patient's and partner's understandings of the relationship between weight and relationship quality become better-defined.

When AN is examined separately, the findings are a bit different. As perceived relationship quality increases, so does overall symptom distress, not BMI. Instead, both higher BMI and overall symptom distress are related to higher perceived partner support. Some literature indicates that in women with AN, symptom severity is linked with struggles to form positive relationships (Ghizzani & Montomoli, 2000). Others indicate that a supportive relationship was a key aspect of their recovery (Tozzi et al., 2003; Abraham, 1998). One explanation for this finding is that as patient's perceived that partner support increases, they may engage in healthier behaviors and eating patterns, thus gaining weight. Fear of weight gain is part of the diagnostic criteria for AN, and patients find it very distressing (APA, 2000). Gaining weight may increase overall symptom distress level. This study did not specifically examine which symptoms participants found to be most distressing. Adding this element would help clarify the relationship among these variables.

Lastly, this study did not offer participants an operationalized definition for support and relationship quality. It is unclear how each viewed the differences between these variables. There

appears to be enough of a consensus among participants when split by diagnosis to produce differing results. Although certain characteristics are common among all ED patients, specific personality characteristics seem to be associated with each diagnosis that are related to differences in perception of available caregiver support, expectations for support, degree of support, and quality of support (Grissett & Norvell, 1992; Tiller et al., 1997). These differences may play a role in the conceptualization of relationship quality and partner support.

Types of perceived helpful and unhelpful behaviors in relation to symptom distress.

The types of perceived helpful behaviors were categorized into the following groups: nothing helpful, offering encouragement and support, communication, physical affection/comfort, and directly attending to eating disorder symptoms. Participants in the whole sample and those with AN noted that communication and encouragement and support were used the most by their partners and accounted for approximately half the helpful behaviors. For the BN group, encouragement and support accounted for half. Perceived unhelpful behaviors included: nothing, pulling away, creating conflict, guilting the patient, and focusing on food. In the whole sample, the most common unhelpful behaviors were pulling away and creating conflict. These also accounted for about half of unhelpful behaviors. For those with AN focusing on food and creating conflict comprised half the unhelpful behaviors. For those with BN pulling away and creating conflict were reported half the time. Participants often perceived the same types of behaviors at all three time points, with the addition or removal of a behavior or two. The specific behaviors may have been different, but were coded the same (e.g., month 1: “allowed me to prepare/choose meals and restaurants” and month 2: “ate with me” were both coded as directly addressing the eating disorder). There were no statistical differences in the use of perceived helpful or unhelpful behaviors over time. This is not necessarily surprising considering

couple's tendencies to engage in repetitive and predictable communication and interaction sequences (Gottman & Driver, 2005). According to an SI framework, the types of behaviors partners engage in are based on the meanings they have associated with the other's actions and the sequence becomes more solidified. Even though the types of perceived behaviors did not change, rank of relationship quality increased. This suggests there may not be a connection between these variables. Others are likely responsible for the increase in relationship quality.

Similar to relationship quality, when symptom distress is examined in relation to types of partner behaviors over time, there is also no relationship. The findings from research question 1 suggest that symptom distress and types of behaviors do not change over time, so it is not surprising that they do not vary over time. However, there are some interesting findings when time is controlled. The sample as a whole did not experience any significant differences among distress levels and types of perceived helpful behaviors. Certain perceived unhelpful behaviors had higher symptom distress levels than others. If the patient believed her partner was guilting her, this was worse than commenting/criticizing, complaining/showing frustration, and pulling away. This was similar in the AN group. A partner may intentionally or unintentionally guilt the patient. Many patients with EDs report low levels of self-worth and depression and/or anxiety. These comorbid conditions may impact patient's understanding of partner behaviors. Experiencing guilt can exacerbate symptoms of depression, and may produce higher levels of symptom distress than if a patient believes her partner is pulling away or creating conflict. All other unhelpful behaviors had similar levels of symptom distress.

Regarding helpful behaviors, those with AN (and a general trend in the overall sample) reported that believing their partners were directly attending to their ED symptoms was more helpful than doing nothing. Examples of directly attending to symptoms may include allowing

the patient to be emotional and have space when desired and help preparing or choosing foods. However, the unhelpful behavior, focusing on food, had higher symptom distress scores than pulling away or creating conflict. Patients differentiate between being helpful and unhelpful regarding food. It appears partners' involvement with food must be done so that the patient interprets it as helpful and supportive as opposed to unhelpful or controlling. Whereas some participants perceived it to be useful when their partners took over meal preparation, others felt their partners were trying to police them or put them in food-related situations that created anxiety. Research suggests that women with AN experience high anxiety prior to meal times and the degree of anxiety can impact the amount of food intake (Steinglass, Sysko, Mayer, Berner, Schebendach, Wang, et al., 2010). Perceiving partner support in this area may be more effective at helping reduce symptom distress than if the partner does nothing the patient finds helpful. If the patient feels the partner is too intrusive or controlling with food concerns, this is worse than if s/he pulled away from the patient or created conflict. Otherwise, it appears that if the partner engages in other helpful or unhelpful behaviors, that they are equally distressing.

For those with BN, the results are different. Perceiving the partner is communicating is more helpful than if the partner did nothing helpful, and there are no differences in distress levels among unhelpful behaviors. Research indicates couples with BN tend to possess few problem-solving skills and have difficulty establishing intimacy (Van den Broucke, et al., 1994; Van Buren & Williamson, 1988). They self-disclose to partners less on ED topics and sexuality than daily activities (Evans & Wertheim, 2002). Overall, their relationships are characterized as hostile, conflictual and negative (Grissett & Norvell, 1992). It has been suggested these relationship conflicts are related to increased symptom severity (Van Buren & Williamson,

1988). This study indicates that if partners are able to communicate with patients, symptom distress levels are lower than if partners do nothing helpful.

Clinical Implications

This study's findings have many implications for clinical practice. They support research and theory indicating that intimate relationships do affect symptom severity (Bussolutti et al., 2002; Newton et al., 2005) and point to specific partner behaviors that alleviate (e.g., communicating) or exacerbate ED symptomology (e.g., focusing on food, guilt). Therefore, it is imperative partners be included in the patient's treatment. Few studies have examined the effectiveness of developmentally and contextually appropriate interventions for adults with EDs and none have evaluated the usefulness of including partners in treatment (Bulik, Berkman, Brownley, Sedway, & Lohr, 2007). A recently published article outlines an adaptation of cognitive-behavioral couples therapy (CBCT) for women with AN, entitled UCAN (Uniting Couples in the treatment of Anorexia Nervosa) (Bulik et al., 2011). Evaluations of UCAN are currently underway.

Based on results from this study, the therapist should be mindful of a symbolic interactionist perspective and aim to 1) increase disclosure of each partner's understanding of the ED, the relationship, and how the relationship and symptom severity interact; 2) increase partners' understanding of the other's perspective; and 3) help the couple create new interaction sequences and a shared understanding of them.

This can begin by examining each partner's definition of relationship quality and partner support, and how these impact symptom severity. These variables accounted for changes in BMI, which may be because BMI is the most noticeable ED symptom. Other symptoms may remain hidden. Helping the patient disclose more secretive symptoms and allowing her partner to

recognize and support her can increase relationship quality. This supports research that indicates that increasing ED disclosure enhances intimacy (Kenyon, 2007; Newton et al., 2006)

Other topics of importance include discussing the types of behaviors the patient finds helpful and unhelpful. A therapist should guide the couple through exercises aimed at increasing mutual understanding of each others' intentions, actions, and specific behaviors that impact symptom severity. To clarify feelings and intentions around any behaviors, the partner should report a) the intention of the behavior, b) the patient's interpretation of and reaction to the behavior, and c) whether the behavior appeared to exacerbate or alleviate the patient's symptom distress. The patient should answer these as well. From there, couples can discuss what types of interactions to augment and which to avoid.

These results indicate there are particular topics that should be addressed in this manner. Regardless of diagnosis, patients should share whether guilt is problematic, what behaviors cause or increase feelings of guilt, and how this guilt impacts symptomology. Partners may seek an outlet to express their own personal struggles, frustrations, fears, and isolation and turn these feelings toward the patient in a hurtful manner. Often times, partners are uncertain how to handle an ED, feel isolated, and have few places outside the relationship to turn for support (Winn et al., 2004). Partners should be encouraged to disclose what feelings or thoughts lead to them saying or doing something that induces guilt. The therapist could guide the couple in identifying ways to help both feel supported and lessen feelings of guilt.

For those with AN, partners should discuss the differences between being helpful with food and controlling food intake. It may be helpful to provide psychoeducation about AN, specifically as it relates to the patient's relationship with food and how to handle it. The patient should offer examples of what she finds helpful versus controlling, explain why, and share how

these are related to her symptom distress. Both partners could also identify their personal triggers for interpreting or intending a food-related action to be supportive or unsupportive (e.g., 'When you ask what I want for dinner in *this tone*, I think you're trying to help. When you say it like *this*, I think you're implying what I should eat for dinner or that my choice will be wrong.').

If the patient has BN, couples should define what constitutes helpful communication- who talks, who listens, how the listener shows s/he is listening etc. Based on these results, it is unclear what helpful communication is and how communication is helpful. Often, participants reported "talked, listened, offered advice", as helpful behaviors. These terms are general and the partner may not find them very helpful without further explanation. It would also be important for the patient to explain to her partner how a specific type of communication helps alleviate symptom distress. Based on these discussions, the couple could practice and establish methods for communicating that both find to be helpful and effective.

Limitations and Directions for Future Research

Construct validity.

This study has some limitations. The calendar methodology may need to be adjusted to increase participant recall and it may be better suited for a venue wherein participants can readily ask questions. At the end of the survey, some participants noted it was difficult to remember or understand the calendar despite directions, an example, and encouragement to contact the researchers with questions. These participants may have benefitted from filling out the survey with a researcher or assistant nearby. More probing questions may have helped as well. Other participants found the survey easy to understand. No follow-up analyses were conducted to determine if there were differences in symptom severity or relationship distress between those who had difficulty and those who did not. Research suggests patients with a longer history of ED

diagnosis or severity may have problems with memory recall due to lack of nutrition or electrolyte imbalance, and higher degrees of psychopathology may influence patient's self-report accuracy (Vanderdeycken & Vanderlinden, 1983). It would follow they may find a retrospective study more challenging. Secondly, the self-reported weights and diagnoses may have been incorrect. Some treatment facilities do not allow patients to weigh themselves or a patient may have misunderstood her diagnosis (e.g., subthreshold AN should be officially diagnosed as Eating Disorder Not Otherwise Specified). Research indicates participants may overestimate height and underestimate weight (Meyer, McPartlan, Sines, & Waller, 2009). Thirdly, the measure focused on patient perspectives and did not gather corresponding partner data. Partner data would offer a more comprehensive picture of perceptions of couple and ED functioning. Lastly, three monthly time points may not be appropriate for observing fluctuations in symptom distress or partner support. Studies that find changes examine symptom severity over the course of years (Löwe et al., 2001; Thelen et al., 1990) indicating that they may occur over a longer time period. It may also be that symptoms fluctuations occur in a smaller timeframe (daily/weekly). This study suggests EDs and partner support behaviors are more stagnant when measured monthly.

External validity.

Because the literature on coupled adults is limited, it is uncertain what this demographic looks like and whether results from this study are generalizable to the majority of coupled women with EDs. The participants in this study were demographically similar, albeit a little younger, to those in other studies (Newton et al., 2005, Van den Broucke, et al., 1995). That being said, there are still some factors that should be taken into account. The survey was conducted on-line which limits those who may not have access to a computer for various

economic or treatment-related reasons. Secondly, the majority of participants was Caucasian and one identified as lesbian. Recent research recognizes that EDs affect different racial and cultural groups (Franko, Becker, Thomas, & Herzog, 2007). It is unclear whether and how these findings extend to the demographics of coupled women.

Internal validity.

There may be some confounding variables that play direct or indirect roles in mediating or moderating perceptions of partner support. Other mental health diagnoses were reported, but their severity and role was not examined. It is likely that patients who experience various levels of depression or anxiety in addition to their ED will interpret their partner's behaviors and ED symptom severity differently. What the patient knows about her partner such as mental health, outside support, previous relationship history, ED knowledge/understanding, and experience with mental health concerns could all affect the meaning she derives from partner support.

Future research.

The findings from this study offer exciting venues for future research. Studies should continue to examine specific topics such as: patient factors (e.g., diagnosis, older vs. younger adults, treatment status, symptom severity) and partner factors (e.g., partner's relationship and mental health history, understanding and experience with EDs, when the ED was revealed) that may impact partner support and symptomology. They should also expand to include more diverse groups (e.g., gender affiliation, sexual orientation, race/ethnicity). Both qualitative and quantitative methodologies should be utilized to deepen understanding. Cross-sectional and longitudinal studies with matched couple data would offer tremendous insight into couple interaction and understanding. Couple interviews could offer insight into how couples co-create meaning around the relationship and eating disorder. The Actor-Partner Interdependence Model

(*APIM*; Kenny & Cook, 1996) could be used to simultaneously examine the patient and partner's influences on symptom severity, attachment, intimacy, or specific interaction sequences.

Conclusion

This study supports research indicating that partner interaction can impact ED symptomology, and expands research on couple dynamics in EDs by illustrating certain partner support variables that alleviate or aggravate symptom severity over a three month period. Variation among these variables based on participant diagnosis support studies and clinical characterizations of differences in the relationships of women with AN versus BN. It appears as though a calendar methodology is appropriate for examining these constructs in this population, although it may need to be modified-especially for patients with greater symptom severity. Overall, including partners in treatment should be a key component for coupled patients, and specific areas should be addressed. As our understanding of the dynamic interplay between couple interactions and ED symptomology grows, interventionists will be well-positioned to responsively provide care.

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APPENDIX A

Consent Comprehension Page

1. What is your current eating disorder diagnosis?
Please choose the diagnosis that fits best.

Anorexia nervosa
Bulimia nervosa
Other

2. What is your age? ____

3. Do you identify as
Male
Female

4. Are you currently in any type of treatment for an eating disorder?

Yes
No

5. Are you currently in a committed romantic relationship?

Yes
No

6. Height_____

Remember!

- The survey takes approximately 45 min - 1 hr to complete (MOST FINISH IN APPRX 25 MIN NOW!)
- You can enter a drawing for one of eight $25 Visa gift cards
- You may experience some discomfort, but it is not anticipated you will experience distress while or after completing the survey. If you do, please contact your primary eating disorder care facility or 1-800-941-5313 for referrals and services

APPENDIX B

Calendar Surveys: The Basics

DID YOU KNOW...

- Calendar surveys can help increase how well we remember events-even years after they occur!
- This survey will ask you to recall information about your eating disorder and intimate relationship over the past 6 months. The calendar is broken into months 1-3 and months 4-6 to help you gather your thoughts.
- There is a demographic questionnaire at the end.
- We encourage you to fill out the past 6 months and demographic questionnaire. We know you won't have perfect recall- and that's okay! Just do your best!

Thank you for your time and energy in raising awareness and understanding!
Warmly,
Lisa
lzak@uga.edu

APPENDIX C

Calendar Survey

To obtain a clearer picture of how eating disorders and intimate relationships affect each other, please fill out the following information.

Think back over the past 3 months about some basic information related to your relationship history, employment status, important events and treatment history. Do your best and copy/paste as needed!

For an example of the calendar, CLICK HERE
Example will open in a new window.

MONTHS 1-3

Month and year (starting with this month)			
Length of current relationship (in years and months)			
Living with Current Partner? (yes/no)			
Married/ Common Law Marriage/ Commitment Ceremony (yes/no)			
Separated from Current Partner (yes/no)			
Employment status (all that apply):			
Important events/occurrences			
Weight (at the beginning of each month in pounds- if known)			
In eating disorder treatment (yes/no)			
Treatment type (all that apply): In/Out/Residential/Hospitalization			
Treatment format (all that apply): Indiv/Coup/Fam/Group/DayProgram			

Now that you're thinking more about what's generally happened over the past 3 months, let's focus on your eating disorder symptoms and interactions with your partner.

Specifically, think about what symptoms (ex: restricting, binging, dislike specific parts of body, depressed) occurred most and least often each month. Then, recall what your partner did that was helpful or unhelpful for you during these times.

Again, it's okay if you can't remember everything. Remember what you can! Certain things might stand out more than others! They also might help you remember more than you thought you would!

Don't forget the calendar works backwards! Start with this month.
MONTHS 1-3

Month and Year (beginning with this month)			
Symptoms experienced most frequently			
Symptoms experienced least frequently			
Symptoms that were most distressing			
Average distress of these symptoms (scale 1-10, 10= most)			
Symptoms that were least distressing			
Average distress of these symptoms (scale 1-10, 10=most)			
Overall monthly symptom distress (scale 1-10, 10=most)			
Things my partner did that were helpful			
Overall helpfulness of these behaviors (scale 1-10, 10=most)			
Things my partner did that were unhelpful			
Overall helpfulness of these behaviors (scale 1-10, 10=most)			
Overall rank of partner support (scale 1-10, 10= most)			
Overall rank of relationship quality (scale 1-10, 10= most)			

Well done! You are HALFWAY done with the calendar! Yay!

Thank you again for your information, as it is providing us with important details about how eating disorder symptoms and partner behaviors are related. The more we know, the more we can improve treatment options and better inform our professionals!

Please click the NEXT (>) arrow to continue to the last half of the calendar.
You may also continue to click NEXT(>) to head to the brief demographic questionnaire

Congratulations! You've filled out half the calendar. Just as before, let's start by thinking back 4-6 months ago about some of the more basic things going on in your life related to your relationship, employment, and treatment. Then we'll get to the part related to your relationship. Fill out the calendar as best you can.

Remember, the calendar works BACKWARDS! Feel free to click the BACK (<) arrow as a reminder for what month you should now be on! (ex: If you started in May 2011, this page starts with Feb. 2011)

MONTHS 4-6

Month and year (starting with this month)			
Length of current relationship (in years and months)			
Living with Current Partner? (yes/no)			
Married/ Common Law Marriage/ Commitment Ceremony (yes/no)			
Separated from Current Partner (yes/no)			
Employment status (all that apply):			
Important events/occurrences			
Weight (at the beginning of each month in pounds- if known)			
In eating disorder treatment (yes/no)			
Treatment type (all that apply): In/Out/Residential/Hospitalization			
Treatment format (all that apply): Indiv/Coup/Fam/Group/DayProgram			

Now that you're beginning to remember more about 4-6 months ago, let's focus again on eating disorder symptoms and how your partner was helpful or unhelpful. What stands out to you and what can that help you remember?

After this, you are done filling out the calendar portion of the survey.

Remember to work backwards! This should be 4-6 months ago.

MONTHS 4-6

Month and Year (beginning with this month)			
Symptoms experienced most frequently			
Symptoms experienced least frequently			
Symptoms that were most distressing			
Average distress of these symptoms (scale 1-10, 10= most)			
Symptoms that were least distressing			
Average distress of these symptoms (scale 1-10, 10=most)			
Overall monthly symptom distress (scale 1-10, 10=most)			
Things my partner did that were helpful			
Overall helpfulness of these behaviors (scale 1-10, 10=most)			
Things my partner did that were unhelpful			
Overall helpfulness of these behaviors (scale 1-10, 10=most)			
Overall rank of partner support (scale 1-10, 10= most)			
Overall rank of relationship quality (scale 1-10, 10= most)			

You made it through the longest part of the survey and are on the home stretch! The six months' worth of details you just provided will help us make strides in raising awareness about eating disorders in adults in intimate relationships to both professionals and the community at large.

Please click the NEXT (>) arrow to continue to the demographic questionnaire.

You are done after this! Thanks for your time and energy.

APPENDIX D

Demographic Information Sheet

1. What is your date of birth?_____

2. What is your partner's date of birth?_____

3. Marital status: Married Commitment Ceremony/Common Law Marriage

Not Married

4. Length of current relationship (years and months)_____

5. Are you currently living with your partner? Yes No

6. Have you ever separated from your current partner? Yes No

7. How many times have you been married?

0 1 2

3 4 5 or more

8. How many times have you been divorced?

0 1 2

3 4 5 or more

9. Do you have any children? Yes No

10. How many children do you have?

0 1 2

3 4 5 or more

11. What is/are the ages of your children?

Child 1_____ Child 3_____ Child 5_____

Child 2_____ Child 4_____ Child 6_____

12. How would you describe your race/ethnicity? Please choose the group you identify with the most.

White (not of Hispanic origin) Black or African-American (not of Hispanic origin)

Hispanic/Latino American Indian or Alaskan Native

Asian or Pacific Islander Other (please specify)_____

13. What is your highest level of education?

No formal education
Grade school (1-8 years)
Some high school (9-11 years)
High school graduate or GED
Vocational/Training school
Some college
Associate's degree
College graduate
Some training after college
Master's degree
Doctoral degree (PhD, MD, DDS, JD. DMV etc)

14. What is your current employment status? (check all that apply)

Full-time
Part-time
Not working by choice
Student
Not working due to eating disorder
Unemployed
Retired

15. What is your total household income before taxes?

Less than $10,000
$10,000 - $19,999
$20,000 - $39,999
$40,000 - $59,999
$60,000 - $74,999
$75,000 or above

16. Do you have health insurance? Yes No

17. What is your primary current eating disorder diagnosis?

Anorexia nervosa

Bulimia nervosa

18. How long have you had this diagnosis (years and months)?_____

19. At what age did you begin experiencing disordered eating patterns?_____

20. Please describe your first disordered eating patterns:

21. How old were you when you were first diagnosed with an eating disorder (in years)?_____

20. What was your first eating disorder diagnosis?

Anorexia Nervosa

Bulimia Nervosa

Eating Disorder Not-Otherwise-Specified

Binge Eating Disorder

21. How many different times have you been diagnosed with an eating disorder?_____

22. If you have been diagnosed more than once, please specify the diagnoses, starting with the first. *Ex: You may have had 3 diagnoses. 1) Anorexia; 2)Bulimia; 3)Anorexia again*

Diagnosis 1_____ Age_____

Diagnosis 2_____ Age_____

Diagnosis 3_____ Age_____

Diagnosis 4_____ Age_____

Diagnosis 5_____ Age_____

Diagnosis 6_____ Age_____

Diagnosis 7_____ Age_____

Diagnosis 8_____ Age_____

Diagnosis 9_____ Age_____

Diagnosis 10_____ Age_____

23. How many times have you been in treatment for an eating disorder? _____

24. Length of time for each treatment (in days/weeks/months)

Time one_____ Time six_____

Time two_____ Time seven_____

Time three_____ Time eight_____

Time four_____ Time nine_____

Time five_____ Time ten_____

25. Do you currently have other professional mental health diagnoses (ex: depression, anxiety)?_____

26. Please list diagnoses here:

Comments/Suggestions

We will use these to improve the survey for future participants.

1. Please comment on how well you understood what the calendar was asking you to fill in?

2. How easy was it to follow the survey and the calendar in the on-line format? Do you have suggestions for making it easier to read/view?

3. Do you have any suggestions for other questions or areas that you wanted to comment on, but they were not asked?

4. Anything else you would like to let us know regarding the survey layout or your experience

5. May we contact you for further information regarding your responses to this survey (for example, to clarify your answers or allow you to comment on taking this survey)?

Choose one: yes no

6. If yes, please provide:

Name:_____

Email address:_____

Phone:_____

Alternate Phone:_____

Thank you very much for your responses and help! It is very much appreciated!

APPENDIX E

Sample Calendar

Ex: The following participant filled out the survey in September 2010 has been married or in a committed relationship for 8 years as of August and has one child. She began treatment in August and is currently in residential treatment.

Month and year (starting with this month)	9/10	8/10	7/10
Number of children	1	1	1
Length of current relationship (in years OR months if relationship is under 1 year- please specify)	8 yrs	8 yrs	7yrs
Living with Current Partner? (yes/no)	Yes	Yes	Yes
Married/ Common Law Marriage/ Commitment Ceremony (yes/no)	Yes	Yes	Yes
Divorced (yes/no)	No	No	No
Separated from Current Partner (yes/no)	No	No	No
Employment status (all that apply): FT/PT/NWC/NWED/UE/R/S	NWED	NWED	PT
Important events/occurrences	Moved into residential treatment Began to learn ways to control the ED!	8 yr wedding anniversary Began ED treatment	My daughter took her first steps My parents came to visit from out of town
Weight (at the beginning of each month in pounds)	102	102	105
In ED treatment (yes/no)	Y	Y	N
Treatment type (all that apply): In/Out/Residential	Res	In	N/A
Treatment format (all that apply): Indiv/Coup/Fam/Group	Indiv/Group	Indiv/Coup/Group	N/A
Symptoms experienced most frequently	Feeling too fat, fear of gaining weight, fear of losing control once treatment is over	Feeling too fat, feeling depressed, angry about my meal plan, fear of gaining weight	Restricting calories, exercising 7 days/week and 3 hrs/day, only eating veggies and fruits, think I'm too fat, afraid to gain weight
Average distress of these symptoms (scale 1-10, 10= most)	8	8	7
Symptoms experienced least frequently	Exercising too much, restricting calories	Restricting calories, excessive exercise	Purging after meals

Average distress of these symptoms (scale 1-10, 10=most)	5	5	6
Overall monthly symptom distress (scale 1-10, 10=most)	6	7	6
Things my partner did that were helpful	Called or emailed sometimes with encouraging words	Shared feelings in a couple session about how scared he was to lose me and how valuable I was	Was primary caretaker for our daughter, let me cook
Overall helpfulness of these behaviors (scale 1-10, 10=most)	8	9	6
Things my partner did that were unhelpful	Asked about what things would be like when I came home	Said he didn't want to keep coming to couple therapy halfway through	Wouldn't let me leave a restaurant until I finished the whole meal, told me he was giving up on me, argued over food intake
Overall helpfulness of these behaviors (scale 1-10, 10=most)	3	2	1
Overall rank of partner support (scale 1-10, 10= most)	8	7	6
Overall rank of relationship quality (scale 1-10, 10= most)	7	6	4