Generalized Restriction:
Understanding Anorexia Nervosa in an Interpersonal Context

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ABSTRACT

JASMINE HUDEPOHL: Generalized Restriction: Understanding Anorexia Nervosa in an Interpersonal Context
(Under the direction of Donald H. Baucom)

Anorexia nervosa (AN) is a devastating disorder involving restriction of food, low body weight, and anxiety and fears of weight gain. Whereas AN is an individual disorder, it exists within the broader social context. This investigation proposes a novel framework for understanding dietary restriction as one manifestation of a broader restricting phenomenon that extends to interpersonal functioning. Results of the investigation based on this framework indicate that higher levels of dietary restraint were associated with more distanced, restrictive communication in videotaped couple interactions related to eating disordered topics. In addition, greater dietary restraint was associated with less interest in sexual intimacy. Limitations, future directions, and clinical implications are discussed and related to current treatment outcome research in the area of couples and AN.

Keywords: anorexia nervosa, intimacy

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CHAPTER I

Introduction

Primarily characterized by extreme thinness, anorexia nervosa is an eating disorder typified by food restriction motivated by a debilitating anxiety and fear of weight gain (DSM-IV-TR; American Psychiatric Association [APA], 2000). Whereas the DSM-IV-TR provides the clinically useful guideline of extreme thinness as 85% or less than expected body weight for height and age, it is suggested that this guideline not be employed rigidly, particularly if the individual is meeting all other criteria (Walsh & Garner, 1997). Body dissatisfaction and body image distortion are prominent, and individuals with AN see themselves as still needing to lose weight (Seeger, Braus, Ruf, Goldberger, Schmidt, 2002). An estimated 1% of the population suffers from AN at some point in life, with an overwhelming proportion of these individuals being women (Bulik, Sullivan, Tozzi, Furberg, Lichtenstein, & Pederson, 2006; Hudson, Hiripi, Pope, & Kessler, 2007). Whereas anorexia nervosa primarily affects girls and women, boys and men are also affected (American Psychiatric Association (APA), 2000). The majority of research on AN involves samples of female patients only; therefore, the results should only be generalized to girls and women.

In addition to the symptoms of AN, it is common for these patients to have comorbid anxiety, depression, substance abuse, or personality disorders (Hudson et al., 2007). AN is a chronic illness for many individuals, with a frequently relapsing course,

and the mortality rate is approximately 10%, higher than all other mental health disorders (Miller & Golden, 2010).

The DSM-IV identifies two subtypes of AN: restricting subtype (AN-R) and binge-purge subtype (AN-BP). Those with the restricting subtype typically limit their caloric intake, restrict the variety of foods they eat, and become quite fearful of certain foods, which are "off-limits." In addition, these individuals may increase their physical activity. Those with binge-purge subtype also restrict their food intake; however, they vacillate between restriction and episodes of bingeing and purging food. To be considered an objective binge episode, the person is taking in more food than the average person normally would during a discrete period of time and has the feeling of being out of control. A subjective binge shares the property of feeling out of control, but the actual amount of food consumed is not unusual by social comparison. Individuals who report subjective binges only still fall into the category of restricting type. A purge episode may be unrelated to food intake or can occur after food is consumed. Some kind of compensatory behavior is performed, such as self-induced vomiting, the use of laxatives, diuretics or emetics, or over-exercising to compensate for the caloric consumption (American Psychological Association (APA), 2000). Of note, subtypes are not stable due to diagnostic crossover between restricting and bulimic presentations; however, understanding the various symptom presentations is useful for investigating differences among those with AN (Eckert, Halmi, Marchi, Grove, & Crosby, 1995; Peat, Mitchell, Hoek, & Wonderlich, 2009; Tozzi, Sullivan, Fear, & Bulik, 2003).

The definitions of AN and its subtypes focus on individual characteristics, yet, as with most individual mental health issues, AN operates within a broader social and

interpersonal context as well. In fact, those suffering from AN may find their interpersonal relationships particularly affected. One of the criteria for a diagnosis of AN is "undue influence of body weight or shape on self-evaluation" (American Psychiatric Association (APA), 2000). Because thoughts of weight and shape take precedence for those with AN, these individuals may attend less to their interpersonal relationships. In order to maintain the eating disorder, a great deal of deception is often involved, and keeping secrets or lying about behavior is likely to cause interpersonal difficulties. Feeling uncomfortable about one's body, appearing emaciated, and suffering the physical consequences of the illness including weakness, fatigue, and emotional lability also have interpersonal implications, particularly in the realm of intimacy and sexuality (Ghizzani & Montomoli, 2000). Hormonal changes related to restricted dietary intake can also impact libido, such that when individuals are at very low body weights, they often lose interest in sex (Pinheiro et al., 2010).

While research has begun to delve into these areas, historically, domains of interpersonal functioning were not widely assessed in AN due to a belief that women with AN did not engage in romantic relationships. This myth may have resulted from several methodological issues in past research. Often studies were conducted on young women in inpatient facilities and did not include queries about relationship status or quality. Additionally, for some time AN was thought of as an adolescent illness, and research focused on etiology and treatment of this illness during the teen years, without investigating the impact of AN on subsequent relationships for these women (Woodside, Lackstrom, & Shekter-Wolfson, 2000).

It is not only a myth that women suffering from AN do not have romantic relationships, but also women in committed relationships are seeking treatment for eating disorders and citing their partners as integral to the recovery process (Bulik, Sullivan, Fear, Pickering, & Dawn, 1999; Dally, 1984; Tozzi et al., 2003; Van den Broucke & Vandereycken, 1988).

Given that women in committed relationships are entering treatment for AN, and that individual treatment is often moderately successful at best, exploring interpersonal factors associated with AN may be crucial to understanding the disorder and developing effective treatments (Kaplan, 2002; Nasser, Baistow, & Treasure, 2007). For adolescents with AN, involvement of the family in treatment appears to be effective for non-chronic cases (Lock, Le Grange, Agras, Moye, Bryson & Jo, 2010; Russell, Szmukler, Dare & Eisler, 1987), and teens also cite their friends and family as important sources of support during the recovery process (Nilsson & Hagloff, 2006). Preliminary results from research investigating inclusion of different forms of adjunctive family intervention suggests that regardless of format, including caretakers in the treatment of inpatients with AN appears to improve patient BMI and caretaker burden (Whitney, et al., 2011). Taken together, evidence from investigations into adult and adolescent recovery suggests that including the partner might be beneficial for older patients, whose significant other is often the primary source of support (Bulik, Baucom, Kirby, & Pisetsky, 2011; Nasser et al., 2007). Researchers have consistently found that individuals in committed relationships most often turn to their partner for support, even when the relationship is less than satisfactory (Coyne & Anderson, 1999). Unfortunately, findings from the scant research that has been conducted on women diagnosed with AN who are in relationships suggests that

these relationships often are unsatisfactory and fraught with barriers to intimacy, both emotional and physical (e.g., Van den Broucke & Vandereckyen, 1988; 1994). These distressed relationships might make it difficult for individuals with AN to receive the support they need from their partners. In fact, women with AN in partnered relationships report longer durations of the illness, a greater number of past treatments, and greater eating disorder pathology as reflected in vomiting frequency, than women with AN without stable partners (Bussolotti, Fernández-Aranda, Solano, Jimenez-Murcia, Turon, & Vallejo, 2002).

Given that AN exists within an individual context with potentially reciprocal influences between the disorder and the relationship, it is appropriate to consider relationships in the conceptualization of AN, and the impact of AN on the couple's relationship. Through expanding the research on couples facing AN, not only will a broader understanding of AN likely be gained; in addition, interventions might evolve that benefit both the individual with AN as well as the couple's relationship.

Interpersonal Restriction: A Novel Framework for Understanding AN

What follows is a framework for understanding the distance and dissatisfaction evidenced in the interpersonal functioning of those with AN. While the predominant and obvious form of restriction in the presentation of a patient with AN is food restriction, the current framework proposes that restriction occurs across multiple domains of the individual's life. The AN patient is not only restricting food, but also restricting communication, physical contact, and generally keeping others at bay and withdrawing into the private world of the eating disorder. This restricting behavior can be understood

as a multifaceted approach that involves cutting off engagement and participation, while denying cues from the body and the social environment in order to reduce anxiety.

While there is scant research on the interpersonal lives of those with AN, there is some initial evidence to support this framework. Some qualitative research suggests women who inhibit their emotions, thoughts, and actions do appear to engage in more dietary restraint (Vingerhoets, Nyklicek, & Denollet, 2008). A common conceptualization in the literature is that emotional inhibition and dietary restraint are both occurring willfully on the part of the patient as a means of staying in control of thoughts, feelings, and behaviors. In other words, they are cognizant of bodily and social cues and are denying them in order to control their impulses for fear the impulses will take over. It is suggested that the intense anxiety associated with AN is driving this need to stay tightly in control of oneself. By controlling hunger and other desires, the anxiety about becoming "out of control" is lowered (Vingerhoets et al., 2008). Across psychological disorders, attempts at extreme emotion overregulation often are detrimental to the individuals' intimate relationships. Intimacy implies vulnerability, usually through self-disclosure of personal information to a close other (Prager, 1995).

When this overall dampening of emotional experience occurs, the other person in the relationship finds it difficult to feel close or connected (Beck, Grant, Clapp & Paylo, 2009). This same principle of distancing as a result of emotional overregulation may hold for those with AN. Individuals with AN often overcontrol emotions to avoid being overwhelmed by intense negative emotional experiences, and perhaps even positive emotional experiences, which can still be experienced as "out of control" (Vingerhoets et al., 2008).

Researchers have conceptualized and investigated distinct "eating disordered personalities", which correspond with differing degrees of emotion regulation and symptom presentation (Thompson-Brenner, Eddy, Franko, Dorer, Vashchenko, Kass & Herzog, 2008; Westen & Harnden-Fischer, 2001). One type generally associated with less symptom severity is described as high functioning and marked by perfectionism , a trait commonly associated with eating disordered individuals (Bardone-Cone et al., 2007; Westen & Harnden-Fischer, 2001). The other two types are commonly described as overcontrolled and undercontrolled with regards to emotionality (Westen & Harnden-Fischer, 2001). The overcontrolled personality type is withdrawn, and generally when comorbidity occurs, it is in the form of depression and anxiety. Individuals with this personality profile more often exhibit only symptoms of restriction without binge or purge symptoms. This overcontrolled type is consistent with the present conceptualization of dietary restriction as one of many ways of restricting and disengaging from the world. The undercontrolled personality is more often associated with comorbid axis two disorders and is more frequently observed in individuals with binge and purge symptoms (Westen & Harnden-Fischer, 2001). Results similar to those found in adults with eating disorders also have been documented for adolescents with eating disorders (Thompson-Brenner, Eddy, Satir, Bouisseau, & Westen, 2008). Researchers investigated the stability of these personality traits pre and post recovery from AN in order to determine the possible contribution of these traits to the pathogenesis of the disorder. There is some evidence that these traits are stable (Klump, Strober, Bulik…Kaye, 2004). However, it should be noted that literature regarding recovery is problematic with regards to definitions of recovery; other researchers have found

evidence that at least some traits may not be stable (e.g. perfectionism) when recovery is defined more comprehensively (Bardone-Cone, Sturm, Lawson, Robinson, & Smith, 2010).

Consistent findings regarding the character of individuals with AN describe these individuals as insecure and anxious, feeling fearful of wanting something, and not being able to attain it because they do not have control in their lives (Foxe, 1995). Thus, they reject situations where wanting something is likely to occur; for instance, staying home from a birthday party to avoid being faced with a piece of cake. The deprivation of pleasurable experiences is characterized as enacting a false sense of control (Foxe, 1995). Women with eating disorders often report that they see themselves as having very little control and, thus, the denial of food, emotional expressiveness, and vulnerability can be a desperate means to regain this control they feel they are missing (Ghizzani & Montomoli, 2000). Viewed in this light, the distancing strategies being enacted by those with AN can be seen as intended to protect oneself. They believe that protection of the self is necessary because they will not be able to tolerate emotional distress that might come with being vulnerable.

In another study assessing personality characteristics of women with AN, factor analysis revealed high rates of social avoidance, identity problems, cognitive distortion, anxiousness, submissiveness, affective lability, suspiciousness, and insecure attachment, all loading on a factor of emotion dysregulation (Holliday, Landau, & Treasure, 2006). Taken together, these findings indicate that many behaviors of individuals with AN can be conceptualized as efforts to address this emotion dysregulation, often in maladaptive

ways. Additionally, some of the research identifies stable personality characteristics driving the manifestation of emotion dysregulation.

However, researchers approaching this difficult disorder from a biological perspective suggest that deficits in emotional processing in the brain may be driving this presentation of restricted emotional presentation (Hatch et al., 2010; Kaye, Bastiani & Moss, 1994; Jansch, Harmer & Cooper, 2009). Contrary to the research suggesting that the profile of those with AN as overcontrolled remained stable before and after treatment, other researchers have found that cognitive processes related to avoidance and rumination change with changes in eating pathology (Rawal, Park & Williams, 2010). Findings from information processing tasks indicate that those with AN may have lower levels of emotional awareness and emotional expressiveness than those without AN (Jansch et al., 2009). Whereas it is not yet clear whether emotional inhibition is driving restriction of food, and/or vice versa, it does appear that there is a consistent presentation of restriction and withdrawal beyond the realm of food.

While researchers have investigated personality and temperament of individuals with AN, as well as the interpersonal relationships of those with AN, the manner in which personality style might be manifested in an interpersonal context is not yet clear. For instance, alternate theories such as a cascade model could suggest that such emotional inhibition and withdrawal from family and friends follows from dietary restraint. Such a theory suggests that these distancing behaviors in other domains develop in *response* to this primary dietary restriction behavior, rather than occurring concurrently, and testing such a theory would require longitudinal design (see Lansford, Malone, Dodge, Pettit and Bates, 2010 for an example of a cascade model). Whereas this

alternate model is a possibility, the current investigation is based on the theory that describes these behaviors as occurring in interaction with one another as a generalized restricting phenomenon and does not make assertions regarding cause and effect (See Fig. 1).

The currently proposed framework of broad restriction suggests that there are three key domains in which restriction occurs in the context of interpersonal relationships of individuals with AN: (a) restricted communication, resulting in a lack of emotional connection; (b) physical distance, resulting in a lack of a satisfying sexual relationship for the individual and the partner; and (c) secrecy, or a cognitive and behavioral distancing of keeping things to oneself (particularly related to eating disordered behaviors), resulting in an interpersonal approach in which loved ones often experience that they do not know the individual well. Qualitative and quantitative research findings in the specific areas of communication, sexual functioning and secretive behavior, although limited, support the framework suggesting broad restriction behaviors, as noted below.

Restriction of communication. Communication is the best predictor of relationship satisfaction and success and is a primary way partners engage one another (Epstein & Baucom, 2002). Whereas there are many patterns of maladaptive communication, restricted communication can broadly be understood as actively disengaging or distancing from one's partner. A primary way research to date has demonstrated restricted communication in couples with AN is through patients' reluctance to disclose to their partners. Disclosing to one's partner is not only a basic way of communicating; it also is a primary way to enhance intimacy. Researchers have investigated whether individuals with AN conceptualize intimacy differently than those

without AN. If women with AN do not report the same needs and desires for being close to their partners, or do not report self-disclosure as a primary means of becoming close, the mechanisms by which intimacy is enhanced or decreased for these individuals would be conceived of differently than if women reported wanting this closeness and yet had trouble achieving it. In a small, qualitative study of women with AN, participants completed in-depth interviews regarding their experience of intimacy (Newton et al., 2006). Women reported understanding what constitutes intimacy in a manner consistent with the conceptualization of intimacy offered by those without AN (Prager, 1995). However, report of their actual experiences in their relationships did not fit with this conceptualization, suggesting that for some reason, these women were generally not getting their intimacy needs met. While citing emotional closeness as important, they often reported fearing rejection and not speaking openly with their partners, particularly if their partners were less likely to be open with them. Some women in this study felt that by editing what they disclosed to their partners, the relationship proceeded more smoothly, and they reported feeling safer and less vulnerable to rejection (Newton et al., 2006). This is consistent with previous findings by the same researcher - that women may refrain from disclosing in order to protect themselves and the relationship. That is, these women reported fears that if they opened up to their partner about what they actually thought and felt, particularly in relation to the eating disorder, the relationship would be in jeopardy. In fact, these women reported they were aware of their lack of disclosure and were purposeful about it (Newton et al., 2005). It seems these women attempted to maintain a good relationship by not disclosing negative thoughts and feelings. While there is evidence that some amount of idealization in a relationship can

foster harmony (e.g., Schaefer & Olson, 1981), it seems unlikely that this would be true in a context where there is so much individual strife that is being eliminated from the couple's communication.

It appears that in some cases, so much is edited that when the disorder has developed prior to the marriage, the husbands are not even aware of the disorder. In one study, the average time at which husbands realized their wives had the disorder was three years into the marriage (Van den Broucke & Vandereycken, 1994). This is a clear indication that the women with AN were not engaging in disclosures about their disorder, thereby decreasing the likelihood not only of intimacy, but also of having the partner available to support them in dealing with the disorder.

Unexpectedly, in a later observational study of communication in couples where the woman had AN, the same researchers found that emotional disclosure was *higher* in the couples facing the eating disorder than married controls (Van den Broucke, Vandereycken, & Vertommen, 1995a). However, the couples facing AN did make less responsive communication statements to their partners. The couples with AN also were less skilled at speaking and listening and unable to engage in meta-cognition. In other words, these couples would get lost in the details and often demand unilateral change from one partner. Overall, they were less negative than the maritally distressed control group. The investigators speculated that perhaps when the partner is aware of the disorder, as in this study, there is more disclosure because of the distress involved with AN (Van den Broucke, Vandereycken, & Vertommen, 1995a). Of note, this paper did not indicate whether the topics discussed by the couples were related to AN or not. The instructions for one conversation were for the partner to choose something they would

like the other person to change, and then in another conversation to choose a conflict and try to resolve it. There was no indication of topics chosen by the various couples. The topics discussed are relevant in understanding the couples' communication patterns; for example, partners with AN might be more willing to disclose about non eating disorder topics, even as a distraction from sharing AN concerns. However, more consistent with the initial conceptualization that these women are generally inhibited, results published by the same researchers in the same year indicated that relationships of women with AN were marked by a predominant lack of openness (Van den Broucke et al., 1995b). An additional variable not addressed in these studies that could account for some of the disparate findings is the symptom severity of the patients. There is no record of whether those who were more restricted in their communication with their husbands were also women who restricted their food intake more.

In an effort to gain a better understanding of patients' own feelings about communicating with their partners, Newton et al. (2005) conducted a qualitative study involving in-depth interviews about the patients' romantic relationships. Two main themes were revealed as being in constant flux: engagement and distancing. Engagement was described as being freely open in the relationship, meaning patients felt they could talk to their partners about most topics without negative consequence, including the topic of rejection. Distancing was characterized by emotional disconnection, meaning the patients felt they could not talk to their partners, and instead chose to keep things to themselves for fear of rejection. They also reported a preference for inward focus on the disorder. Women in this study reported these forces of engagement and distancing as working in opposition – a stressful balance that had to be maintained. Of the various

ways this balance was seen to play out in relationships, women who favored distancing in their day-to-day behavior and at the same time reported desiring closeness and connection reported the lowest levels of relationship satisfaction (Newton et al., 2005).

Newton's study successfully highlights the ambivalence experienced by these women. Having engaged in romantic relationships, they appear to struggle with desiring connection yet wanting to withdraw into the self; the eating creates a constant flux between being close and keeping distance (Nasser et al., 2007). This flux can be understood as a classic approach/avoidance conflict. For various reasons, adults may have difficulty maintaining "me" while being an "us." Newton et al. (2005) explain this conflict in the context of AN. Within AN, it appears that a large part of the "me" that motivates this type of relational disconnection derives from eating disorder thoughts aimed at lowering anxiety and maintaining the disordered behavior. The patient may desire closeness as many people do, yet not be able to tolerate the anxiety and perceived risk of rejection that comes with being vulnerable. Furthermore, they do not wish to have the eating disorder threatened. In other words, this ego-syntonic illness is causing them to be pulled into two different ways of communicating: approach and avoidance.

Overall, individuals with AN do appear to restrict the amount of self-disclosure they engage in with their partners, although researchers to date have not explicitly described it as such. There is also evidence that this restricted communication is associated with feelings of ambivalence and distress on the part of the patient. Gaining a clearer and more detailed picture of this restricted communication will be valuable in beginning to address the individual and couple level distress related to AN.

Restriction of sexual intimacy. In addition to restricted communication, there is some evidence that individuals with AN have restricted sexual functioning; they may limit their engagement in sexual activity altogether, or while engaging in sexual activity, they may derive limited pleasure. A majority of women with eating disorders report a loss of libido and increased sexual anxiety (Pinheiro et al., 2009). It appears there are multiple factors contributing to decreased sexual functioning, both psychological and biological. Specifically, concerns about body image, attitudes about sexuality, and biological repercussions of starvation all affect sexual functioning.

Individuals with AN experience body image distortion, body dissatisfaction, and shame about their bodies. Body satisfaction tends to worsen when women set unrealistically high standards for themselves and, thus, experience strong fears of failure in terms of their body. For women with AN, someone seeing their body can be experienced as a form of evaluation where these women experience that they fail to meet their standards. Therefore, potential sexual encounters may generate anticipatory anxiety and negative feelings about oneself, which can interfere with desire and arousal, thus contributing to an avoidance of physical intimacy (Ghizaani & Montomoli, 2000).

A historical perspective on the literature regarding body image might help to elucidate the associations among appetite, body image, and sexuality. Appetite for food has long been regarded as an indication of one's "sexual appetite." As early as the middle ages, women were taught to restrain their appetites for food and sexual activity to portray a pure and angelic image, resulting from the prevailing religious and social zeitgeist, when the purity attained from "fasting" was considered holy (Brumberg, 1989). Later, Freud conceptualized AN as psychosexual body shame, an attempt by women to

desexualize themselves (Brumberg, 1989). A domestic manners book of Victorian society also warned ladies against loading their plates, as this was an unattractive social faux pas. And although women were taught to restrain their own sexual desires, they should still be attractive to men; within this context, food was feared because overeating could contribute to physical ugliness and would be unappealing to men (Brumberg, 1989).

Cultural standards of what is considered symbolic of sexuality have clearly changed over time, and svelte women who once were considered asexual are now considered sexually appealing (Brumberg, 1989); as such, does an extremely thin female body now exemplify sexuality rather than serving as a denial of sexuality? These shifting cultural standards may serve to complicate the perception women have of themselves and how eating and body size relate to sexuality (Brumberg, 1989).

While this historical perspective refers to the complexity of body image as it relates to food and sexuality, another important aspect of AN to consider is women's attitudes towards sexuality. In fact, one longitudinal study by Leon, Lucas, Ferdinand, Mangelsdorf, and Colligan (1987) demonstrated that compared to the women's eating patterns, their attitudes about sexuality were actually more predictive of AN impairment post treatment. One might also anticipate that women who hold negative attitudes toward sexuality and who are averse to sexual experiences might avoid relationships and marriage, and those who do marry would be sexually healthier. However, research indicates that those individuals with AN who are married do not have healthier attitudes toward sexuality than never married individuals with AN (Wiederman, 1996; Wiederman, Pryor, & Morgan, 1996). Additionally, while being weight recovered does increase sexual daydreaming, being at a healthy weight does not appear to coincide with

increases in sexual behavior, or more positive attitudes toward sexuality (Morgan, Lacey, & Reid, 1999). This inconsistency between increased sexual desire but a lack of corresponding increase in sexual behavior can be understood if lowered sexual behavior is viewed as a form of restriction that parallels the restriction of food intake, despite hunger that the person experiences.

The biological aspects of sexual interest are consistent with the findings that regaining weight increases sexual daydreaming. That is, loss of interest in sex is strongly related to fluctuations in BMI (Body Mass Index) with lower BMI associated with less interest in sex (Pinheiro et al., 2010). This is understandable, given evidence that low body weight impairs physiological functioning of sexual organs, and changes in BMI affect the hormones regulating sexual functioning as well (Morgan et al., 1999).

Several such hormones, estrogen, oxytocin (OT), and leptin, may play an important role in the decreased physical intimacy of couples dealing with AN. These hormones are found to be at lower levels in individuals of lower body weight. Estrogen plays an excitatory role in the sexual response cycle (Simon, 2010), and thus having low levels of estrogen could contribute to decreased sexual interest. OT, which acts primarily as a neurotransmitter, plays an important part in pair bonding and attachment (Buccheim et al., 2009; Carter, 1998; Uvnas-Moberg, 2004). OT is typically increased through massage-like stroking; thus, physical affection between partners is not only a way to show care and concern, or to arouse sexual interest, but also in itself brings partners closer together through bonding. Because OT levels are generally below average in individuals with AN, this may explain feelings of disconnection reported between partners dealing with AN. Additionally, this may be a self-perpetuating process, whereby

those with AN have low levels of OT and, therefore, are not motivated to engage in affectionate behaviors that increase OT. Low BMI also appears to affect levels of leptin, which is involved in a number of neuronal networks (Ehrlich, et al., 2009). Individuals with a reported high drive for thinness have shown lower levels of leptin and correspondingly low levels of sexual desire (Ehrlich, et al., 2009).

Overall, restricting food and a very low weight lead to lower levels of important hormones in the body, such as estrogen, OT and leptin, and low levels of these hormones may restrict interest in sexual activity, and consequently, sexual behavior. What is less well understood, and may be better accounted for by body image concerns and attitudes toward sex, is why sexual desire that has increased when weight has been restored does not lead to increased sexual behavior.

Overall, the generalization of a restrained style of engagement appears to extend into the realm of sexual functioning. The interactions between the restricted realms of food intake and sexual behavior are likely self-perpetuating. For example, restricting food alters a person's biology, which contributes to lowered sexual desire, which is generally consistent with a restrictive avoidant style. Furthermore, given the restricted communication among these couples, sexual concerns are unlikely to be openly discussed between the partners, which could serve to exacerbate the distance in the relationship and may serve to maintain the disorder.

Whereas the above discussion focuses upon the role of restriction in AN and its implications for sexuality, other individuals with AN engage in binging and purging in addition to restricting food intake. It is important to consider whether women who binge and purge might demonstrate different attitudes toward sexuality compared to women

who restrict food intake. Some research on personality factors and attitudes toward sexuality indicates that women with AN restricting subtype, who do not engage in any purging behaviors, are less likely to have engaged in sexual experiences and generally have less favorable attitudes toward sex, reporting it is less important in a relationship than emotional intimacy. Those with purging subtype, who do restrict food and also purge, appear less sexually inhibited than restricting subtype, although still less sexually experienced than healthy controls. In contrast, those with BN have been found to be more sexually active and less inhibited than healthy controls and report more favorable attitudes toward sex (Coovert, Kinder, & Thompson, 1989). This could be due to the fact that those with BN as opposed to AN are generally at a healthier weight, and therefore sexual functioning may not be as biologically impaired. However, it should be noted that as has been found among samples of individuals with AN, those with BN have been found to cluster around several different personality types ranging in levels of impulsivity and sexual experiences (Wonderlich et al., 2005). Thus, it remains unclear precisely what the association is among binges and purge symptoms, dietary restriction, and interest in sexual intimacy.

Secrecy and behavioral distancing. Beyond restricting disclosures about thoughts and feelings to partners, individuals with AN may also maintain distance in relationships through active secrecy and deception, driven in part most likely by the desire not to have eating disordered behaviors interfered with. While this aspect of restricted engagement with one's romantic partner will not be investigated in the present study, it is an important aspect of understanding the generalized restriction evident in those with AN.

There is little research on secrecy and dishonesty between partners facing AN; however, there is ample evidence of patients denying their illness, which often involves lying to themselves, treatment providers, and family. Denial can involve faulty information processing and significant cognitive distortion, as well as more overt forms of conscious denial, sometimes called "faking good," or reporting less distress than is actually being experienced (Vandereycken, 2006). Secrecy goes beyond refraining from emotionally disclosing and may fall more in line with "faking good." For instance, overt lying may come in response to questions from the partner such as, "What did you end up having for dinner last night when I had to work late?" The motivation behind this overt lying may be two-fold: to avoid angering the partner, and to maintain the disorder.

Behaviorally, in addition to lying, individuals with AN may change their interpersonal and social behavior to maintain the disorder. For instance, they may refuse to attend social gatherings where they are expected to eat and drink. Individuals with AN also report becoming quite rigid about their schedule for eating and exercising and may be unwilling to change their routine for a date with a partner or for a family gathering (Rothenberg, 1990). Honesty is a hallmark of healthy relationships, so secrecy and lying about food related issues is difficult for the partner to empathize with or accept, particularly when they view the patient as choosing the eating disorder over the partner or the couple's relationship, or seemingly "choosing" to put themselves, and thus the relationship, in jeopardy (Baucom et al., 2009).

Motivation to change. A crucial factor likely to affect the way individuals with AN approach their partners and how open and honest they are with them is their level of motivation for recovery. Because AN typically presents as ego-syntonic, meaning the

person identifies with the disorder as not distinct from, nor in opposition to the rest of the self, motivation to recover or change eating disorder-related behaviors often is low. The less motivated for recovery a patient is, the less likely they are to disclose to and seek support from their partner. Likewise, behaviorally isolating oneself from others might be associated with the level of motivation to change as well. If motivation to change is low, the individual is more likely to feel compelled to lie, hide eating disordered behaviors, and isolate from individuals who might make efforts toward changing the patient's behavior. In this way, the disorder is more easily maintained. Overall, it will be important to consider the patient's level of motivation when considering how restrictive the patient might be across the domains addressed in this framework.

Summary

AN is a serious mental illness with deleterious physical effects that has primarily been addressed from an individual perspective. AN affects individuals beyond the age of adolescence, and many of these individuals engage in committed partnerships that are fraught with confusion, dissatisfaction, and a lack of closeness and intimacy. Regardless of the multiple perspectives on the genesis of AN behaviors and whether they spring from personality traits, cascade from dietary restraint, or are manifested social cognitive deficits, it appears that emotional inhibition and dietary restraint are related. A novel framework for understanding this disorder as a set of multi-faceted restriction behaviors may aid in studying and unifying the interpersonal aspects of this illness, which will not only contribute to an improved understanding of the illness itself, but also might contribute to promoting healthier intimate relationships with appropriate intervention.

CHAPTER II

Current Study

The current study is based on the broad thesis that AN involves a variety of individual and interpersonal behaviors that are various manifestations of restriction and withdrawal. Although a defining characteristic of AN, restriction of food is viewed as only one of many manifestations of restricting phenomena exhibited by those with AN. This study explores these restricting behaviors within an interpersonal context as well as the more explicit restriction of food, examining associations among these various restricting, restraining behaviors. An initial empirical examination of this conceptual framework will provide researchers and clinicians with a new way of understanding this difficult disorder and its association with relationship functioning. Whereas the broad thesis of this study is that restricting behaviors extend beyond the realm of food to other domains of the patient's life, there are two domains of interpersonal functioning that will be investigated in the current study: communication and sexual functioning. In addition, varying levels of different AN behaviors and the level of motivation for recovery will be taken into account, as these may have an impact on the level to which patients exhibit restriction behaviors in any domain at any given time.

It should be noted that all three hypotheses are related to the severity of the disorder, which is measured by several indices. Greater dietary restriction, lower BMI, and lower motivation indicate a more severe illness, which is expected to relate to more severe restriction behaviors in other domains (i.e., communication and sexual

functioning). Beyond this general assertion, a separate rationale will be given for specific variables (including bingeing and purging behaviors) and why they are expected to predict a given outcome. The first set of hypotheses involve the communication of individuals with AN, which will be examined through observational coding of couples' conversations about the eating disorder.

Hypothesis 1

It is expected that lower BMI, greater dietary restriction, and lower motivation for change will be associated with greater distancing behaviors from the person with AN in observationally coded communication while talking to the partner about the eating disorder. Communication behavior is anticipated to vary as a function of the eating disorder behaviors in which the individual engages. It is expected that those with more severe AN, specifically those who are engaging in a higher level of dietary restriction will also exhibit this restricting behavior in the context of interpersonal communication. Restriction, or overregulation of emotions, is expected to be observed in patient communication through distancing and withdrawing in contrast to engaging and self-disclosing to the partner. The way that a person with AN communicates with her/his partner is also likely to be related to the patient's motivation for changing the eating disordered behavior. Whereas some patients are highly motivated to overcome their AN, others are much less motivated to change. Knowing that their partners and other individuals are likely to debate them and attempt to encourage or push them to eliminate their eating disordered behavior, patients with low motivation to change appear to withdraw and not discuss their disorder. Thus it is hypothesized that if motivation for

changing eating-disordered behaviors is low, the level of engagement with one's partner during conversation about the disorder also will be low.

Because it is anticipated that those engaging in more binge and purge behaviors will exhibit different communication strategies than those who engage in more dietary restriction, the second hypothesis aims to better understand this difference.

Hypothesis 2

It is expected that a higher frequency of binge episodes and purging behaviors (vomiting, laxative and diuretic use) will be associated with more paradoxical engagement in observationally coded communication samples. Specifically, it is expected that those who binge and purge will be more likely to engage with their partners than those who primarily restrict food; however, it is expected that patients who binge and purge more will engage their partners negatively, using punishing behaviors or sarcasm, for example. In this instance, the patient with AN appears to be engaging with the partner by discussing the AN, but at the same time pushes the partner away through negative behaviors. This paradoxical accepting/rejecting mimics the patient's relationship with food, whereby the person accepts food by eating, and then rejects food by purging (including vomiting and the use of laxatives or diuretics).

Hypothesis 3

It is expected that lower BMI, greater dietary restriction, and lower motivation for recovery from AN will be associated with poorer sexual functioning, measured as self-reported interest in the sexual relationship. This hypothesis is based on the perspective that restriction will be seen in multiple domains of the patients' lives. As in the first hypothesis, BMI and dietary restriction will be used as indicators of the severity

of the eating disorder, such that more severe AN is expected to be associated with lower levels of interest in the sexual aspects of the relationship.

CHAPTER III

Methods

Participants

Twenty couples were recruited from a major medical center in the southeastern United States within the context of a larger treatment outcome study for couples in which one of the partners has anorexia nervosa (see Bulik et. al, 2011 for details). Initial eligibility criteria were determined during a screening interview. To be eligible, patients had to currently meet DSM-IV criteria for AN, either restricting or binge/purge subtype. Individuals with a BMI between 16.0-19.0 at study entry were eligible to participate. Individuals with a BMI <16.0 were excluded because this level of starvation necessitates strong consideration of inpatient treatment. Participants had to be age 18 or older. Adults of both sexes and hetero- or homosexual orientation were eligible. Patients had to enter the study with a willing participating partner (i.e., husband, wife, or committed partner living together for at least one year). Potential participants were excluded for: alcohol or drug dependence in the past year; current significant suicidal ideation reported during the assessment; developmental disability that would impair the ability of the participant to benefit from the intervention; and psychosis, including schizophrenia or bipolar I disorder.

Measures

All measures were administered during a baseline assessment and involved self-report measures provided by the patient and patient communication obtained while conversing with her partner. Other measures completed by the patient and her partner are not part of the current investigation.

Weight and height. BMI is a weight to height ratio that applies to adult men and women and was calculated during the baseline assessment. The patient's weight was assessed using a digital scale; scales were calibrated regularly according to protocol. A stadiometer was used to assess height.

Eating disorder symptomatology. Symptoms of AN were measured using the Eating Disorders Examination (EDE; Fairburn & Cooper, 1987). The EDE is a valid and reliable investigator administered interview used to assess current eating disorder symptoms. Investigator-based interviews such as the EDE require that the interviewers be trained in the concepts of the instrument as well as in interviewing technique. Administration of the EDE lasts an average of 45 minutes. The portion of the interview used in the current investigation focuses on symptoms and behaviors from the preceding four weeks (28 days). In order to assist the participant in being an adequate historian, a calendar is provided covering the preceding 28 days, and time is taken to mark significant events such as birthdays, vacations, and crises. This orientation phase of the interview should last no longer than 10 minutes. Ratings are made as the interview proceeds. The EDE provides two types of data; frequency counts on key behavioral features of eating disorders, as well as subscale scores that are used to indicate severity of eating pathology. The subscales are Restraint, Eating Concern, Shape Concern, and Weight Concern. In the current study, the Restraint subscale of the EDE was used to assess restricting behaviors

over the four weeks prior to the baseline assessment. The restraint subscale is comprised of five items: 1) deliberate restriction of overall food intake, 2) avoidance of all foods for 8 or more hours at a time, 3) a desire for the stomach to be empty, 4) avoidance of specific foods, and 5) use of self-imposed dietary rules. It should be noted that participants are asked whether these behaviors were engaged in to influence weight, shape, or size, or to maintain a sense of control, and in order to be rated as restricting behaviors, they must endorse these reasons for restricting. Purging behaviors are measured as four single items from the EDE; 1) incidence of self-induced vomiting, 2) use of laxatives, 3) use of diuretics, and 4) use of emetics, such as ipecac. Number of days in which the participant engaged in subjective and objective binge episodes over the prior four weeks is measured as two items from the EDE. Higher numbers indicate greater symptomatology. Community norm values have been established for the EDE.

Level of motivation for recovery. The Decisional Balance Checklist (Cockell, Geller, & Linden, 2002) was developed to assess readiness for change in AN. This measure takes approximately 15 minutes to complete. Factor analysis has revealed three factors in this 30 item scale; Burden, Benefits, and Functional Avoidance. While Burdens and Benefits reflect typical pros and cons measures found in motivational research in the past, this measure contributes a unique perspective by capturing the ambivalence inherent in anorexia nervosa in the subscale Functional Avoidance. All three subscales are scaled using 5-point Likert-type responses. This scale has demonstrated good internal consistency and acceptable test-retest reliability (Cockell, Geller, & Linden, 2002). In order to preserve parsimony in the model, the current investigation utilized the Benefits subscale as an indicator of how ego-syntonic the eating disorder is for the patient,

currently. In other words, if the patient is reporting experiencing benefits from engaging in her eating disorder behaviors, she may be less motivated to give up these behaviors, or to engage with others who might encourage her to give up these behaviors.

Sexual functioning. The Brief Index of Sexual Functioning for Women (BISF; Taylor, Rosen, & Leiblum, 1994) was used in order to measure sexual functioning. The BISF is a 22-item self-report measure designed to assess sexual functioning in women. It is intended to be used with both healthy women, as well as women whose sexual functioning may be compromised due to physical or mental illness (Taylor et al., 1994). This measure takes 15-20 minutes to complete. Respondents for the current study reported on two factors: sexual interest and desire, and sexual satisfaction. The BISF-W has adequate test-retest reliability and has high concurrent validity compared with the "gold standard" measure of sexual functioning, the Derogatis Sexual Functioning Inventory (DSFI; Derogatis & Melisaratos, 1979; Taylor et al., 1994; Rosen et al., 1993). In addition, the BISF is considerably easier to administer than the DSFI and provides more detail on current sexual functioning (Taylor et al., 1994).

Observational measures of communication. As part of the baseline evaluation, each couple engaged in a 10-minute eating-related conversation that was videotaped for later coding. In the interaction, the couple shared their thoughts, feelings, and concerns about some aspect of the patient's eating disorder. Observational coding of interactions between partners has been successful in demonstrating couples' interactional patterns in a wide range of couple investigations (Arkowitz & Fruzzetti, 1998).

The communication interactions were coded by trained undergraduate research assistants using the Intimacy-Distance Process Coding System (IDPCS, Fruzzetti, 1996),

which was revised for the current study in order to assess the level of restricted communication being exhibited by the patient. The IDPCS is a micro-analytic coding system measuring both verbal and nonverbal behaviors that serve to enhance or inhibit intimacy between partners. Individual talk turns are coded for their function and content. Affect is an important aspect of the talk turn that must be taken into account when assessing the function of the code. Affect can also be analyzed independently in order to provide more information about the couples' communication; however, in the current investigation, affect was only used to inform function of talk turns. Microanalytic talk turns were collapsed into a priori summary codes: 1) Intimacy enhancing or maintaining behaviors (IEB), 2) Paradoxical engaging behaviors (PEB), 3) Aversive distancing behaviors (ADB), and 4) Avoidant/withdrawing distancing behaviors (AWB). Intimacy enhancing behaviors include codes such as "self-disclosure", and "validating" one's partner. Paradoxical engaging involves aversive or demanding attempts to engage the partner, characterized as the "demand-withdraw" pattern described by couple researchers (Christensen, 1988). Soliciting a response from one's partner negatively ("Answer me!" for example), or demanding unilateral changes from one's partner are examples of paradoxical engagement. This is distinguished from both intimacy enhancing engagement strategies that are constructive and from distancing strategies, such as actively pushing the partner away or avoiding engagement with one's partner. These four summary scales can be further collapsed into two summary scores measuring overall engagement (ENG, comprised of IEB and PEB) and distancing (DIS, comprised of ADB and AWB). For the current investigation, PEB was considered separately from IEB, in order to evaluate the difference between aggressive engagement and intimacy enhancing engagement, while

ADB and AWB were combined into the summary score for overall distancing behaviors Previous research on the IDPCS has shown acceptable levels of reliability, concurrent, construct and discriminant validity (Fruzzetti, 1996). The coding manual is provided in the Appendix.

The investigator trained four undergraduate coders uninformed of the study design or hypotheses on the use of this system. Weekly training meetings were held during one semester before coding for the current investigation. For the first portion of the training, coding exercises were conducted as a group to ensure the coders were able to comprehend the constructs. For the second portion of the training, group coding exercises were conducted to obtain adequate reliability (80% agreement) before they began coding the interactions of interest in the current investigation. Training was conducted by applying the coding system to couple interactions from two other treatment outcome studies; focusing on couples facing breast cancer (Baucom, Porter, Kirby, Gremore, & Keefe, 2005), and couples facing obsessive-compulsive disorder (Baucom, Abramowitz, Pukay-Martin, Kelly, & Wheaton, 2008) with an equivalent communication interaction task. For the current investigation, 68% of the interactions were double coded for reliability. In order to assess reliability, a Cohen's Kappa (Cohen, 1960) was calculated for the microanalytic codes (d = .74), and a Rater Agreement Index (RAI; Burry-Stock, Shaw, Laurie & Chissom, 1996) was calculated for the global codes (RAI = .86), with results indicating acceptable levels of reliability.

Study Procedure

The data for this investigation include the pretest data for patients with AN who volunteered for a couple-based intervention for treatment of AN (see Bulik et al., 2011

for more details regarding this investigation). Eligible couples completed an initial assessment with a research staff member, during which time informed consent was obtained, and several questionnaires and communication interaction exercises were completed. For the current investigation, only selective data were used, as indicated in the Measures section.

After the consent forms were signed, the research staff member left the couple while they completed the self-report measures. Each partner was instructed to complete the questionnaires independently without sharing their answers. A portion of the assessment was completed in a one-on-one interview format between each partner and the assessor; this included, for example, the EDE used in this investigation. After questionnaire measures and interviews were completed, the research staff member led couples through the video-recorded sample communication interactions. The couple was instructed to choose a topic related to the eating disorder and to share their thoughts and feelings about this issue as they normally would. The couple chose a topic with the assessor present, and then the assessor left the room for the duration of the 10-minute interaction so that the couple could converse in private. The biomedical institutional review board of University of North Carolina approved these procedures.

Statistical Procedure

Descriptive statistics and all inferential analyses were conducted using SPSS software, version 19 (SPSS Inc., 2010). Multiple linear regressions were conducted to test the proposed associations. Because power was low due to small sample size, the number of predictors was reduced for many of the analyses by running more parsimonious models separately and removing variables with substantial missing data. Sample size

varies between analyses due to missing data; therefore, sample size is noted for each analysis.

CHAPTER IV

Results

Demographic Statistics for Sample

Extensive demographic information was collected for the 20 women included in this investigation. Means, standard deviations and frequencies were calculated in SPSS and are reported in Table 1. The women averaged 32 years in age, ranging from 23 to 57. The majority of the participants identified as White (85%), 10% identified as Black, 5% as Hispanic. A little over half of the participants were married (63% of the 19 women providing information), while the remainder had been living together for at least one year. Those who were married had been married for an average of 11 years, with a wide range from one to 38 years. For all of the women except for one, this was their first marriage. The sample was split evenly between those who reported having children and those who did not.

Participants reported individual yearly income, with 26% of the sample reporting $15,000 or under; 53% of the sample generating between $15,000-35,000, and the remaining 21% reporting between $35,000-75,000. Levels of education reported in this sample were similarly elevated as compared with the general population, with 35% of the sample having obtained a GED, high school diploma and some trade school; the majority (60%) the sample obtained a

bachelor's level degree. Only one person reported obtaining a degree beyond the bachelor's level.

Descriptive Statistics for Predictor and Outcome Variables

The outcome variables used in the following analyses included both global and micro-analytic ratings from the observational coding system IDPCS, capturing distancing strategies in communication, which was revised for this study. To assess sexual interest, the sexual interest subscale of the BISF was also used as an outcome variable. The predictor variables used in these analyses were all related to aspects of patients' AN: (a) BMI, (b) women's eating disordered behaviors (specifically, attempts at food restriction, and episodes of bingeing and purging over the past 28 days, and (c) women's reports of how much their eating disorder is currently benefitting them, used as a proxy for motivation to recover. Means and standard deviations for these variables are listed in Table 2.

Distance Enhancing Strategies. As seen in Table 2, when looking at the proportion scores (out of 1) for the microanalytic ratings of communication, women clearly employed much higher proportions of aversive distancing strategies (*M* = .14) during recorded conversations than avoidant distancing strategies (*M* = .05); they employed about the same proportion of aversive distancing strategy as paradoxical communication (*M* = .13). Across the sample of patient talk turns in the conversations, intimacy enhancing behavior strategies were the most frequently used strategy of communication (*M* = .68), although there was a range (.15-1.0), and in some conversations, IEB was not the most prevalent strategy used. For the global assessment of how restricted women were in their communication, the possible

range of scores was 1 to 5, with higher scores indicating less restricted and more open communication. As seen in Table 2, scores in this sample ranged from 1 to 5, with the average for this sample being just above the midpoint of possible scores (*M* = 3.3).

Sexual Interest. Women's ratings of interest in sex ranged from 0 to 5 on a subscale of the BSIF with higher scores indicating more interest in sex, and the average falling at the midpoint of possible scores (*M* = 2.5).

Eating Disordered Behaviors. Attempts to restrict food over the past month were measured by the Restraint subscale of the EDE, with a range of scores from 0 to 5, with higher scores indicating more severe attempts to restrict food intake. The average score fell just above the possible midpoint (*M* = 2.7), with 40% of the sample reporting scores of 4 or 5. Participants were asked about both objective and subjective binge episodes; as a sample, they reported approximately twice as many subjective binge episodes (28) as objective episodes (15) over the past month. It should be noted that almost the entire sample (90%) did not meet criteria for objective binge episodes; therefore, this variable was not included in the analyses; rather analyses intending to look at binge and purge behaviors were conducted only with purge variables. Overall, purging behaviors were also fairly low in this sample, with 75% of the sample denying laxative misuse, and 100% denying use of diuretics. For the following analyses, purging behavior was measured as the number of episodes of self-induced vomiting over the past month; only 32% of the sample endorsed engaging in vomiting. The range of episodes for those included in the analyses was 0-17 times during the last month (*M* = 2, *SD* = 4.5).

Motivation for Recovery. The Benefits subscale of the Decisional Balance Checklist measures how much benefit women feel they are getting from engaging in their eating disorder, and this was used as an indication of how motivated women might be to work on recovery. Scores ranged from 20 to 40 with higher scores indicating more benefit obtained (M = 32.7, SD = 6.2). There are currently no established norms for this measure. Only 15 women completed this measure; therefore, analyses including this measure are based on this smaller sample. Because the small sample size in the study is already a crucial issue, some analyses initially proposed to include this variable were run additionally without this variable to preserve sample size. Sample size for each analysis is noted below.

Predicting Restricted Communication from Restricted Eating

Based on past research and on the theoretical framework presented above, it was predicted that women who report more restrained eating would exhibit more aversive and avoidant distancing strategies in conversation with their partners. Because of the low base rate of avoidant distancing strategies exhibited in this sample, aversive and avoidant codes were summed to create one summary variable of distancing strategies. Aversive and avoidant codes are not highly correlated (r = .21). This is not surprising since they are different types of distancing strategies, and any given individual might distance in one way but not the other. However, looking at distancing strategies overall still provides information about patients' communication. In addition to investigating the micro-analytic ratings of communication, it was expected that global codes for overall level of restricted communication would be predicted by restrained eating. BMI was included as a

crucial variable for providing an indication of the severity of the person's AN, and in order to assess whether being of very low weight is related to communication independent of eating disorder behaviors. It was also expected that taking motivation to recover into account would be important, as those who are more motivated to recover may be more open with their partners even while they are still struggling with eating disordered behaviors. Thus it was expected that restrained eating would interact with motivation to predict communication.

In order to evaluate these hypotheses, a multiple linear regression was conducted, predicting women's use of distancing behaviors from restrained eating and motivation to recover, controlling for BMI. The variables were centered to create the interaction term to test for the interaction of restraint and motivation (N = 15. As seen in Table 3, the results from this analysis revealed no significant results (F (4, 13) = .224, p = .92, R^2 = .091).

Given the small sample size, it was determined that limiting the number of predictors in a given model may be beneficial to reduce type I error. Additionally, it was valuable to look at the results without the variable of motivation, which included substantial missing data. Thus, separate analyses were conducted. A linear regression was conducted predicting women's use of distancing behaviors from restrained eating, controlling for BMI (N = 19), removing motivation from the equation. As seen in Table 4, the results from this analysis revealed no significant results (F (2, 13)= .037, p = .96, R^2= .007). A linear regression was conducted predicting women's use of distancing behavior from motivation to recover (N = 15).

The results from this analysis revealed no significant results (F (1, 13) = .025, p = .88, R^2= .002).

Additionally, it was important to test both the microanalytic level of communication as well as the global assessment of communication. Thus, a linear regression was conducted predicting women's global rating of restricted communication from restrained eating, controlling for BMI (N = 19). As seen in Table 5, results from this analysis revealed no significant results (F (2, 16) = 2.56, p = .108, R^2= .243). In order to reduce the number of predictors, a linear regression was run predicting global communication from restrained eating, removing BMI from the equation (N = 19). Results from this analysis revealed significant results (F (1, 18) = 5.06, p = .038, R^2= .229), indicating that higher levels of restricted eating are associated with more restricted, or distanced, communication. A linear regression was also run predicting global communication from BMI alone (N = 19). Results from this analysis revealed no significant results (F (1, 18) = .00, p = .988, R^2= .004), indicating that BMI itself may not be as relevant an indicator of distanced communication as restrained eating behavior in this sample.

Predicting Paradoxical Engagement from Binge and Purge Behaviors

As previously described, past research has indicated that some individuals with AN-BP subtype may present differently than those with AN-R subtype in terms of traits such as impulsivity and emotion regulation (Thompson-Brenner et al., 2008). In order to assess whether differences are seen in terms of interpersonal communication, it was expected that those engaging in more binge and purge behaviors would exhibit higher levels of paradoxical engagement strategies in communication with their partners. The

logic behind this hypothesis is that if restricting food is associated with restricted communication, perhaps a more ambivalent relationship with food; i.e., taking it in and then forcing it out, may be associated with a more ambivalent communication style wherein the individual engages with their partner, yet in a difficult way that prohibits an emotionally intimate conversation. Because the distribution of scores for paradoxical engagement was skewed, this variable was log transformed before being analyzed. As mentioned above, due to the low base rate of objective binge episodes, this variable was not included in the analysis for this hypothesis. In order to evaluate this hypothesis, a linear regression was conducted predicting paradoxical engagement style from the number of episodes of self-induced vomiting over the past month (N = 17). As seen in Table 6, results from this analysis revealed no significant results ($F(1, 16) = .174$, $p = .682$, $R^2 = .011$), indicating that the expected pattern was not observed in this sample. It should be noted that given the skewed distribution of scores and the relatively low base rate of these behaviors in an already relatively small sample, it might not have been possible to identify such a pattern in this sample.

Predicting Sexual Interest from Dietary Restraint

Given previous research indicating that those with AN often have little interest in sex, it was predicted that the greater the dietary restraint attempted over the past month, the lower the interest in sex. It was expected that restraint in particular would account for more variance in interest in sex, than would BMI. This was expected given that someone could be weight restored and still struggling with eating disorder symptoms; at the same time, another individual who is underweight might be motivated to recover and feel more open and close with their partner. In

order to capture the motivational aspect of this hypothesis, motivation for recovery was also included as a variable in the analyses. Thus, this hypothesis was aimed at understanding the specific association between current efforts to restrain eating and interest in sex.

In order to evaluate this hypothesis a linear regression was conducted predicting interest in sex from dietary restraint, motivation, and the interaction of the two, controlling for BMI (N = 14). As seen in Table 7, the overall model was not significant (F (4, 10) = 3.36, p = .055, R^2= .574); however, the main effect of restraint on interest in sex trended in the expected direction (p = .053). As seen in Table 8, without the interaction term, the overall model was not significant (F (3, 11) = 3.22, p = .065, R^2= .468); however, the main effect of restraint on sexual interest was significant (p = .018). In order to reduce the number of predictors, a second linear regression was conducted testing the model only for the main effects of restraint and BMI on interest in sex (N = 19). As seen in Table 9, the overall model revealed significant results (F (2, 17) = 3.65, p = .048, R^2= .301), indicating that when restraint is higher, sexual interest is lower. In looking at the specific effects of each variable, the variance in sexual interest was accounted for by dietary restraint (p = .015 and not by BMI (p = .657).

CHAPTER V

Discussion

To date, there has been little research on the romantic relationships of individuals with AN. Based on past research, as well as a new theoretical framework for conceptualizing the way those with AN interact with partners, it was broadly proposed that dietary restriction is one manifestation of a general distancing and disengagement, which contributes to relationship distress and also maintains the eating disorder. Results from this study indicate that overall, women who reported more dietary restraint are less open in communication with their partners, when communication is measured as a global construct. This is consistent with the proposed framework that women who are behaviorally more entrenched in their eating disorder, meaning they are attempting to restrict food more often, tend to confide less in their partners, while punishing and withdrawing from them more.

The function of this communication strategy for women with AN may be two-fold. First as discussed above and based on past research, these women may have fears of being emotionally vulnerable through opening up to their partners; second, withholding information about the eating disorder behaviors makes it less likely that partners will interfere with the women's maintenance of the eating disorder. Looking at women's communication at a microanalytic level did not yield the same results; however, this could be due to the relatively restricted range of the distancing codes. The highest proportion scores of the conversations were for the

category of intimacy enhancing behaviors. This category encompassed both neutral and positive behavior and was not the focus of investigation. Given that this is a new coding system for which there are no norms and which was revised for this study, it is possible that the distancing codes, which were the focus of investigation, are not measuring the expected constructs for this population. In other words, the avoidance of conflict and or closeness expected for those with AN may be exhibited in a manner not captured by the codes in this system. As reviewed in the introduction, there has been some research indicating that the communication of couples involving women with AN were overall *less* negative than a control group of maritally distressed couples, although they were not reporting high levels of closeness and intimacy (Van den Broucke, Vandereycken, & Vertommen, 1995a). This could be an indication that the distance and avoidance is difficult to capture in conversation because it is demonstrated as a lack of intimacy, rather than as a presence of aversive, negative behavior.

Perhaps the significant results based on the global communication code, measuring overall openness in the communication style, indicate a more accurate assessment of this lack of intimate connection. The global communication code, which was created for this study, is correlated with the intimacy enhancing microanalytic codes, yet it is not correlated with the negative microanalytic codes, as would be expected. Although reliability was achieved for the microanalytic codes, the fact that they are not all correlated with the global codes calls the validity of the microanalytic codes into question. It may be easier for coders to capture global

aspects of communication more accurately, indicating that further development of the more nuanced microanalytic codes in this system may be necessary.

With respect to the results found using the global codes for communication, it is important to note that dietary restraint but not BMI predicted more restricted, distanced communication. BMI is a key variable often indicating severity of an eating disorder; however, these results may indicate that, compared to BMI, communication behaviors such as restraint are a more appropriate benchmark for the patient's overall openness and involvement in the world, whereas BMI is a more appropriate benchmark for medical severity of the illness. For instance, someone at a very low weight who is entering treatment and feeling motivated may stop restricting and begin to open up to her partner, whereas someone who has been recently weight restored and encounters a trigger for her eating disorder may begin to restrict eating and withdraw from her partner. In each of these scenarios, BMI would not accurately provide information about the interpersonal behaviors in which the person is likely to engage; however, dietary restriction would provide such an indication. Thus, BMI might be an appropriate index of current severity of weight, but restricted eating might provide a meaningful marker of current psychological status related to withdrawal from the outside world, both in terms of nutritional intake and interpersonal interaction. While this interpretation is somewhat speculative, it calls for further exploration of the various specific contributions of these two eating-related indices in understanding AN.

Given previous research findings demonstrating some behavioral differences between those patients who binge and purge and those who primarily restrict, it

was also expected that consistent differences would appear in the pattern of communication with partners as a function of degree of bingeing and purging (Westen & Harnden-Fischer, 2001). Results from the current investigation demonstrated no significant difference in communication patterns among those who engaged in bingeing and purging. At present, it is difficult to clarify whether the lack of findings resulted from substantive or methodological reasons.

Methodologically, the sample overall demonstrated a low level of bingeing and purging behaviors, resulting in a restricted range and the concomitant difficulty of finding associations with other variables. Due to the low frequency in this sample of objective binge episodes, only the variable for purge behaviors was used in the analyses predicting paradoxical engagement. The theory behind the different communication styles expected was originally based on the difference in subtype behaviors; therefore, the distinction being made in this investigation may have been too fine grained. It would be beneficial to study the difference in communication between AN-R and AN-BP, and between BN and AN in a larger sample to ascertain whether differences in eating behaviors are predictive of differences in communication behaviors for these different diagnostic groups.

In addition to the strained communication present in the relationships of those with AN, sexuality is another domain particularly strained for those with AN (Pinheiro, et al., 2009). Based on these findings and the current model, it was predicted in this investigation that individuals engaging in more dietary restraint would have lower interest in sex. The findings substantiated this prediction, and as with the first hypothesis, these results held for dietary restraint but not for BMI,

indicating that once again, restricting behavior may be the better indicator of interpersonal concommitants of the disorder. As described in the theoretical framework proposed for this study, there are several potential contributing factors to a lowered interest in sex; including body image issues, fears related to vulnerability of being intimate, as well as medical issues induced by the disorder that physiologically reduce sex drive. Whereas the current study does not aim to identify the underlying mechanisms for this association, it is the first empirical demonstration of the association between dietary restriction and lowered sexual interest among women with AN. One explanation that has been offered for the low sex drive among women with AN is the hormonal changes that occur at a very low weight (Pinhiero et al., 2010). Interestingly, however, more dietary restraint was predictive of lower interest in sex, whereas lower BMI was not significantly associated with lower interest in sex. This pattern of results is more consistent with a psychological rather than a physiological explanation for the lowered interest in sex. It should also be noted that a biological loss of sex drive may occur for women with a BMI that is lower than the BMIs of women in the current investigation.

Based on the proposed theoretical framework of generalized restriction, these findings related to interest in sex are consistent with an overall avoidance of being close and connected to another person. The individual with AN may be avoiding fears of vulnerability associated with intimacy, as well as concerns that if the partner sees her body, he will take action to prevent her disordered eating behaviors.

There remain unanswered questions regarding the underlying causes of lowered interest in sex, as well as more distanced communication found in this population. Whereas the current investigation provides an innovative window into how AN patients interact with their partners, there are some limitations which are important to note. A major limitation of this study is that it is cross-sectional in nature, and no cause and effect conclusions can be made. Additionally, this is a treatment-seeking sample, in which both the patient and her partner were interested in receiving treatment. More withdrawn communication may be exhibited by a sample of patients who are more resistant to treatment or partners who are less involved in the patient's care.

Another major limitation of the current sample is the small size, which limited power and they types of analyses that could be conducted. Smaller sample sizes are more common among studies employing time-intensive observational coding techniques; however, future research replicating this study with a larger sample could provide more support and clarification for the results of this study. Additionally, a larger sample may provide the diversity of symptomatology needed to investigate some of the more nuanced aspects of the hypotheses proposed in this study, namely the differences in eating disordered behavior among AN subtypes, severity of illness, and motivation to recover. With a larger sample, there would also be statistical power to conduct lag sequential analyses to investigate within a conversation how the partner's communication impacts the patient's communication and vice versa. Previous investigations demonstrate that couples' conversations are most meaningfully understood when both the frequency (as in

the current investigation) and the sequence of specific communications between partners is taken into account (Epstein & Baucom, 2002). However, in order to explore these detailed sequences of interaction during a conversation, much larger samples are necessary to detect meaningful patterns of communication between partners.

Due to the small sample size, it was not feasible to explore all possible factors that could be contributing to the communication style of couples facing AN. Although information on relationship satisfaction, length of relationship, and age at diagnosis were available, the small sample size precluded testing all of these models in the current investigation. However, it is reasonable to expect that women in relationships that are more distressed would exhibit more distanced communication than those who report being happier in their relationship. The length of a relationship may impact communication in one of several possible ways. One might expect that longer lasting relationships have developed more intimacy over time, and that the partner may be more comfortable or familiar with handling the patient's disorder. However, past research has indicated that partners have reported being unaware of the severity of the eating disorder for many years (Van den Broucke & Vandereycken, 1994). Additionally, younger couples may be less entrenched in their communication patterns in general, and the patient's AN might have had less opportunity to alter the couple's relationship (Bulik et al., 2011).

Comorbid personality disorders may also impact the nature of communication of those with AN. The current investigation does not have a measure of Axis II disorders present in this sample; however, future research

considering this variable may provide further insight into the communication styles of these patients. For example, clinical observations suggest that those with obsessive-compulsive personality disorder may seek more verbal reassurance from partners, and may exhibit more rigidity than those without this disorder. Patients with a diagnosis of borderline personality disorder may present as more expressive and more aggressive, as opposed to avoidant and withdrawn (Bulik et al., 2011).

Because of the complexity of AN and the current lack of efficacious treatments for adults with AN, it is valuable to consider potential clinical implications of the findings of the current study. In doing so, it is essential to recognize that any such implications be viewed as tentative, given the small sample size and cross sectional nature of the investigation. Given that partners are often perplexed about what the experience of the disorder is like for the patients, it is understandable that partners often struggle to know how to support their partners effectively. The results of the current investigation suggest that patients who are restricting food more severely are also communicating with their partners less effectively. Thus, it stands to reason that clinicians could work with couples to increase the lines of communication with respect to discussing the disorder, thereby allowing the partner to become more of an asset to the patient's recovery. In addition to encouraging the patient to share her experience with her partner, the therapist can also make suggestions to the couple about how the partner can be supportive in ways that are consistent with current evidenced-based treatment for AN.

As outlined in Baucom, Kirby, and Kelly (2009), there are several methods for involving the partner in the treatment of an individual disorder; however, a common thread among them is using communication skills to help couples stay focused on the same goals and work together effectively as a team. Efforts to apply these intervention principles in the context of AN are currently underway in the larger treatment outcome study UCAN (Uniting Couples in the Treatment of Anorexia Nervosa), which provided baseline data for the current study . Therapists are teaching communication skills, providing psychoeducation, targeting specific domains related to eating disordered behavior (e.g., meal planning and eating with others), and addressing relationship issues such as body image and sexuality in order to improve both the relationship and the eating disorder symptoms (Bulik et al., 2011). Although the current findings cannot determine cause and effect, the present results are consistent with the notion that encouraging openness in communication between partners about the AN and helping couples improve their affectionate and sexual interaction might provide a healthy interpersonal context for addressing restrained eating in patients.

Considering the results indicating that more dietary restraint is associated with less interest in sex, a similar exposure hierarchy might be considered in the domain of sexual interaction as described above for communication. Addressing the issues contributing to the decreased interest in sexuality through communicating openly about such topics, and then also providing couples with out-of-session assignments to explore different aspects of physical interaction, in the vein of sensate focus techniques long used as an essential part of sex therapy (Regev &

Schmidt, 2009), may aid in overcoming the avoidance of being intimate. Such an approach may allow patients with AN to experience the behavior of being intimate in a gradual way, learning over time that the outcome will not necessarily be negative, and thus anxiety will diminish. Interacting in this way over time may increase interest in sex, but interest may not increase until the barriers of avoidance are overcome. The current UCAN investigation includes several sessions focusing on body image and sexuality and allows couples to create a customized plan for gradually decreasing avoidance and achieving more intimacy (Bulik et al., 2011).

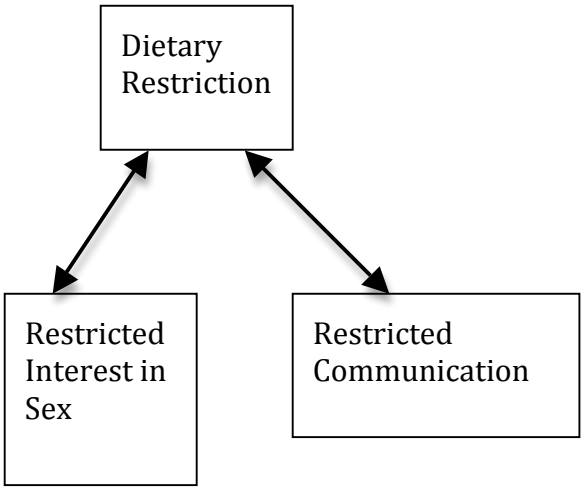
Overall, AN is a complex, somewhat baffling, and pernicious disorder. In order to fully understand AN, it is critical to explore it from a number of different perspectives, including an interpersonal framework. The overarching theme introduced by the framework of this study is the general distancing and disengagement that is associated with AN, both in terms of eating behavior and interpersonal interactions. The current findings support such a notion and hopefully provide at least one additional small piece in our understanding of this disorder. In doing so, the findings also are consistent with the inclusion of the partner into the treatment of this disorder. A couple framework for understanding and treating AN is a relatively new phenomenon and one that may mitigate the severity of the disorder as well as the distance between partners in these relationships, perhaps improving the quality of life at both the individual and couple level.

CHAPTER VI

APPENDIX 1. FIGURE AND TABLES

Fig. 1 Models of Restriction

Generalized Model of Restriction



Cascade Model of Restriction

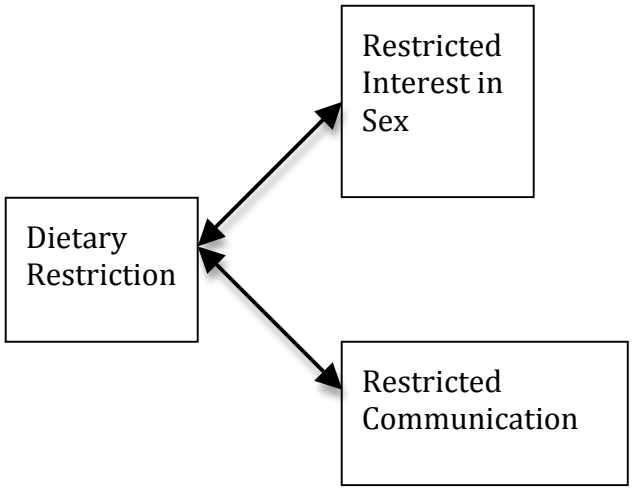


Table 1.

Means, Standard Deviations, and frequencies for sample characteristics

Variable	Patients (N = 20)	
	M	*SD*
Age	32.3	8.9
*Years Married	10.7	10.9
	Frequencies	
Education		
GED, high school diploma, trade school	35%	
Bachelor's Degree	60%	
Beyond Bachelor's degree	5%	
Race		
Caucasian	85%	
African American	10%	
Hispanic	5%	
Income (individual yearly)_		
<$15000	26%	
$15000-35000	53%	
>$35000	21%	
Have children?	50%	

*63% of the sample was married, with the remaining couples co-habiting

Table 2

Means and Standard Deviations for communication variables, BMI, Eating Disorder Behaviors, Motivation to Recover, and Sexual Interest

Variable	Patients (*N* = 20)	
	M	*SD*
*Intimacy Enhancing Strategies (IEB)	.68	.24
*Paradoxical Engagement Strategies (PEB)	.13	.16
*Aversive Distancing Strategies (ADB)	.14	.15
*Avoidant Distancing Strategies (AWB)	.05	.08
*Global Distance	3.3	1.1
Dietary Restraint	2.7	1.8
*Subjective Binge Episodes	4.3	7.3
*Self-induced Vomiting Episodes	2.0	4.5
**Benefits to AN (motivation)	32.7	6.2
Sexual Interest	2.5	1.4

*N = 19
**N = 15

Table 3

Results for Regression Analysis Predicting Women's Communication from Women's Dietary Restriction, Motivation, and the Interaction of Restraint and Motivation, controlling for BMI

Variable	*B*	*SE*	*β*
Dietary Restraint	.101	.147	1.024
Motivation	.013	.019	.435
Restraint x Motivation	-.004	.005	-1.373
BMI	-.003	.035	-.035

*$p < .05$.

Table 4

Results for Regression Analysis Predicting Women's Communication from Women's Dietary Restriction, controlling for BMI

Variable	*B*	*SE*	*β*
Dietary Restraint	-.005	.025	-.048
BMI	-.001	.019	-.014

*$p < .05$.

Table 5

Results for Regression Analysis Predicting Women's Global Communication from Women's Dietary Restriction, controlling for BMI

Variable	*B*	*SE*	*β*
Dietary Restraint	-.291	.129	-.506
BMI	-.052	.097	.118

*$p < .05$.

Table 6

Results for Regression Analysis Predicting Women's Paradoxical Engagement from Women's Purge Episodes

Variable	*B*	*SE*	*β*
Purge Episodes	-.003	.007	-.104

*$p < .05$.

Table 7

Results for Regression Analysis Predicting Women's Interest in Sex from Women's Dietary Restraint, Motivation for Recovery, BMI, and the Interaction of Restraint and Motivation

Variable	*B*	*SE*	*β*
Dietary Restraint	-.137	.627	-2.133
Motivation	-.135	.080	-.690
BMI	.125	.148	.200
Restraint x Motivation	.031	.020	1.752

*$p < .05$.

Table 8

Results for Regression Analysis Predicting Women's Interest in Sex from Women's Dietary Restraint, Motivation for Recovery, and BMI

Variable	*B*	*SE*	*β*
Dietary Restraint	-.410	.147	-.636*
Motivation	-.034	.051	-.172
BMI	.125	.148	.248

*$p < .05$.

Table 9

Results for Regression Analysis Predicting Women's Interest in Sex from Women's Dietary Restraint and BMI

Variable	*B*	*SE*	*β*
Dietary Restraint	-.426	.158	-.560*
BMI	.054	.119	.094

*$p < .05$.

APPENDIX 2. CODING SYSTEM

The Intimacy-Distance Process Coding System: A Functional Approach to Coding Couple Interactions[1]

Overview of Construct:

This coding system is intended to capture strategies (as well as affect or emotion) that couples engage in and exhibit to become more or less intimate when conversing. When individuals talk about their relationship in a positive way and use communal words such as "we", for example, this is considered intimacy enhancing. Self-disclosure is a primary way of enhancing intimacy, and validating one's partner is likely to reinforce feelings of closeness and togetherness. Asking one's partner questions that demonstrate interest or a true desire to understand or soliciting them to self-disclose in an inviting, positive way can enhance intimacy, as does suggesting the sort of behavior change in a relationship which would bring people closer together (e.g., requests to spend more time together as a couple). Accepting such suggestions from one's partner is considered intimacy enhancing as well. Non-verbal intimacy enhancers, such as touching someone's arm, or giving a hug, or verbal intimacy enhancers that are more general (complimenting one's partner or telling them they are loved) are also things to note when using this coding system. On the other end of the spectrum, talking about the relationship negatively, criticizing or invalidating one's partner, avoiding self-disclosure, discouraging one's partner from self-disclosing, demanding unilateral change, being sarcastic or dismissive, or rejecting intimacy enhancing suggestions from one's partner are all strategies that are likely to create more distance, and less intimacy between partners.

Overview of the Coding Process:

In order to use this coding system, there are a couple of basic things to know. One is the unit of measurement. This is a microanalytic coding system in which the talk turn is the unit of measurement (a talk turn is everything that one person says after the partner has finished speaking and until the partner speaks again). Each talk turn will receive one functional code and one affect code (outlined below). Additionally, for use in the current study, each talk turn will also be coded as to whether the content is eating disorder related. It is recommended that coders watch each entire conversation through once first. One global code will be assigned to whichever partner is being coded. This code will simply indicate whether the overall impression of the partner is that he or she is "open" or "restricted". Then watch the conversation again to assign and record the codes for each talk turn included in the remainder of this manual.

<u>Specific Functional Codes: Each talk turn is given one code</u>

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[1] Coding system originally by Alan Fruzzetti at the University of Nevada, Revised September 26, 2010 by this author for current study

1. **Self-disclosure**
    a. About self
    b. About partner
    c. About relationship
    d. About other person or environment

The critical aspect of this code is that the speaker is purposefully sharing his or her own thoughts and feelings, with the seeming purpose of the listener understanding something about the speaker's internal state. This should be differentiated from comments that are indicating a request for change, a criticism, or an approval. Four separate qualifiers help to differentiate within this self-disclosure function, who or what was being talked about during the disclosure.

Examples:
The following examples reflect the four possible content areas to illustrate the difference.

I have been so distracted with my own problems lately
I feel scared when I can tell that you are restricting again
I am sad that we haven't been able to eat dinner together in so long
I am so excited about your brother coming to stay with us

2. **Partner comment**
    a. Validate
    b. Invalidate

This code involves the speaker making a comment about the listener's behavior in a way that communicates either approval or disapproval. It should be noted that when a validation involves significant self-disclosure in the same talk turn, the self-disclosure code is trumped by the partner comment and partner comment should be assigned in those cases. Note that the comment can be about something from the past (first example) or something that is currently happening in the current conversation (second example).

Examples:

You have been doing really well lately
Well, that just doesn't make any sense, because obviously you aren't fat

3. **Soliciting response**

This code captures anything the speaker does to elicit a response from the partner or engage the partner in the conversation that does not involve a request for change.

Example:

Well, what do you think of that, honey? I want to know how you feel

4. **Change statements**

    a. Intimacy enhancing
    b. Distance enhancing

These codes involve requests for change. The intimacy enhancing code will be assigned to those talk turns that indicate a request for more time together, more attention from the partner, etc., in ways that facilitate intimacy. It should be noted that partners could even be discussing time apart for their own activities in a way that promotes overall intimacy (e.g., spending time apart so that they have something to bring back and share in the relationship). The distance enhancing code will be assigned to those talk turns that indicate the person wants to draw away from the partner, requests to be left alone with no indication this will increase overall intimacy.

Examples:

I would really love it if we could try to eat dinner together a few more times a week than we do now (Intimacy enhancing)

I just want you to stop asking me whether I have eaten breakfast (Distance enhancing)

5. **Response to change statement**
    a. Resist
    b. Accept

These codes are only relevant when the listener has previously made a request for change that the speaker is now responding to. The partner can either accept or reject the changes being requested. If the speaker ignores the previous request for change altogether, this will indicate a "resist" code, of passive nature. Note, if the speaker is responding to a change statement intended to increase distance and the speaker accepts this request, this would not be coded as "accepts", but as Distance NOS (see below). This is because accepts is meant to be an intimacy-enhancing indicator. In some cases, the speaker might partially accept and partially resist the requested change; in such instances, judge the overall impact of whether it is likely to be experienced as an accept or reject code by the listener (see second example below).

Examples:

I am sorry, but I really don't want to eat dinner with you; I need to eat in the other room. (Resist)

I would love to eat dinner with you more; can we just start with one more day a week for now, since it is still really difficult for me? (Accept)

6. **Simple facilitation**

This code is a catch-all for conversation facilitators that do not meet criteria for other codes but keep the conversation moving forward. For instance, back-channeling (head nods, uh-huh) as active listening. These will be positive, non-critical and non-sarcastic. Non-verbal behavior may play a key part here. Note that negative nonverbals are not coded here but are viewed as punishing as described below.

Examples:

"Uh-huh, that is what I thought."

"Yes, I remember that."

7. **Punishing**

These codes will be behaviors that stifle or inhibit the conversation or move it toward a more confrontational or attacking interaction. Sarcasm, non-verbal behaviors such as eye-rolling, criticism, hostile comments, or rising frustration would all be included here.

Examples:

"OK, OK, OK, I won't do that anymore!"
"Yeah, like that would ever happen." (said with sarcasm)

8. **Distancing NOS**

This code will be used for talk turns that promote distance but do not fall into the other categories. As mentioned above, if a speaker responds to a request for more distance with acceptance, this would be coded as distancing NOS. Additionally, if someone says something that sounds like it is intimacy enhancing on the surface but affect and non-verbal behavior are indicating withdrawal, this code would be used.

Examples:

Sure, that sounds fine (said with low affect, no eye-contact and turned away from partner in response to an intimacy enhancing change statement).

I don't know (a non-punishing, but withdrawing response to almost anything the other partner says)

9. **Intimacy NOS**

This code will be used for talk turns that promote intimacy but do not fall into the other categories. This could include non-verbal behaviors as well, such as touching someone's

arm tenderly when saying something to facilitate the conversation moving forward that does not fall into other categories (note, this means that if a response that would fall into the category of simple facilitation is supplemented by an intimacy enhancing touch, it would be coded as intimacy NOS). That is, simple facilitation involves behaviors that keep the conversation moving forward without increasing intimacy whereas Intimacy NOS increases intimacy but not as defined in other categories.

Examples:

Aw, honey I love you.

I am so glad you told me that!

10. Off-task

This code will be indicated when the conversation strays from the directed task.

Examples:

Wow, ten minutes sure does go by slow.

Are you picking up the kids after this, or should I?

<u>Affect Codes: Each talk turn is given one code</u>

As mentioned earlier, in addition to the functional codes, each talk turn will be given an affect code. Please only use one of the codes below for each talk turn. Note that the affect codes are broken into four categories, two of which may promote intimacy, and two of which may promote distance. The affect codes are organized as such because they are being used to better understand the functional codes described above. Someone could engage in positive or negative affect that may still bring partners closer together because they are sharing and disclosing their feelings. However, certain displays of emotion, or avoidance of emotion, may promote distance.

1. Positive (likely to increase intimacy)
    a. Happy, agreeable, etc.
    b. Caring and attentive to the partner

2. Negative (may still promote intimacy)
    a. Sad
    b. Disappointed, hurt
    c. Combinations that include both some negativity and positivity, such as frustration, but with light-heartedness, or teasing that does not seem to be too critical

3. Difficult (likely to promote distance)
    a. Angry, exasperated, frustrated
    b. Contemptuous, disgusted, critical, cutting, sarcastic, ridiculing, patronizing
    c. Forced cheerfulness
    d. Whining
    e. Defensive

4. Avoidant (likely to promote distance)
    a. Resigned
    b. Inattentive, bored, ignoring
    c. Flat, or zoned out
    d. Incongruous with content such that true affect is clearly hidden

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