PERCEIVED SOCIAL SUPPORT, SOCIAL SKILLS, AND QUALITY OF RELATIONSHIPS IN BULIMIC WOMEN

BY

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To my husband, Sean McCallum,
whose love, support, and encouragement
made these past several years
much more worthwhile.
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Abstract of Dissertation Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

PERCEIVED SOCIAL SUPPORT, SOCIAL SKILLS, AND QUALITY OF RELATIONSHIPS IN BULIMIC WOMEN

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The emerging consensus among investigators of bulimia nervosa suggests that this is a multidetermined disorder. Biological, sociocultural, personality, and family factors appear to contribute to the development and maintenance of the bulimic individual's symptoms and psychopathology. Several studies have suggested that the relationship between bulimics and their environment is impaired. Although social maladjustment, lack of perceived social support, and distressed interpersonal relationships seem to be important risk factors for bulimia, little research has addressed this directly. The present study explored specific aspects of the bulimic's social support network, as well as individual difference variables which might mediate her ability to obtain support or to perceive this as adequate.

Twenty-one bulimic women were matched with twenty-one normal controls and completed a number of self-report
questionnaires assessing perceived social support, the quality of interactions and relationships, and social competence, as well as psychopathology. They also participated in a videotaped interaction which was rated for social effectiveness by observers. It was hypothesized that bulimics would report significantly less perceived social support, significantly more negative social interactions and poorer quality of relationships, and would demonstrate significantly poorer social skills.

Results strongly supported all three hypotheses in that bulimic women, as compared to non-eating disordered women, reported significantly less perceived social support from both friends and family. In addition, they reported experiencing less positive interactions, and more negative interactions and conflict, particularly with family members. Finally, bulimics reported feeling less socially competent in a variety of situations and were rated as less socially effective by observers unaware of their group membership. These differences were not due to the subjects' differing levels of psychopathology, although this variable did affect the report of perceived social support. These results have implications for treatment, suggesting that learning communication, coping, and problem-solving skills may be particularly important for bulimic women. Future research should explore the bulimic's relationships in more detail, particularly elements of interpersonal dysfunction, conflict, and other aspects of her social support system.
INTRODUCTION

During the past 20 years, bulimia, literally meaning "ox hunger," has become an increasingly well-known psychophysiologic disorder. This syndrome refers to episodes of uncontrollable binge eating followed by purging methods such as self-induced vomiting, excessive use of laxatives and/or diuretics, fasting, and excessive exercise. Although bulimia is an eating disorder that is widely believed to be of recent origin, attempts to understand and conceptualize bulimia date back several hundred years (Stein & Laakso, 1988). Nevertheless, this disorder has increased greatly in prevalence during recent years, and changes have been made in the symptoms seen as constituting the syndrome.

The contemporary concept of bulimia began in the mid-1950's with descriptions of patients with excessive appetite for food and exaggerated hunger, and Stunkard's (1959) construct of binge eating among obese patients. It was not until the 1970's, however, that bulimia came to be recognized as a distinct clinical entity. Researchers and clinicians used a number of terms as they sought for a way to describe the symptoms of the bulimic syndrome -- an abnormal increase in the
sensation of hunger, compulsive eating (Rau & Green, 1975), the dietary chaos syndrome (Palmer, 1979), bulimia nervosa (Russell, 1979), and bulimarexia (Boskind-White & White, 1983).

These different terms reflect the course of developing knowledge about bulimia in the last two decades. Bulimic characteristics were initially investigated during this time by researchers who noted their presence in a number of anorectics (Beumont, George, & Smart, 1976; Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Pyle, Mitchell, & Eckert, 1981; Russell, 1979). Gradually it became obvious that bulimia was in many cases a separate disorder, occurring with greater frequency among individuals with no prior history of eating difficulties (Halmi, Falk, & Schwartz, 1981; Hawkins & Clement, 1980; Pyle et al., 1981).

The third edition of the Diagnostic and Statistical Manual was the first to classify bulimia as a distinct eating disorder (DSM-III, American Psychiatric Association, 1980). The symptoms required for a diagnosis of bulimia were basically consistent with the historical concept, including recurrent episodes of binge eating, purging, lack of control, and affective disturbance. Subsequent research indicated that bulimic symptoms are common in both student and nonstudent populations, so frequency criteria became necessary to distinguish between bulimic symptoms and
the syndrome of bulimia. As a result, the Work Group on Eating Disorders for the DSM-III-R (1987) proposed a minimum frequency of binging and purging of twice per week for at least three months. This criterion has not yet been empirically validated.

Diagnostic criteria for bulimia in the DSM-III-R include:

A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).

B. A feeling of lack of control over eating behavior during the eating binges.

C. The person regularly engages in either self-induced vomiting, use of laxatives or diuretics, strict dieting or fasting, or vigorous exercise in order to prevent weight gain.

D. A minimum average of two binge eating episodes a week for at least three months.

E. Persistent overconcern with body shape and weight.

Most published epidemiological work has surveyed college or high school students, with the resulting problems of definition and other problems inherent in the use of questionnaires (Mitchell & Eckert, 1987). Early prevalence estimates reported that bulimia affects between 8 and 19% of college women (Halmi et al., 1981; Pyle, Halvorson, Neuman, & Mitchell, 1986), but recent studies based on more restrictive criteria suggest that rates of clinically significant bulimia in this population are only 1 - 5% (Cooper, Charnock, & Taylor, 1987; Drewnowski, Yee, & Krahn, 1988; Hart &
Ollendick, 1985; Mitchell & Eckert, 1987; Schotte & Stunkard, 1987). The disorder is much more common among female students than it is among working women (Hart & Ollendick, 1985) or males (Halmi et al., 1981), and appears to occur more frequently in whites than in blacks, perhaps due to their higher socioeconomic status (Mitchell & Eckert, 1987). Descriptive studies up to this point indicate that bulimics are generally single, white, well-educated young women in their twenties who begin binge eating in their late teens (Boskind-Lodahl & White, 1978; Herzog, 1982; Johnson, Stuckey, Lewis, & Schwartz, 1982; Pyle et al., 1981). However, further epidemiological studies are needed which include samples of both urban and rural groups, as well as multiple racial and ethnic groups (Mitchell & Eckert, 1987). Bulimic symptoms often follow a period of dieting which may have been prompted by the suggestion of friends or family, traumatic events, weight gain, increased interest in the opposite sex, or identity confusion (Abraham & Beumont, 1982; Gandour, 1984; Johnson et al., 1982; Pyle et al., 1981). The frequency of binge eating and purging may vary considerably (Fairburn, 1980; Halmi et al., 1981; Pyle et al., 1981; Russell, 1979), although DSM III-R criteria now require that an individual engage in this behavior at least twice per week to be diagnosed as bulimic.
Bulimia occurs among all weight groups, although most bulimics are of normal weight for their height and age, or slightly above or below this average (Fairburn, 1981; Herzog, 1982; Johnson et al., 1982). The majority also report a large discrepancy between this average or healthy weight, with the desired weight significantly lower than the healthy weight (Pyle et al., 1981; Russell et al., 1979). In general, bulimia is accompanied by negative emotions such as guilt, anxiety, and depression (Abraham & Beumont, 1982; Pyle et al., 1981). Serious medical complications may also arise, including gastrointestinal disturbances, hypokalemia (potassium deficiency), dental decay, electrolyte imbalances, dehydration, menstrual irregularities, and neurological and cardiac abnormalities (Abraham & Beumont, 1982; Goode, 1985; Pyle et al., 1981; Russell, 1979).

A large body of research has been generated by researchers investigating factors contributing to the onset and perpetuation of bulimic behavior. Although this literature continues to grow, there is an emerging consensus among investigators that bulimia is a multidetermined disorder. In order to gain a thorough understanding of our knowledge thus far, a number of factors must be considered. These include biological components, sociocultural factors, and personality and family characteristics.
Factors Contributing to the Etiology and Maintenance of Bulimia

Although the contribution of organic factors to the onset and maintenance of bulimia is unclear, several lines of evidence suggest that bulimia may be closely related to biologically-mediated affective disorders (Johnson & Maddi, 1986). First, many bulimic patients report symptoms characteristic of affective illness, including fluctuating mood states, low frustration tolerance, anxiety, and suicidal ideation (Glassman & Walsh, 1983; Hudson, Pope, Jonas, & Yergelun-Todd, 1983; Johnson & Larson, 1982; Pyle et al., 1981). Second, several studies indicate a high incidence of major affective disorder among first- and second-degree relatives of bulimic patients (Hudson, Laffer, & Pope, 1982; Hudson et al., 1983). In addition, biological factors involved in bulimia are suggested by the fact that two biological markers for depression (the dexamethasone suppression test and the thyroid-releasing hormone stimulating test) have yielded positive results in bulimic patients with the same frequency as in patients with major depression (Gwirtsman, Roy-Byrne, & Yager, 1983; Hudson et al., 1982). Finally, several double-blind placebo-controlled studies of antidepressant pharmacotherapy have indicated that this treatment may be effective in reducing bulimic behaviors, further supporting biological hypotheses (Brotman, Herzog, & Woods, 1984;
Pope & Hudson, 1982; Pope et al., 1983; Sabine, Yonace, Farrington, Barratt, & Wakeling, 1983; Walsh, Stewart, Wright, Harrison, Roose, & Glassman, 1982). However, although physiological mechanisms appear to play an important role in the pathogenesis of bulimia, research results have not been consistent, suggesting that this disorder results from a number of environmental and personality variables.

Many researchers have implicated sociocultural factors in the etiology and maintenance of bulimia. During the past several decades there has been an increasing emphasis on the importance and social desirability of attractiveness in general and thinness in particular. In recent years, social standards for women have moved towards an increasingly thin ideal, with the mass media placing much more emphasis on what an acceptable body should look like, and how to attain it through dieting and fitness (Garner, Garfinkel, Schwartz, & Thompson, 1980; Striegel-Moore, Silberstein, & Rodin, 1986). Bulimic women seem especially susceptible to this cultural ideal, and have difficulty distancing their self-expectation from society's ideal, often with unhealthy consequences (Steiner-Adair, 1986; Striegel-Moore et al., 1986).

For example, results of one study of adolescent girls (Steiner-Adair, 1986) indicated that while all girls had a similar ideal of "superwoman," only those who
were eating-disordered saw this ideal as consistent with their own goals. Females without eating disorders reported more modest goals.

Beauty and thinness are often linked with femininity, as is dieting behavior (Gillen, 1981; Striegel-Moore et al., 1986). Thinness may also be associated with success or personal achievement, and for some women, being thin may serve to further their success in the professional world and give them a competitive edge (Striegel-Moore et al., 1986). The pursuit of thinness may be one way for a young woman to compete, prove her success and personal accomplishment, and demonstrate self-control (Johnson & Maddi, 1986; Striegel-Moore et al., 1986). This is intensified by the fact that young women today are raised in a world of shifting cultural norms and as such are faced with many ambiguous and sometimes conflicting role expectations (Garner, Garfinkel, & Olmsted, 1983). Research indicates that bulimics have difficulty establishing a good self-concept, identifying and asserting their needs, and developing personal autonomy and independence (Baird & Sights, 1986; Dunn & Ondercin, 1981). They tend to feel undifferentiated and have low self-esteem, and as such may be especially unable to cope with the complex sex role expectations of our culture (Grissett & Norvell, 1987; Lewis & Johnson, 1985; Timko, Striegel-Moore, Silberstein, &
A recent study of female undergraduates (Timko et al., 1987) indicated that women who deemed socially desirable masculine traits as important for themselves, and who felt that many roles were central to their sense of self, reported significantly more eating disorder symptoms.

Despite the importance of cultural variables in the etiology and maintenance of bulimia, many young women today do not develop eating disorders, and as such it appears that individual variables must also be taken into consideration. Many studies have investigated psychopathological and personality variables of bulimics which might make them more prone to bulimic behavior. Using standardized assessment instruments, the psychological profiles of bulimics have been compared to normal controls and other patient populations such as obese individuals and substance abusers. In general, results are fairly consistent, in that bulimics frequently obtain elevated scores on a number of scales measuring psychiatric disturbance (Hatsukami, Owen, Pyle, & Mitchell, 1982; Johnson et al., 1982; Pyle et al., 1981; Williamson, Kelly, Davis, Ruggiero, & Blouin, 1985). Generally, they report feeling more tense, anxious, depressed, compulsive, alienated, and more impaired on measures of life adjustment (Dunn & Ondercin, 1981; Johnson & Larson, 1982; Pyle et al., 1981; Williamson, et al., 1985).
Results of studies investigating the personality characteristics of bulimics have been quite variable, but two factors seem to emerge consistently. First, bulimics experience considerable affective instability, as evidenced by depression, fluctuating moods, anxiety, impulsive behavior, and a general feeling of being out of control (Dunn & Ondercin, 1981; Johnson & Larson, 1982; Johnson & Maddi, 1986). It is not clear whether the affective instability precedes or follows the onset of bulimic symptoms, but it appears that these difficulties are long-standing, and result from both biogenetic vulnerabilities and maladaptive parenting styles (Johnson & Maddi, 1986).

A second prominent personality trait among bulimics is low self-esteem (Baird & Sights, 1986; Boskind-Lodahl, 1976). In bulimics, this includes several distinctive features. First, they seem to have difficulty identifying and expressing internal states, which leads them to feel undifferentiated, ineffective, and helpless to control these internal states (Bruch, 1973; Lewis & Johnson, 1984). In addition, bulimics are very sensitive to rejection, non-assertive, and feel uncomfortable socially (Boskind-Lodahl, 1976; Johnson et al., 1982; Pyle et al., 1981; Schneider & Agras, 1985). Finally, bulimics have very high expectations of themselves, experiencing shame and guilt because of the discrepancy they feel between their
actual and ideal selves (Goodsitt, 1984; Kohut, 1971) which is exacerbated by their bulimic behavior.

In the search for possible origins of some of the bulimics' psychopathology and related difficulties, a few studies have investigated family characteristics among bulimic patients, most using self-report measures of family interaction style. In general, findings have been fairly consistent. Compared with normal control families, the families of normal weight bulimics use more indirect patterns of communication, place less emphasis on assertiveness and autonomy, and express higher achievement expectations, although they are at the same time less interested in political, social, cultural, and recreational events (Johnson & Flach, 1985; Ordman & Kirschenbaum, 1984). In addition, they express more aggression, anger, and conflict, and give each other less support and commitment (Johnson & Flach, 1985; Ordman & Kirschenbaum, 1984). Compared with the families of restricting anorexics, bulimic families report greater overall psychopathology, as reflected by a higher degree of problems in many areas of family interaction, including communication, affective expression and involvement, control, and social desirability (Garner, Garfinkel, & Olmsted, 1983). Several investigators using direct observational measures of bulimics' family interaction style have reported that compared with normal control
families, families of bulimic-anorexics were less helpful, trusting, nurturing, and approaching, and gave more belittling, negative, and contradictory messages (Humphrey, Apple, & Kirschenbaum, 1985).

Thus it appears that a number of biological, sociocultural, personality, and family factors may contribute to the etiology and maintenance of bulimia. Bulimics seem to have a long history of difficulty identifying and modulating their internal affective states, which contributes to feelings of helplessness, ineffectiveness, and lack of confidence interpersonally (Johnson & Maddi, 1986). In addition, bulimics' families demonstrate significant psychopathology, are disengaged and chaotic, and experience a high degree of conflict and life stress. Research findings suggest that compared to normal families, bulimic families communicate in indirect and contradictory ways, have less problem-solving skills, and are less supportive, while having higher achievement expectations (Johnson & Maddi, 1986). Growing up in this type of environment may exacerbate the bulimic's psychopathology and difficulty dealing with her own thoughts and feelings, and she is likely to feel increasingly unstable, lonely, and unable to cope with life stressors. In addition, she probably fails to learn adequate skills needed to interact comfortably and confidently with others while satisfying her own needs.
Social Maladjustment

In light of the research reported above, it is not surprising that several researchers have investigated the life adjustment of bulimics. Most authors have utilized the Social Adjustment Scale-Self Report (SAS-SR) (Weissman, Prusoff, & Thompson, 1976), which measures performance over the past two weeks in six major areas (work, social and leisure activities, relationship with extended family, role as a spouse, role as a parent, and membership in the family unit). In a preliminary investigation, Johnson and Berndt (1983) found that compared to a community sample, bulimics showed significantly poorer adjustment in all areas, and their scores were most similar to those of a group of alcoholic women. Norman and Herzog (1984) found similar results at initial evaluation of bulimics and at a one-year follow-up.

Likewise, in a study comparing bulimic graduate students and their non-eating disordered colleagues, Herzog, Norman, Rigotti, and Pepose (1986) found that bulimics reported significantly more social maladjustment in the student, social/leisure, and family spheres. Frequency of binge eating and purging was associated with degree of social impairment, with significant social dysfunction noted on the overall scale at a minimum of binge eating/purging frequency of once per week. A second study (Herzog, Keller, Lavori,
& Ott, 1987) comparing bulimic women to matched controls on the same measure of social maladjustment found very similar results. Sixty-eight percent of the bulimic subjects and only 13% of the controls scored within the impaired range on one or more of the subscales (Herzog et al., 1987). Thus it appears bulimic women are significantly impaired across a number of areas of social interaction.

Social Support and Bulimia

It seems then that the bulimic's difficulties in social interactions stem in part from conflicted and pathological family relationships, which in turn result in social maladjustment in many areas. These findings of social maladjustment and the sense of isolation reported by bulimics (Silberstein et al., 1986) suggest that the interaction between the bulimic and her social environment is significantly impaired. One might hypothesize that the bulimic individual's social difficulties affect her ability to receive adequate social supports to cope with stress. However, very few studies have directly addressed the role of social support in the onset and perpetuation of bulimia.

In a retrospective study of bulimics and anorexics, Slater (1988) explored the relationship between ideal and perceived support as reported in eating disordered women. Results indicated that larger discrepancies between ideal and perceived social
support from parents and a significant other were related to increased eating disorder symptomatology in bulimics. Both groups reported receiving less social support than they desired from either parent. Bulimic subjects also demonstrated strong positive correlations between ideal social support and seven of the eight subscales on the Eating Disorders Inventory (Garner & Olmsted, 1984).

In a recent study designed to further investigate the relationships among bulimic symptoms, social support, and social anxiety and distress, 15 bulimics and 15 matched controls were examined for differences on measures of social support, psychopathology, and social-evaluative anxiety (Slater, Grissett, & Norvell, 1988). Results indicated that bulimic women harbor a pronounced fear of negative evaluation in social situations, and exhibit significantly more psychopathology, in that they feel more depressed, anxious, inadequate, and alienated from others. In addition, although the actual reported amount of social support did not differ between groups, bulimic women reported significantly lower satisfaction with their social support. In fact, this dissatisfaction proved to be the best predictor of severity of bulimic behaviors.

These studies suggest that the lack of adequate perceived social support and distressed interpersonal
relationships appear to be important risk factors in the development and/or maintenance of bulimia. Although bulimic women may have access to a similar amount of social support as normals, they are nonetheless dissatisfied with this. At this point, a number of hypotheses could be proposed as we attempt to explore the relationship between social support and the bulimic syndrome. However, in order to formulate meaningful hypotheses regarding the relationship of social support to bulimia, it is first important to understand relevant social support literature.

Recent Developments in the Social Support Literature

The social support literature has grown considerably in the past two decades, with a great deal of emphasis on the relationship between social support and physical and emotional health (Cohen, 1988; Cohen & Hoberman, 1983; Kessler & McLeod, 1985). Lack of social support has been implicated in the etiology of physical illness and prospectively associated with higher mortality rates in both healthy and unhealthy individuals (Berkman, 1985; Cohen & Wills, 1985; Kessler & McLeod, 1985; Wallston, Alagna, DeVellis, & DeVellis, 1983). Perceived availability of support has also been shown to protect individuals from the psychological impacts of exposure to stressful life events and chronic life strains (Cohen & Hoberman,
A number of studies have directly linked the social environment to disease and mortality, but these provide little information about the processes by which this occurs (Cohen, 1988). Cohen (1988) reviews several psychosocial process models which rely on hypothesized links between social support and psychosocial and biological processes. Main-effect models have focused primarily on links between social integration (a structural index of social ties) and health, while stress-buffering models have focused on the perceived availability of support. Although a relatively small amount of literature has been concerned with the direct effects of social support on illness onset, the majority of research has investigated the hypothesis that social support protects individuals from the negative consequences of stressors (Wallston et al., 1983). Although the relationship between social support and life events is quite complex, perceived support has been found to result in stress-buffering effects (Cohen, 1988).

Further complicating the literature are the many conceptual, methodological, and theoretical problems involved in the study of social support.Thoits (1982) suggests that the concept of social support has often been poorly conceptualized and operationalized, perhaps
leading to confounds between life events and social support measures. This may have caused researchers to underestimate the value of the main effects of social support. Similarly, Abbey, Abramis, and Caplan (1985) emphasize the importance of considering the effects of both social support and social conflict.

The vague nature of the social support concept has also been heightened when different researchers have used similar terms to refer to a disparate set of processes, or when others have used different terms that refer to basically the same dimensions (Jung, 1984). Despite the fact that several researchers have proposed taxonomies of the components of social support (House, 1981), studies often fail to assess the influence of these different components separately and use broad definitions that combine several elements (Jung, 1984).

The difficulty which researchers have encountered in conceptualizing and operationalizing social support is evident in the literature by the variability of indicators that have been used to measure this construct (Barrera, 1986). In defining social support, it is important to realize that the amount of social support is not necessarily equal to number of social contacts or the size of one's network. Many quantitative and structural aspects of social support have been investigated, including number of social
relationships, composition of the social network, patterns of interconnectedness among network members, and accessibility of network members (Hall & Wellman, 1985; Henderson, Duncan-Jones, McAuley, & Ritchie, 1978; Silberfeld, 1978; Tolsdorf, 1976). However, it seems that other qualitative aspects may be equally, or perhaps more, important in affecting the facilitation and interpretation of supportive behaviors and contributing to the perception or psychological sense of support (Cutrona, 1986; Gottlieb, 1984). Some of the qualitative aspects that have proven to be important include such factors as the influence of expectations (Gottlieb, 1984), positive beliefs in the benefits of help-seeking (Eckenrode, 1983), environmental factors (Cutrona, 1986), sociodemographic variables (Riley & Eckenrode, 1986), and personality factors such as self-esteem, hardiness, locus of control, coping skills, affiliation and autonomy needs, and pre-existing levels of social support (Cohen, Mermelstein, Kamarck, & Hoberman, 1985; Cohen & Syme, 1985; Dunkel-Schetter, Folkman, & Lazarus, 1987; Eckenrode, 1983; Kobasa & Pucetti, 1983; Lefcourt, Martin, & Saleh, 1984; I.G. Sarason, Levine, Basham, & B.R. Sarason, 1983; I.G. Sarason, B.R. Sarason, & Shearin, 1986).

Researchers also differ on whether they assess the support an individual actually receives, or their
perception of the support available to them, emphasizing the individual's subjective cognitive appraisal of their connections to others rather than simply the number of supporters or amount of social contact (Barrera, 1986; Cohen et al., 1985; I.G. Sarason et al., 1983). This distinction is important because perceived and received social support instruments often demonstrate different associations with other measures such as indices of negative life events or mortality risk (B.R. Sarason, Shearin, Pierce, & I.G. Sarason, 1987). It appears that perceived available support may be an important qualitative aspect to consider when researching this area, as it is often a more significant predictor of symptomatology than merely quantitative measures (B.R. Sarason et al., 1987). The perceived availability and adequacy of social support is thus an important element to be assessed, as it has been consistently linked to positive mental and physical health outcomes (Cutrona, 1986), and to more positive personal adjustment (Pierce, I.G. Sarason, & B.R. Sarason, 1988).

Another important consideration which has developed recently in the social support literature concerns the quality of the relationships which provide support. Up until the early 1980's, researchers had almost exclusively studied the social network in terms of its positive influences. However, recently there
has been an explicit recognition that an individual's social network often consists of conflicted relationships which may be a source of both positive and negative interactions (Barrera, 1981; Eckenrode & Gore, 1981). This is congruent with social exchange theorists who have long emphasized the fact that social relations entail both costs and rewards (Thibaut & Kelley, 1959).

In a study examining the relative impact of positive and negative social interactions on older women's well-being, Rook (1984) found that negative social interactions were more consistently and more strongly related to well-being than positive social interactions. Fiore, Becker, and Coppel (1983) proposed that when individuals rate their satisfaction with their social support, they are actually responding with summary assessments made up of both positive and negative perceptions of the network. These researchers suggested, as did Gore (1978), that individuals reporting low satisfaction are experiencing more unmet support expectations and are therefore more stressed and more symptomatic. Likewise, Brenner and Norvell (in press) found that the presence of at least one source of consistent problems in the individual's network was more predictive of life satisfaction than the presence of consistent positive supports.
Pagel, Erdly, and Becker (1987) confirmed these findings in a longitudinal study investigating both the helpful (positive) and the upsetting (negative) aspects of social networks of spouses caring for a husband or wife with Alzheimer's disease. Results showed that the care givers' degree of upset with their networks was strongly associated with lower network satisfaction and increased depression over time. Helpful aspects of the network interacted with network upset in predicting satisfaction and depression (Pagel et al., 1987). In addition, Pierce et al. (1988) found that the quality of relationships (perceived positivity and importance of personal relationships, as well as conflict) was correlated with the perceived availability and adequacy of social support. In fact, the quality of relationships made a significant contribution to personal adjustment which was independent of that made by perceived social support (Pierce et al., 1988).

Some investigators (Henderson et al., 1978) have considered the possibility that since perceptions of support adequacy are subjectively determined, they may merely reflect the individual's level of adjustment or depression. Vinokur, Schul, and Caplan (1987) found that perception of support was moderately determined by the recipients' negative outlook bias and only weakly determined by poor mental health (anxiety and depression). However, findings of several other
studies (Fiore et al., 1983; Pagel et al., 1987) are conflicting and have failed to support the hypothesis that the perception of support adequacy simply reflects the individual's psychological adjustment. These researchers found that perceptions of support were not merely a function of level of depression (Fiore et al., 1983). In fact, after controlling for initial depression and initial level of upset with one's social network, changes in perception over time predicted changes in depression. That is, level of depression increased as the degree of upset and dissatisfaction with the social network increased (Pagel et al., 1987).

Social Support and the Stress Process

As previously stated, perceived availability of social support appears to moderate the impact of life events on mental and physical health (Cohen, 1988), and may have a direct effect as well (Thoits, 1982). The stress-buffering effect of social support has received considerable attention in the literature, and in many cases, perceived support appears to be an important factor in a complex and interactive stress process. Pearlin, Menaghan, Lieberman, and Mullan (1981) propose a process of stress including life events, chronic life strains, self-concepts, coping, and social supports. They hypothesize that life events adversely affect enduring role strains, which in turn erode positive self-concepts such as self-esteem and mastery. The
individual is then left especially vulnerable to experiencing symptoms of stress, often including depression. Thus, according to this model, coping and social supports have an indirect effect in that they minimize the elevation of depression by preventing the deterioration of self-concepts. In other words, psychological variables such as personal control and self-esteem mediate the stress-buffering effects of social support (Pearlin et al., 1981).

Lazarus and Launier (1978) propose a transactional model describing stress as the discrepancy between the demands on a person and that person's appraisal and evaluations of his or her potential responses to these demands. Elliott and Eisdorfer (1982) conceptualize the stress process as a series of interactions between the individual and the environment, including four components (potential stressors, reactions to a particular stressor, consequences of the reactions, and mediators at each stage of the process). Other researchers (Shinn, Lehmann, & Wong, 1984) have also suggested that typical research models of social support are overly simple and should consider the influences of stressors, psychological distress, personal characteristics of recipients, and environmental constraints on support, as well as the negative consequences of social interactions.
The Relationship of Stress and Social Support in Bulimia

In the past several years, researchers have begun to investigate how stress is related to the etiology and maintenance of bulimia. Shatford and Evans (1986), using linear structural relations analysis (LISREL), developed a causal model of bulimia based on a stress process comprised of the sources, mediators, and manifestations of stress. The sources of stress they considered included environmental stressors (life events and daily hassles) and psychological status (depression, low self-esteem, external locus of control, and general mental health). Mediators of stress included methods of coping (active-cognitive, active-behavioral, and avoidance) and focuses of coping (problem-focused and emotion-focused). Based on previous research reporting behavioral expressions of stress such as increased alcohol use, eating, and smoking (Pearlin & Schooler, 1978; Billings & Moos, 1981), Shatford and Evans (1986) considered bulimia to be a manifestation of stress in the vulnerable bulimic individual. Their model thus attempted to describe the relationships between environmental stressors, depression, psychological status, and stress mediators. Results indicated that coping skills are an important mediator of stress, and that having a high frequency of environmental stressors and/or the presence of depression or risk for depression, may lead an
individual to use ineffective coping mechanisms, which may in turn result in bulimic behavior (Shatford & Evans, 1986).

Cattanach and Rodin (1988) recently suggested the importance of assessing the role of psychosocial stress in bulimia by viewing it as a process which includes stimulus and response, as well as appraisal, coping processes, control, social supports, personality factors, and other intervening variables predisposing an individual to experience more stressors or to be more reactive to potential stressors. These authors present several internal and external mediators which affect the nature of an individual's reactions to stressors. Internal mediators include such things as coping abilities, expectations, and prior experience. A person's perception of the environment and his or her appraisal of probable response outcomes and available response options are important because they influence the selection of a coping response (Lazarus, 1966). Coping styles include problem-focused coping, which is intended to manage the situation, and emotion-focused, which is aimed at the resulting emotions. Recent research indicates that active coping styles reduce the effects of potential stressors, and result in better adjustment and less depression, while passive coping styles are less effective and are associated with increased depression and physical illness (Billings &
Moos, 1984; Coyne, Aldwin, & Lazarus, 1981; Pearlin & Schooler, 1978). In addition, perceived lack of control over events has been identified by several investigators as an important variable associated with increased illness and psychological distress (Cattanach & Rodin, 1988).

Cattanach and Rodin (1988) also briefly mention several variables which have been investigated as external mediators between the individual and the environment. One of these mediators is social support, which may function in a variety of ways, including providing protection from the full impact of potential stressors and facilitating coping and adaptation (Cattanach & Rodin, 1988). Personality characteristics may also mediate the relationship between the individual and the environment, and persons with certain styles of perceiving their environment may be especially vulnerable to certain kinds of stress and may respond to stressors differently than others (Cattanach & Rodin, 1988).

Several of these elements of the stress process have been investigated in bulimic patients, and might play an important role in the etiology and maintenance of bulimia. Studies investigating the number and types of potential stressors experienced by bulimics are often confounded by their retrospective self-report nature, and in general indicate that the events and
conditions reported are not highly unusual. As such, it seems likely that individual intervening variables are more important in determining the relationship between potential stressors and bulimic symptoms (Cattanach and Rodin, 1988).

One variable which may mediate between stressors and bulimic behavior is an inaccurate perception and appraisal of the environment. Several studies have indicated that bulimics may have difficulty appraising situations accurately, perhaps causing the perceived effect of these events to be exacerbated (Cattanach & Rodin, 1988; Heilbrun & Bloomfield, 1986). In addition, bulimics may perceive themselves as less able to cope with stressors (Lehman & Rodin, 1986). Some researchers have suggested that bulimics may lack a full repertoire of coping responses from which to select (Hawkins & Clement, 1980), while others report that adequate coping strategies may be available, but bulimics are unable to use them skillfully and effectively to cope with difficult situations (Katzman & Wolchik, 1985). Katzman and Wolchik (1985) found that bulimics, as well as binge eaters and depressed subjects, generally used passive coping styles (e.g., avoid actively confronting problems, manage resulting emotions rather than situations) and were unable to express their feelings, a combination which has been associated with poorer adjustment (Billings & Moos,
1981). Shatford and Evans (1986) found that bulimic women tend to use avoidance and emotion-focused coping responses which are less effective than the problem-focused coping responses used by nonbulimic women. Their model also suggested that environmental stressors and/or depression might lead an individual to use ineffective coping mechanisms (Shatford & Evans, 1986) and that the bulimic's lack of perceived control may lead to binging and purging (Cattanach & Rodin, 1988).

Individual difference variables such as personality characteristics or mental health may also be important mediators in the stress process for bulimics. For example, many bulimics evidence significant levels of depression (Hudson, Laffer, & Pope, 1982; Katzman & Wolchik, 1984; Williamson et al., 1985) which could affect their situational appraisals and may interfere with effective coping responses (Katzman & Wolchik, 1984; Lehman & Rodin, 1986). Perhaps the bulimic's dysphoric mood impairs her appraisal, causing her to perceive more stress than others in a similar environment, and thus leading to bulimic behavior (Cattanach & Rodin, 1988). Variables such as depression and self-esteem have previously been implicated as important factors in the stress process (Pearlin et al., 1981). In addition to being a precursor of bulimic behavior, these variables may be increased by the bulimic symptoms, or may be stressors
in themselves (Cattanach, & Rodin, 1988; Shatford & Evans, 1986).

One factor in the stress process which has received limited attention in the bulimic literature is that of social support. As reported earlier, a number of studies indicate that bulimic women are often socially maladjusted and feel isolated from others (Johnson & Berndt, 1983; Norman & Herzog, 1984; Herzog et al., 1987), suggesting that they lack adequate social supports to cope with stress. In addition, bulimics express significant dissatisfaction with their perceived social support, which is strongly related to the severity of bulimic symptoms (Slater et al., 1988). However, little is known about specific aspects of the bulimic's social support system which may be helpful or problematic, or which might contribute to her dissatisfaction and maladjustment.

It seems apparent from such research that disturbed interpersonal relationships and the lack of perceived social support are important components of the bulimic syndrome. At this point a number of hypotheses might be considered. For example, perhaps the bulimic lacks the skills or competence necessary to take advantage of available support. Previous research has demonstrated the bulimic's considerable fear of negative evaluation in social situations, interpersonal sensitivity, low self-esteem, and affective instability
(Johnson & Maddi, 1986; Slater et al., 1988). In addition, bulimics appear to be socially maladjusted (Herzog et al., 1987; Johnson & Berndt, 1983), suggesting that these personality and psychopathological characteristics may interfere with her ability to use the available social support network in a helpful and adaptive manner. On the other hand, perhaps certain aspects of the bulimic's social support network (e.g., quality of relationships) are problematic and result in the failure of this network to provide adequate positive support. This hypothesis is based on previous research which has demonstrated conflicted and chaotic relationships in bulimic families (Garner et al., 1983; Humphrey et al., 1984; Johnson & Flach, 1985) and the importance of considering negative interactions when assessing social support (Abbey et al., 1985; Rook, 1984). It may also be possible that the bulimic's symptoms and psychopathology play an important role in her social difficulties, and that this is simply reflected by her social maladjustment and dissatisfaction with social support. This hypothesis stems from previous research suggesting that perhaps perceptions of support adequacy are determined by the individual's level of adjustment or depression (Henderson, et al., 1978; Vinokur, et al., 1987).
Research Aims and Hypotheses

Although many of the factors discussed above have been suggested as important components of the stress process, research investigating these factors with bulimic subjects has been minimal. Inadequate social support appears to be part of the bulimic's environment and may be important in perpetuating the bulimic cycle, but virtually no information is available about specific aspects of the bulimic's social support network or about other individual difference variables which may affect the degree to which adequate social support is received. The present study explored specific aspects of the bulimic's social support network, the quality of her interactions within this network, and individual difference variables which might mediate her ability to obtain support or to perceive this as adequate.

In light of previous research concerning the importance of considering different sources of social support, the first aim was to investigate the bulimic's perceived social support from both family and friends. Several researchers have indicated that these sources of support are related but separate, valid, and useful constructs (Procidano & Heller, 1983; Sarason et al., 1987). Procidano and Heller (1983) suggest that the distinction between perceived support from family and friends is important, in that these two sources appear
to be differentially related to symptoms of distress and psychopathology, as well as to personality characteristics such as social competence, anxiety, and mood state (Procidano & Heller, 1983).

The second aim of the present study was to explore both positive and negative aspects of social interaction within the bulimic's social support network. Social conflict seems to be strongly related to psychopathology and network dissatisfaction (Fiore et al., 1983; Pagel et al., 1987; Pierce et al., 1988), while experiencing positive and important relationships is associated with the perception of higher levels of support (Pierce et al., 1988). It was hypothesized that increased level of negative interactions and poor quality of relationships would be highly related to bulimic symptoms and thus important to consider when exploring the relationship between the social network and bulimia.

In light of previous research emphasizing the importance of individual difference variables on the perception of social support, this study also aimed to explore the relationship of social competence to the perception of support and to reported conflicting and supportive interactions. Several studies have demonstrated a relationship between social skills and social support (Cohen et al., 1986; I.G. Sarason et al., 1985). Sarason et al. (1985) found that when
compared to individuals with low levels of reported social support, those high in social support were significantly greater in self-described and experimenter-rated social skills. Similarly, in a study by Cohen, Sherrod, and Clark (1986), social skills were found to be prospectively predictive of the development of social support and friendship formation. Therefore it is important to investigate the relationship between social competence and the perception of the adequacy and nature of social support.

With these aims in mind, the study investigated the following:

1. It was hypothesized that bulimics would report significantly less perceived social support, as compared to normal controls.

2. It was hypothesized that bulimics would report significantly more negative social interactions (conflict) and poorer quality of relationships than normal controls.

3. It was hypothesized that bulimics would demonstrate significantly poorer social skills than controls, as assessed by both self-reported competence and observer ratings of social effectiveness.
METHOD

Subjects

Subjects were 42 female undergraduates at the University of Florida who participated in the study as part of a class requirement or for a payment of $5.00. Approximately 800 undergraduates were screened for bulimic symptoms using the Bulimia Test (BULIT) (Smith & Thelen, 1984). A research cut-off score of 88 was used to identify women endorsing behaviors and psychological characteristics similar to those of clinically diagnosed bulimics. These women then participated in a structured clinical interview, and twenty-one who were diagnosed as bulimic by DSM-III-R criteria made up the experimental group. Those who did not meet DSM-III-R criteria for bulimia nervosa were excluded from the study. The 21 women in the experimental group were then matched on the variables of height and weight with 21 women who served as the control group. Matched pairs were within two inches and ten pounds of each other. Mean height and weight for bulimics were 65 inches and 133 pounds, while controls averaged 66 inches and 132 pounds.
Measures

The Bulimia Test (BULIT)

The Bulimia Test (Smith & Thelen, 1984) was used to screen subjects for the normal and bulimic samples. This 36-item, multiple-choice self-report scale was specifically designed to assess bulimic symptoms. Construction of the BULIT was based on DSM-III criteria and was initially conducted by comparing responses of clinically identified female bulimics with non-eating disordered female college students on preliminary test items. The scale proved to be a good predictor of bulimia in both the initial and replication samples. Cross validation was then performed using samples of bulimic and normal control subjects, and the measure was subsequently administered and validated with nonclinical populations of undergraduate college women. Results indicated that the BULIT is a reliable and valid predictor of bulimia in nonclinical populations as well. Evidence for construct validity has been demonstrated by the BULIT's high correlation (r=.93, p<.0001) with the Binge Scale (Hawkins & Clement, 1980), another measure of binging behavior. Discriminative validity has been demonstrated by significant differences between bulimics (n=20) and normal control subjects (n=94) (M=124.0 and M=60.3, respectively), t(112)=15.25, p<.0001. In addition, in the cross validation studies, the BULIT demonstrated
high predictive ability, with sensitivity, specificity, and positive and negative predictive values all above .90. Predictive ability in the nonclinical sample used in further validation studies was lower, presumably because these subjects' scores were less extreme and thus more difficult to classify. In these studies, sensitivity and specificity were .64 and .89, respectively, while the positive and negative predictive values were .74 and .84, respectively.

A cut-off score of 88 was used to screen for those women endorsing behavioral and psychological characteristics similar to bulimics. Using this criterion with a nonclinical population, Smith and Thelen report a false negative rate of 0.0 (Smith & Thelen, 1984). Similarly, Slater et al. (1988) found that 15 of 18 women screened in this manner were subsequently diagnosed as clinically bulimic. This cut-off provides an efficient way of identifying women who display bulimic behaviors which can then be verified in a subsequent structured clinical interview designed to determine whether they meet DSM III-R criteria for bulimia.

The Perceived Support Scale (PSS)

The Perceived Support Scale (PSS) (Procidano & Heller, 1983) is comprised of two 20-item subscales with a dichotomous response (yes-no) format, designed to measure the extent to which an individual perceives
that his or her needs for support, information, and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa). In a validation study with 222 undergraduates, the PSS measures proved to be internally consistent (Cronbach's alpha = .88 and .90, respectively), and appeared to measure valid constructs that were separate from each other and from network measures (Procidano & Heller, 1983). Separate factor analyses with orthogonal factor rotation demonstrated each scale to be composed of a single factor (B.R. Sarason et al., 1987). Test-retest reliability over a 1-month period was estimated to be .83 (Procidano & Heller, 1983).

Evidence for construct validity was found, in that these two measures were shown to be better predictors of psychiatric symptomatology, as measured by the short form of the MMPI (Faschinghauer, 1974), than life events or structural characteristics of support networks. Subsequent studies supported the independence of these constructs by demonstrating their differing relationships with various measures of mood state, anxiety, psychopathology, and verbal inhibition (Procidano & Heller, 1983). Other findings also suggest it is important to distinguish between friends and family in the provision of social support (B.R. Sarason et al., 1987).
The Quality of Relationships Inventory (QRI)

The Quality of Relationships Inventory (QRI; Pierce et al., 1988; Pierce, B.R. Sarason, & I.G. Sarason, 1989) is a recently developed scale designed to assess the quality of the relationships which provide social support. The revised version of this inventory consists of three scales measuring the perceived positivity and importance of primary relationships (Depth), the extent to which the relationship is a source of conflict and ambivalence (Conflict), and the perceived availability of social support from specific relationships (Support). Factor analysis indicated that these three aspects of relationships are independent. Results of a validity study with 360 undergraduates indicated that the QRI scales significantly contribute to personal adjustment independently of the contribution made by social support. The QRI was consistently related to perceived social support and adjustment measures, and discriminated between several categories of relationships (Pierce et al., 1989). In the present study, subjects completed the QRI for their mother, father, closest same-sex friend, and an individual with whom they have a romantic relationship (or in absence of this, their closest male friend).
Social Interactions Scale (SIS)

A measure similar to that used by Abbey et al. (1985) was utilized to assess the qualitative perception of negative and positive interactions. Abbey et al. (1985) found that their measure of social support was related to quality of life, negative affect, and psychological well-being, while social conflict demonstrated a strong relationship with anxiety and depression. In addition, the existence of social conflict appeared to be different and more distressing than the absence of social support.

Questions for the SIS were developed to measure social support (7 items) and social conflict (10 items), and were in the following format: "In the past seven days, how much have people in your personal life..." (e.g., acted in ways that show you they appreciate what you do, treated you with respect, argued with you about something, gotten on your nerves). In addition, for each conflict question, respondents rated two aspects on a 7-point Likert-type scale: 1) how much these occurrences bothered them, and 2) how they would explain why these interactions occurred. These ratings were designed to explore the possible influences of perceived impact and personal attributions on the effects of negative social interactions.
Social Competence and Effectiveness

Self-report. The Social Competence Questionnaire (Com-Q) (I.G. Sarason et al., 1985) is a 10-item self-report scale designed to tap responses reflecting the degree of discomfort in various social situations. Com-Q items were rated by the subject on a 4-point scale ranging from "not at all like me" to "a great deal like me." Example items are "have trouble getting to know someone" and "feel confident of my social behavior." This measure has demonstrated desirable psychometric properties (I.G. Sarason et al., 1985).

Videotaped interactions. Observer ratings of social skills were obtained on videotaped interactions in a procedure similar to that used in a study by Sarason, Sarason, and Shearin (1986). In the interaction, each subject participated in a 5-minute role-play with a female confederate who was unaware of the subject's group membership. During this interaction, the subject and confederate discussed how they might improve their living situation with regard to a troublesome third female roommate. The confederate was trained to interact in a standardized manner with each subject. (See Appendix C for a summary of the training instructions).

Rating of videotaped interactions. Each tape was rated by 3 male and 3 female psychology research assistants from the same undergraduate subject pool.
from which the experimental and control subjects were drawn. Observers rated subjects using the Dyadic Effectiveness Scale (I.G. Sarason et al., 1986) (see Appendix B), which consists of 10 qualities rated on a scale from 1 to 6 ("not at all" to "very, very much"). (See Appendix C for instructions given to raters.) In the original validation study, these ten items as a single scale had a reliability of .95 (Cronbach's alpha). The items contribute to three correlated subscales: leadership, consideration, and attractiveness, which together accounted for 87% of the variance and had reliabilities of .96 (Cronbach's alpha), .92 (Cronbach's alpha), and .80 (Pearson correlation), respectively (Sarason et al., 1986).

In the present study, observer raters were unaware of the subjects' group membership. As in the study by Sarason et al. (1986), specific guidelines or training were not given to the raters since the purpose was to obtain their subjective reactions to the subjects rather than to force agreement. Interrater reliabilities were computed for all pairs of raters. All correlations among raters for total DES scores were positive and significant (ranging from .39 to .73). Cronbach's alpha for the six raters averaged across the 10 rated questions was .89; the range was from .88 to .96. This was considered more than adequate, given the
subjective nature of the items' content and the lack of intensive training in the rating system.

Psychopathology

The Symptom Checklist-90 (SCL-90) (Derogatis, Rickels, & Rock, 1976) was used to assess psychopathology. This measure was developed to examine psychiatric symptomatology in outpatients. Each item of the SCL-90 is rated on a 5-point scale of distress ranging from "not at all" (0) to "extremely" (4). The SCL-90 yields nine subscales of primary symptom dimensions and three overall indices of distress. This measure has established psychometric qualities, and has been used extensively in previous research. Several previous studies comparing bulimic women with other normal women have indicated significant differences between these groups on several scales of the SCL-90 (Slater et al., 1988; Williamson et al., 1985).

Procedure

Once they were screened for group membership according to their scores on the BULIT, subjects were contacted to arrange a one and one-half hour lab session. Upon arrival at the lab, the subject was told that this was a study about social support and the quality of her social interactions, and was asked to sign an informed consent if she wished to participate. Height and weight were then verified by the experimenter.
Subjects then completed a packet of questionnaires consisting of the Perceived Support Scale (PSS), the Social Support Questionnaire (SSQ), the Quality of Relationships Index (QRI), the Social Interactions Scale (SIS), Social Competence Questionnaire (COM-Q), and the Symptom Checklist-90 (SCL-90). Each subject then participated in the five-minute videotaped interaction. Finally, a diagnostic interview was conducted to determine whether or not the subject met DSM-III-R criteria for bulimia. Following completion of this interview, subjects were debriefed as to the nature of the study, given personal feedback regarding their scores on the BULIT, and provided with possible psychotherapy referrals if the subject desired this information.
RESULTS

Approach to Data Analysis

In order to prepare the data for analysis, several preliminary data analyses were conducted. Subjects had completed the Quality of Relationships Inventory (QRI) (including subscales of Support, Depth, and Conflict) for four individuals (mother, father, closest same-sex friend, and romantic relationship/closest male friend), resulting in 12 separate QRI variables. In order to facilitate further analyses to assess group differences on the QRI, mother and father ratings on the three QRI subscales were collapsed to form "family" variables, while ratings of female friends and romantic relationships were combined to form "other" variables. Thus six combination variables were calculated and utilized in further analyses of QRI data: Family Support, Family Depth, Family Conflict, Other Support, Other Depth, and Other Conflict. Mean values of these six variables for the two groups are presented in Table 1.

Several other measures were also collapsed to form combination variables for use in certain analyses. First, the Percieved Support Scale (PSS) measures which
had been completed for both family and friends were combined to create the variable of Total Perceived Support. The QRI measures were also further collapsed to form the variables of Total Conflict, Total Support, and Total Depth. Finally, the Dyadic Effectiveness Scale (DES) total was broken down into the three subscales of Leadership, Consideration, and Attractiveness, which were used in several analyses.

The initial approach to data analysis involved a series of correlational analyses to explore the relationships among variables. Several MANOVAs were then utilized to test the major hypotheses of group differences on measures of perceived support, negative interactions, and quality of relationships, as well as both self-reported social competence and observer ratings of social effectiveness. A MANOVA was also used to test for differences between bulimics and controls on the measure of psychopathology.

A final goal of the present study was to further understand the role of psychopathology in the bulimic's perception of social support, social interactions, and quality of relationships. As a result, it was desirable to investigate differences between groups on the various measures after removing the effects of psychopathology. Therefore, group scores on the Perceived Support Scale (PSS), the Social Interactions Scale (SIS), and the Quality of Relationship Inventory
(QRI) were compared using Multivariate Analysis of Covariance (MANCOVA) with overall psychopathology (as assessed by the Global Severity Index of the SCL-90) as the covariate. Similar MANCOVAs were also utilized to test for differences between groups on the measures of social competence and effectiveness.

**Comparison of Groups**

**Demographic and Descriptive Information**

Results of a Multivariate Analysis of Variance (MANOVA) revealed that the mean scores on the Bulimia Test (BULIT) for the bulimic and normal control groups were significantly different ($F(1,35) = 380.73$, $p < .001$). The mean BULIT score for the bulimic group was $109.8$ ($SD = 13.39$), while the mean score for the normal group was $43.8$ ($SD = 5.5$). The two groups did not differ significantly on any of the demographic variables (age, height, weight, grade point average, or SAT scores). Means and standard deviations of these variables are presented in Table 2.

**Correlations**

As an initial step toward understanding the relationships among the variables in the present study, a number of Pearson's product-moment correlations were computed. In order to investigate the severity of bulimia in relation to the other variables, correlations were computed for subjects' scores on the BULIT, PSS-Friends and PSS-Family, and the SIS
variables (see Table 3). Higher BULIT scores were significantly negatively associated with amount of positive interactions ($r = -.38, p < .05$), and positively associated with increased negative interactions ($r = .50, p < .001$) and perceived impact of this conflict ($r = .47, p < .01$). In addition, perceived social support from family and friends was negatively correlated with BULIT scores ($r = -.50, p < .001$ and $r = -.45, p < .01$, respectively), indicating that women scoring higher on the BULIT reported significantly less perceived social support from both of these sources.

Correlations were also computed between the BULIT, social competence, and the Dyadic Effectiveness Scale (DES) total, as well as its three subscales (see Table 4). The relationship between BULIT scores and social competence approached significance ($r = -.29, p = .06$), as did the correlation between BULIT scores and the DES total ($r = -.30, p = .06$). The relationship between self-reported social competence and overall observer ratings of social effectiveness also approached significance ($r = .31, p = .06$).

Finally, correlations were computed between the BULIT and the QRI variables (see Table 5). Significant positive relationships were found between BULIT scores and measures of conflict with family ($r = .60, p < .001$) and others ($r = .31, p = .05$), while there was a
significant negative relationship between severity of bulimic symptoms and family support \((r = -0.33, p < 0.05)\).

Pearsons' correlations were also utilized to explore the relationships among the PSS and the SIS variables. As shown in Table 3, perceived social support from both friends and family was significantly positively related to positive interactions \((r = 0.61, p < 0.001\) and \(r = 0.43, p < 0.01\), respectively), and negatively related to negative interactions \((r = -0.52, p < 0.001\) and \(r = -0.32, p < 0.05\), respectively), indicating that individuals reporting higher levels of social support also report more positive interactions and less negative interactions. Additional correlations indicated that increased social competence was related to greater amounts of perceived social support from friends and family \((r = 0.44, p < 0.01,\) and \(r = 0.37, p < 0.05,\) respectively), as well as more positive interactions \((r = 0.38, p < 0.05)\) and less negative interactions \((r = -0.36, p < 0.05)\).

In order to better understand the relationship between psychopathology and the other measures, Pearsons' correlations were also computed between the Global Severity Index of the SCL-90 and the BULIT, PSS, SIS, and QRI variables (see Table 3). Higher BULIT scores were significantly positively associated with increased psychopathology, as indicated by higher
scores on the GSI ($r = .72$, $p < .001$) (see Table 3), as well as every subscale. Significant relationships were also found between severity of psychopathology and several other measures. Women reporting more severe psychopathology reported less perceived social support from family and friends ($r = -.47$, $p < .01$ and $r = -.40$, $p < .01$, respectively), fewer positive interactions ($r = -.45$, $p < .01$), more negative interactions ($r = .46$, $p < .01$), and a stronger impact of this conflict ($r = .46$, $p < .01$). In addition, increased psychopathology was related to increased family conflict ($r = .60$, $p < .001$).

**Perceived Social Support and Social Interactions**

A MANOVA was used to compare the bulimic and control groups on the Perceived Support Scale for both friends and family (PSS-FR and PSS-FA) and the Social Interactions Scale (SIS) (including measures of positive interactions, negative interactions, the impact of negative interactions, and attributions for these interactions). Results of this MANOVA demonstrated a significant overall group effect ($F(6,32) = 3.82$, $p<.01$) (see Table 6). Subsequent examination of the univariate analyses indicated that the bulimic and control groups demonstrated significant differences on a number of dimensions. Compared to controls, bulimic women reported significantly less perceived social support from friends and family.
(F(1, 37) = 7.39, p < .01 and F(1, 37) = 5.28, p < .05, respectively). Although the two groups did not differ on the amount of positive interactions experienced, bulimics reported significantly more negative interactions (F(1, 37) = 15.70, p < .001) and indicated that this conflict had a greater impact on them (F(1, 37) = 12.42, p < .01). In addition, bulimics demonstrated a stronger tendency than controls to attribute these negative interactions to themselves more than to others or to the situation (F(1, 37) = 3.02, p = .09), although this result did not attain significance.

Quality of Relationships

In order to investigate differences between groups on the QRI, the three subscales were analyzed using 3 two (groups: bulimics and controls) by two (sources: family and other) ANOVAs. Analysis of the mean support scales yielded a significant main effect for source (family or other) (F(1, 37) = 20.16, p < .001). The main effect for the groups approached significance (F(1, 37) = 3.75, p = .06), and there was no group by source interaction. In light of the mean support scores, these results indicate that both groups reported receiving significantly more support from others than from their family, and that there was a trend for controls to report more support, although the groups did not differ significantly on this variable.
Examination of the univariate results indicates that this trend is primarily due to differences on Family Support, which approached significance ($F(1,37) = 3.61$, $p = .06$).

The analyses of the Depth and Conflict scales were conducted in the same manner. For depth scores, there were no significant differences for source or group main effects or for the group by source interaction. This indicates that both groups responded similarly in their depth ratings of family and others, and did not differ in the amount of depth they reported for these relationships.

Results of Conflict scales analyses revealed a significant group by source interaction ($F(1,36) = 4.55$, $p < .05$). These results demonstrated that while all subjects reported more conflict with family than with others, bulimic women did so to a greater extent (hence the interaction effect). Analysis of univariate results indicated significant differences between groups on the measure of Family Conflict ($F(1,36) = 20.68$, $p < .001$), indicating that the bulimic women reported a much greater amount of family conflict.

Social Effectiveness and Self-Reported Social Competence

Reliability analysis for the ten Dyadic Effectiveness Scale (DES) items showed that as a single scale, they had a reliability of .98 (Cronbach's alpha). The three subscales of Leadership (Items 1, 3,
4, 5, and 7), Consideration (Items 2, 6, and 8), and Attractiveness (Items 9 and 10), had reliabilities of .98 (Cronbach's alpha), .95 (Cronbach's alpha), and .74 (Pearson's r). The subscales were highly intercorrelated (.75 to .87), and as a result, analyses were first performed on the DES total and then repeated on the three subscales.

Multivariate Analysis of Variance (MANOVA) was utilized on the Social Competence Questionnaire and the DES total in order to examine possible differences between groups on self-reported social competence and observer ratings of social effectiveness during the videotaped interaction. Results demonstrated a significant overall group effect ($F(4, 32) = 2.86$, $p < .05$) (see Table 7). Examination of the univariate analyses indicated that bulimic women reported significantly less social competence than normal controls ($F(1, 35) = 7.52$, $p < .01$), and were rated by observers as less socially effective overall ($F(1, 35) = 4.58$, $p < .05$). Univariate analyses of the subscales indicated that bulimics were rated significantly lower than normal controls on the Consideration subscale ($F(1, 35) = 5.83$, $p < .05$), while differences between groups on the Leadership scale approached significance ($F(1, 35) = 3.7$, $p = .06$). The means of these measures are presented in Table 7.
Psychopathology

One aim of the present study was to explore the relationship of psychopathology to bulimic symptoms, as well as to the measures of perceived social support, positive and negative interactions, and the quality of relationships. Multivariate Analysis of Variance (MANOVA) was used to compare the bulimic and normal control groups on the SCL-90 subscales (see Table 8). Results demonstrated a significant difference between groups on the Global Severity Index (GSI), a composite score for the Symptom Checklist-90 (SCL-90) which measures severity of psychopathology ($F(1,40) = 36.71, \ p < .001$). Significant differences between the bulimic and control groups were also apparent on the Positive Symptom Distress Index (PSDI) of the SCL-90, a measure of symptomatology intensity ($F(1,40) = 33.36, \ p < .001$). Univariate analyses of subscale scores indicated significant differences between groups on all subscales (see Table 8).

Covariate Analyses

One MANCOVA was utilized to compare the bulimic and normal control groups on the PSS (including PSS-Friends and PSS-Family) and the SIS (including positive and negative interactions, impact of negative interactions, and attributions for these). Results demonstrated that after controlling for the effects of psychopathology, the differences between groups on
reported negative interactions was still significantly different ($F(2,36) = 3.96, p = .05$). These results indicate that the amount of negative interactions made a significant contribution to the model over and above that of psychopathology. No other significant differences were revealed.

MANCOVAs were also utilized to compare differences between groups on the QRI variables (Family Support, Other Support, Family Depth, Other Depth, Family Conflict, and Other Conflict). Results of these analyses indicated no significant differences on Support or Depth scores after controlling for psychopathology. However, a significant difference was demonstrated between groups in their overall report of Conflict ($F(1,35) = 4.31, p < .05$). Examination of the univariate analyses revealed that this difference was primarily due to the measure of family conflict. After considering the effects of degree of psychopathology, group differences on reported family conflict still provided a contribution which nearly attained significance ($F(1,35) = 3.85, p = .058$).

A MANCOVA was also used to test for differences on the COMQ and DES total and subscales. Results indicated that after controlling for psychopathology, the differences between groups on the DES total approached significance ($F(2,34) = 3.41, p = .07$). Group differences on the Consideration subscale were
still significant ($F(2,34) = 4.46, p < .05$), while the Leadership subscale difference approached significance ($F(2,34) = 2.97, p = .09$).

Finally, it was desirable to investigate possible moderating effects of the variables on the impact of psychopathology in predicting whether or not a woman was bulimic. In order to test this hypothesis, a series of stepwise discriminant analyses were performed, utilizing interaction terms formed by multiplying each respective variable (PSS-Family, PSS-Friends, Negative Interactions, Positive Interactions, Family Support, Other Support, Family Conflict, Other Conflict, Family Depth, Other Depth, Social Competence, and DES Total) by the measure of overall psychopathology (GSI). These were all entered into equations with no more than three variables per model (Variable, GSI, and Variable x GSI). Results revealed the presence of two interaction terms which significantly predicted group membership better than either variable alone: Family Conflict x GSI ($F(1,35) = 33.4, p<.001$), and Other Conflict x GSI ($F(1,39) = 39.7, p<.001$). Thus, it appears that the self-reported level of conflict exerted a moderating effect on the level of psychopathology in predicting group membership. Consequently, in the present sample, for two subjects reporting equal levels of psychopathology, the one with a higher level of conflict would more likely be classified as bulimic.
Table 1

Univariate Analyses of Repeated Measures ANOVAs on Combination Quality of Relationship Inventory Variables.

<table>
<thead>
<tr>
<th></th>
<th>Bulimics</th>
<th>Normals</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Support</td>
<td>40.8</td>
<td>44.8</td>
<td>3.61</td>
</tr>
<tr>
<td>Family Depth</td>
<td>47.8</td>
<td>51.8</td>
<td>2.10</td>
</tr>
<tr>
<td>Family Conflict</td>
<td>67.3</td>
<td>53.3</td>
<td>20.68*</td>
</tr>
<tr>
<td>Other Support</td>
<td>47.8</td>
<td>49.2</td>
<td>0.69</td>
</tr>
<tr>
<td>Other Depth</td>
<td>51.7</td>
<td>51.8</td>
<td>0.00</td>
</tr>
<tr>
<td>Other Conflict</td>
<td>51.6</td>
<td>46.4</td>
<td>1.93</td>
</tr>
</tbody>
</table>

*p<.001
Table 2

**Univariate Analyses of Demographic Variables and Bulimia Test (BULIT) Scores.**

<table>
<thead>
<tr>
<th>MANOVA Overall Group Effect</th>
<th>Bulimics</th>
<th>Normals</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Bulimia Test</td>
<td>109.8</td>
<td>13.4</td>
<td>43.8</td>
</tr>
<tr>
<td>Age</td>
<td>20.3</td>
<td>2.8</td>
<td>20.3</td>
</tr>
<tr>
<td>Height</td>
<td>65.0</td>
<td>4.2</td>
<td>65.7</td>
</tr>
<tr>
<td>Weight</td>
<td>132.5</td>
<td>18.7</td>
<td>131.7</td>
</tr>
<tr>
<td>SAT Score</td>
<td>1063.3</td>
<td>114.9</td>
<td>1072.1</td>
</tr>
<tr>
<td>Grade Point Average</td>
<td>3.1</td>
<td>0.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

---

*p<.001*
Table 3

Pearson Correlations of the Bulimia Test (BULIT), Psychopathology, Perceived Social Support, and Social Interactions.

<table>
<thead>
<tr>
<th></th>
<th>BULIT</th>
<th>GSI</th>
<th>PSS-FR</th>
<th>PSS-FA</th>
<th>POSINT</th>
<th>NEGINT</th>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSI</td>
<td></td>
<td>.72***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS-FR</td>
<td>-.45**</td>
<td></td>
<td>-.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS-FA</td>
<td>-.50***</td>
<td>-.47**</td>
<td>.39**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSINT</td>
<td>-.38*</td>
<td>-.45**</td>
<td>.61***</td>
<td>.43**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEGINT</td>
<td>.50***</td>
<td>.46**</td>
<td>-.52***</td>
<td>-.32*</td>
<td>-.59***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMPACT</td>
<td>.47**</td>
<td>.46**</td>
<td>-.42**</td>
<td>-.34*</td>
<td>-.52***</td>
<td>.88***</td>
<td></td>
</tr>
<tr>
<td>ATTRIB</td>
<td>-.26</td>
<td>-.28</td>
<td>.06</td>
<td>.12</td>
<td>.04</td>
<td>-.18</td>
<td>-.10</td>
</tr>
</tbody>
</table>

*E<.05
**p<.01
***p<.001

Note:
- GSI=SCL-90 Global Severity Index;
- PSS=Perceived Support Scale (Friends and Family);
- POSINT=Positive Interactions from Social Interactions Scale (SIS);
- NEGINT=Negative Interactions from SIS;
- IMPACT=Impact of Negative Interactions;
- ATTRIB=Attribution for Negative Interactions.
Table 4

Pearson Correlations of the Bulimia Test (BULIT), Psychopathology, Self-Reported Social Competence, and Observer Ratings of Videotaped Interactions.

<table>
<thead>
<tr>
<th></th>
<th>BULIT</th>
<th>GSI</th>
<th>COMQ</th>
<th>DES-TOT</th>
<th>DES-L</th>
<th>DES-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSI</td>
<td></td>
<td>.72*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMQ</td>
<td>-.29</td>
<td>-.51*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DES-TOT</td>
<td>-.30</td>
<td>-.24</td>
<td>.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DES-LEAD</td>
<td>-.28</td>
<td>-.22</td>
<td>.31</td>
<td>.97*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DES-CONS</td>
<td>-.31</td>
<td>-.22</td>
<td>.26</td>
<td>.93*</td>
<td>.87*</td>
<td></td>
</tr>
<tr>
<td>DES-ATTR</td>
<td>-.28</td>
<td>-.28</td>
<td>.31</td>
<td>.89*</td>
<td>.86*</td>
<td>.75*</td>
</tr>
</tbody>
</table>

*p < .001

Note:
- GSI = SCL-90 Global Severity Index;
- COMQ = Social Competence Questionnaire;
- DES-TOT = Dyadic Effectiveness Scale (DES) Total;
- DES-LEAD = Leadership Subscale of DES;
- DES-CONS = Consideration Subscale of DES;
- DES-ATTR = Attractiveness Subscale of DES.
Table 5

Pearson Correlations of the Bulimia Test (BULIT), Psychopathology, and the Quality of Relationships.

<table>
<thead>
<tr>
<th></th>
<th>BULIT</th>
<th>GSI</th>
<th>FAMSUP</th>
<th>FAMDEP</th>
<th>FAMCONF</th>
<th>OTHSUP</th>
<th>OTHDEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSI</td>
<td>.72**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMSUP</td>
<td>-.34*</td>
<td>-.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>FAMDEP</td>
<td>-.26</td>
<td>-.14</td>
<td>.75**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMCONF</td>
<td>.60**</td>
<td>.60**</td>
<td>-.66**</td>
<td>-.63**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHSUP</td>
<td>-.06</td>
<td>-.16</td>
<td>.18</td>
<td>.11</td>
<td>-.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHDEP</td>
<td>.05</td>
<td>-.07</td>
<td>-.07</td>
<td>-.17</td>
<td>.11</td>
<td>.69**</td>
<td></td>
</tr>
<tr>
<td>OTHCONF</td>
<td>.31</td>
<td>.17</td>
<td>-.07</td>
<td>.11</td>
<td>.14</td>
<td>-.12</td>
<td>-.15</td>
</tr>
</tbody>
</table>

*p < .05
**p < .001

Note:
GSI=SCL-90 Global Severity Index;
FAMSUP=Family Support from Quality of Relationships Inventory (QRI);
FAMDEP=Family Depth from QRI;
FAMCONF=Family Conflict from QRI;
OThSUP=Other Support from QRI;
OThDEP=Other Depth from QRI;
OThCONF=Other Conflict from QRI.
Table 6

Univariate Analyses of Perceived Social Support and Social Interaction Variables.

<table>
<thead>
<tr>
<th>MANOVA Overall Group Effect (PSS &amp; SIS)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.82**</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Bulimics</th>
<th>Normals</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Perceived Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support - Friends</td>
<td>13.1</td>
<td>5.0</td>
<td>17.1</td>
</tr>
<tr>
<td>Perceived Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support - Family</td>
<td>10.9</td>
<td>5.7</td>
<td>15.5</td>
</tr>
<tr>
<td>Positive Interactions</td>
<td>34.4</td>
<td>9.6</td>
<td>39.1</td>
</tr>
<tr>
<td>Negative Interactions</td>
<td>34.6</td>
<td>10.5</td>
<td>24.2</td>
</tr>
<tr>
<td>Impact of Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactions</td>
<td>39.1</td>
<td>12.1</td>
<td>27.9</td>
</tr>
<tr>
<td>Attribution for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Interactions</td>
<td>39.8</td>
<td>8.2</td>
<td>44.7</td>
</tr>
</tbody>
</table>

* p<.05
** p<.01
*** p<.001

Note:

PSS = Perceived Support Scale
SIS = Social Interactions Scale
Table 7

Univariate Analyses of Self-Reported Social Competence and Observer Ratings of Videotaped Interactions.

<table>
<thead>
<tr>
<th></th>
<th>Bulimics</th>
<th>Normals</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td><strong>MANOVA Overall Group Effect</strong></td>
<td></td>
<td></td>
<td>2.86*</td>
</tr>
<tr>
<td><strong>Social Competence Questionnaire</strong></td>
<td>25.8</td>
<td>6.8</td>
<td>30.1</td>
</tr>
<tr>
<td>Dyadic Effectiveness Scale (DES) Total</td>
<td>223.1</td>
<td>39.4</td>
<td>250.2</td>
</tr>
<tr>
<td>DES Leadership</td>
<td>102.5</td>
<td>24.7</td>
<td>117.6</td>
</tr>
<tr>
<td>DES Consideration</td>
<td>72.9</td>
<td>11.2</td>
<td>81.0</td>
</tr>
<tr>
<td>DES Attractiveness</td>
<td>47.6</td>
<td>5.5</td>
<td>51.5</td>
</tr>
</tbody>
</table>

*p<.05
**p<.01
Table 8

Univariate Analyses of SCL-90 Variables.

<table>
<thead>
<tr>
<th></th>
<th>Bulimics</th>
<th>Normals</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Global Severity Index</td>
<td>1.26</td>
<td>.61</td>
<td>.39</td>
</tr>
<tr>
<td>Positive Symptom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distress Index</td>
<td>1.97</td>
<td>.51</td>
<td>1.28</td>
</tr>
<tr>
<td>Somaticism</td>
<td>.81</td>
<td>.48</td>
<td>.38</td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>1.51</td>
<td>.86</td>
<td>.62</td>
</tr>
<tr>
<td>Interpersonal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>1.93</td>
<td>.84</td>
<td>.55</td>
</tr>
<tr>
<td>Depression</td>
<td>1.63</td>
<td>.87</td>
<td>.59</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.00</td>
<td>.68</td>
<td>.28</td>
</tr>
<tr>
<td>Hostility</td>
<td>1.03</td>
<td>.80</td>
<td>.30</td>
</tr>
<tr>
<td>Phobia</td>
<td>.50</td>
<td>.46</td>
<td>.11</td>
</tr>
<tr>
<td>Paranoia</td>
<td>1.35</td>
<td>1.05</td>
<td>.33</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>1.07</td>
<td>.65</td>
<td>.20</td>
</tr>
</tbody>
</table>

*  p<.01
** p<.001
DISCUSSION

The present study addressed several hypotheses concerning the social network and interactions of individuals with bulimia. Specifically, the study explored various aspects of the bulimic individual's social support network, the quality of her interactions within this network, and individual difference variables which might mediate her ability to obtain support or perceive this as adequate. It was hypothesized that compared to normal control women, bulimic women would report less perceived social support, more negative social interactions (conflict), and poorer quality of relationships. In addition, it was proposed that they would demonstrate poorer social skills, both in terms of self-reported social competence and observer ratings of social effectiveness. Results support these three hypotheses, emphasizing in particular the high level of conflict in bulimic individual's relationships and their lack of social effectiveness, differences which are significant even after considering their level of psychopathology.
The Social Network: Quality and Type of Interactions

Results strongly indicate a number of significant differences between the social networks and interpersonal interactions of women with bulimia and non-eating disordered women. Bulimic women perceive much less social support in their environment, providing additional confirmation of previous research findings suggesting that bulimic individuals are dissatisfied with their social support network (Slater et al., 1989), as well as studies documenting the bulimic's sense of isolation and social maladjustment (Johnson & Berndt, 1983; Norman & Herzog, 1984; Herzog et al., 1987). In order to distinguish between sources of support, the present study utilized the Perceived Support Scale, an instrument which allows for separate examination of support from both family and friends. Compared to controls, bulimic individuals reported much less support from both of these sources.

Previous research has indicated that social support may function as a mediator between the individual and the environment (Cattanach & Rodin, 1988). Indeed, the perceived availability and adequacy of support is strongly linked to positive mental and physical health and personal adjustment (Cutrona, 1986; Pierce et al., 1988). In fact, these perceived qualities of relationships, rather than objective features of the social environment, seem to be the most
important aspect of social support (Sandler & Barrera, 1984). In the present study, overall perceived support was strongly related to severity of bulimia and proved to be an important predictor of group membership. Although it is difficult to determine causal direction in the relationship between bulimia and the lack of support, this perceived lack may make the bulimic woman particularly vulnerable to certain types of stress and contribute to the development and maintenance of bulimic symptoms.

Results of the present study also revealed significant overall differences between bulimic and control women in the type and quality of their interactions. First, bulimic women report a much higher occurrence of negative interactions. In addition, the quality of their relationships is poorer, in that they appear to experience much more conflict overall, particularly with their family (parents). The level of self-reported conflict was significantly higher among bulimic women than controls, and was strongly related to the severity of bulimic symptoms. This supports previous research which has suggested the importance not only of positive aspects of the social network, but also highlighted the need to consider the contribution of negative interactions and conflict to personal adjustment and psychopathology (Brenner,
Some researchers have suggested that since perceptions of support and other aspects of social interactions are subjectively determined, they may simply be a function of the individual's level of psychological adjustment (Henderson et al., 1978). Although research findings in this area are conflicting, it seems warranted to consider level of adjustment when comparing self-report data of this nature. In addition, in the present study the bulimic and control groups differed significantly on overall levels of psychopathology, which suggests that this variable deserves special consideration when comparing these two groups on other psychological variables.

Analyses conducted which controlled for the degree of psychopathology indicated that the experimental and control groups did not differ in their perception of support. However, when controlling for psychopathology, the two groups did differ significantly on several other aspects of their social interactions, with bulimic women still reporting higher levels of negative interactions, total conflict, and family conflict.

**Social Competence and Effectiveness**

Results of the present study indicate that bulimic women feel much less socially competent than normal
control women. They report discomfort and incompetence in a variety of social situations, including less confidence in their ability to function well socially and form close relationships with others, as well as a decreased likelihood of engaging in behaviors such as seeking out social encounters. Bulimic women therefore report both less social support and less social competence, consistent with previous evidence establishing the relationship between perceived social support and self-reported social competence, assertiveness, and dating skills (Procidano & Heller, 1983; B.R. Sarason et al., 1985).

The results of the present study also suggest that observers respond differently to eating disordered women than to non-eating disordered individuals. In addition to the finding that bulimic women perceived themselves as much less socially competent, they were also rated as less socially effective compared to control group women. Observers rating the taped behavior of bulimic women engaging in a five-minute interaction perceived them to be less trustworthy leaders, worse at problem-solving, and poorer team members. Bulimic women were also seen as less skilled in their social interaction and rated as less considerate and less likely to be a good friend. Thus, using two methods to assess the subjects' social competence, results strongly suggest that bulimic women
are less socially competent compared to non-eating disordered women.

**Implications and Conclusions**

These results suggest that there are a number of aspects of the bulimic individual's social network and interactions which are indeed quite different from those of non-eating disordered women. Previous studies have demonstrated that bulimics' families are more pathological in a number of ways (Garner et al., 1983; Humphrey et al., 1985; Johnson & Flach, 1985) and that bulimics themselves are socially maladjusted in many areas of life, including work, social and leisure activities, and relationships with family, spouses, and others (Herzog et al., 1986; Herzog et al., 1987; Johnson & Berndt, 1983). The present study adds to these findings by demonstrating that the bulimic individual's current interactions and relationships are more negative and conflictual than those of non-eating disordered women, and that they demonstrate significantly poorer social skills. In addition, unlike previous studies, the present findings are based not only on self-report but also on observer ratings of a brief interaction between a bulimic and a non-eating disordered woman. Finally, results indicate that these differences between bulimic individuals and controls are significant even after considering the contribution of bulimics' greater psychopathology.
In light of recent research clarifying the social support construct, these findings have important implications for understanding the bulimic individual's social environment. Several authors have suggested that the sense of being loved, valued, and accepted may be the most active ingredient of social support (Sarason et al., 1987). Pierce (1988) emphasized the importance of considering the individual's social matrix, particularly the nature of personal ties and the level of intimacy or feeling of being understood, validated, cared for, and closely connected to others. Assessing the quality of relationships has proven to add significantly to the prediction of adjustment, beyond the contribution of general social support (Pierce, 1988).

The results of the present study support this concept, indicating that perceived social support and the quality of relationships make independent contributions to an individual's level of adjustment. The quality of relationships particularly influences the effect of social support and contributes greatly to bulimic symptomatology. In addition, a high level of conflict appears to be even more distressing than a low level of social support. This finding is consistent with that of Abbey et al. (1985), who found that social conflict has an active component that may be more distressing than lack of support. This high level of
conflict and negative interactions in the bulimic individual's social network seems to be quite problematic, in that it is strongly related to the severity of her bulimic symptoms.

The social interactions of women with bulimia also appear to be greatly affected by their lack of social effectiveness. Thus, it is plausible that the bulimic individual's self-reported social maladjustment is related to her poor social skills. The present study provides support for this hypothesis, indicating that not only do bulimic women report less social competence, but they are perceived as less socially effective by others. Results of a recent study by Van Buren and Williamson (1988) provide further evidence for this finding. These researchers compared married bulimic couples to maritally distressed couples and normal control couples on measures of relationship satisfaction, conflict resolution, and beliefs about intimate relationships. Compared to normal controls, bulimics in their study demonstrated several similarities to the maritally-distressed women who were seeking couples therapy. Bulimics experienced a high level of dissatisfaction with their marriages, and reported deficiencies in conflict resolution skills, using few problem-solving skills and frequently withdrawing from conflict. In addition, they endorsed a belief that their partners, as well as the quality of
their relationships, cannot change; this belief may result in fewer active attempts to resolve conflicts (Van Buren & Williamson, 1988).

Unlike the present study, which included primarily single bulimic women, the bulimic individuals in Van Buren and Williamson's study were married and the information reported pertained to their spousal relationships. However, it seems highly likely that these patterns of communication and high levels of conflict are common to all of the bulimic woman's interactions. Reibel (1989) discusses at length the poor communication skills of individuals with bulimia, particularly their evasion of direct messages and their tendency to do the "right" thing rather than the "real" thing. She suggests four misconceptions which may hamper communication for these women. First, the bulimic individual censors outgoing messages for fear that her true feelings such as anger, uncertainty, or resentment will not be tolerated. Second, she believes that she is "transparent," and as such avoids eye contact and does not ask for what she wants, assuming others know and are ignoring her desires. Third, the bulimic feels the need to protect others from her own opinions and feelings, assuming others will judge her or are not strong enough to deal with her feelings. Finally, she tends to believe that honest communication will only destroy relationships. As a result of these
beliefs, the bulimic individual mistrusts herself and others, is prepared for the worst in relationships, and feels unable to change anything (Riebel, 1989).

These observations suggest that individuals with bulimia have very disordered communication patterns, which are likely to contribute to their lack of social effectiveness, disturbed interpersonal relationships, and increased conflict. In addition, it appears that the bulimic's lack of social skills or competence may indeed interfere with her ability to take advantage of available social support, leading to her dissatisfaction and perhaps to the exacerbation of her bulimic symptoms. Once again, causal direction is difficult to determine, but it appears that bulimic symptoms frequently arise and are sustained by the individual's conflicted, ambivalent relationships and lack of intimacy and support.

Researchers attempting to identify risk factors associated with the development of eating disorders have implicated several salient factors. These include some demographic characteristics, personality variables, family dynamics, a constitutional disposition, sociocultural influences, and the physiological and psychological consequences of severe dieting (Shisslak, Crago, Neal, & Swain, 1987). Garfinkel, Garner, and Goldbloom (1987) have separated these risk factors into three general areas --
cultural, familial, and individual -- and suggest that these vary greatly from individual to individual. Culturally, the thin female form is idealized and women are pressured to perform and please others. Within the bulimic individual's family, there may be a family history of eating or affective disorders, a magnification of cultural attitudes, or family relationships which discourage autonomy. The eating disordered individual herself may then be particularly vulnerable to developing disturbed self-perceptions, a lack of autonomy, and personality features and a cognitive style which contribute to the onset of bulimic symptoms. Garfinkel et al. (1987) suggest that these symptoms are then perpetuated by a number of factors including the effects of starvation on thoughts, emotions, and behavior, the use of bulimic symptoms to modulate affect, depression, and secondary gain such as the power and sense of specialness derived from the bulimia. In addition, lack of social skills and friendships may play a powerful role in maintaining the self-perpetuating cycle of binge eating and purging (Garfinkel, Garner, & Goldbloom, 1987).

The present study supports this suggestion and highlights the fact that bulimic individuals experience poor relationships with many people in their lives. This appears to be in part a result of their inability to communicate honestly and effectively, and to resolve
conflict appropriately. Interpersonal stress has been found to increase the likelihood of binge eating (Van Buren & Williamson, 1988), and indeed binge eating and purging may relieve the tension resulting from frequent unresolved conflict and dissatisfaction. Bulimic behavior may also provide a means of attempting to obtain acceptance and intimacy by becoming more desirable and attractive. In addition, bulimic symptoms may function as an attempt to fill needs for self-gratification which are not met by the bulimic individual's social network. In any case, it appears that a comprehensive treatment program must address the bulimic's lack of social effectiveness and poor communication and interaction skills which contribute to the perpetuation of her bulimic symptoms.

Limitations of the present study include its relatively small sample size and demographically restricted sample, which consisted of undergraduate women screened for bulimic symptoms and recruited for research purposes. In addition, the measure utilized to assess the quality of relationships asked subjects to report information on four individuals (father, mother, closest female friend, and romantic relationship/closest male friend). Although these individuals were chosen because they are likely to be important in the bulimic's life, this measure may have excluded information about relationships with other
significant individuals. A final limitation of the study involves the measures utilized to assess social competence and social effectiveness, which were brief and consisted of somewhat general items. Bulimic women reported overall social competence in a variety of situations, but did not directly report their feelings and perception of competence during the videotaped interaction. In addition, the scale utilized by observers to rate bulimics' social effectiveness was somewhat limited in the depth and breadth of behaviors and verbalizations considered.

Despite these limitations, results of this study have important implications for treatment. Teaching communication, coping, and problem-solving skills may meet important needs for bulimic women. These skills can improve daily functioning, increase their sense of self-efficacy, and gradually improve the quality of their relationships. This may in turn enable the bulimic individual to take advantage of available social support and interact more effectively with others, thus challenging several factors which perpetuate bulimic symptoms. Clear listening and reality testing, beginning to understand and convey her real messages and needs, learning to communicate directly and honestly -- all of these skills could decrease the bulimic's need to use food in the maladaptive manner of eating disordered women. Further
treatment studies would be helpful in determining the impact and effectiveness of these interventions in decreasing bulimic symptoms.

The results of the present study clearly have implications for understanding the social network and interpersonal interactions of individuals with bulimia. In order to generalize beyond the results from this sample, this study should be replicated with a larger sample and with community samples that include male bulimics, a wider age range, and diversity of demographic backgrounds. Future studies might also utilize more extensive and in-depth measures of social effectiveness to target more specific areas for treatment. For example, it would be helpful to obtain both quantitative and qualitative ratings of social effectiveness in a given situation, including measures of nonverbal behaviors (e.g., eye contact and speech duration), the quality of interaction, and the quality of problem-solving ability. These measures should be obtained not only from observers, but also from participants in interactions with bulimics. In addition, it would be interesting to have the bulimic individuals rate their own social performance during the interaction. In this way it would be possible to identify the presence of particular behaviors which contribute to the social incompetence and interpersonal difficulties of eating disordered women, and to learn
more about the bulimic individual's perceptions, thoughts, and feelings during interactions.

In addition to further exploration of the dysfunctional nature of the communication patterns of bulimic individuals, studies are also needed to explore in more detail the quality of their relationships with a variety of significant individuals. It will be important to obtain more information about the bulimic's intra- and interpersonal conflict and dysfunction, as well as other aspects of her social interactions which may not have been tapped in the present study. This should include further investigation of the bulimic individual's social support system and her dissatisfaction with this support. Only by continuing to increase our understanding of these complex factors will it be possible to formulate more comprehensive and fine-tuned theory, as well as plan more appropriate and effective approaches to the treatment of bulimia nervosa.
APPENDIX A

QUESTIONNAIRES
BULIT

Answer each question on the following pages by filling in the appropriate circles on the computer answer sheet. Please respond to each item as honestly as possible; remember, all of the information you provide will be kept strictly confidential.

1. Do you ever eat uncontrollably to the point of stuffing yourself (i.e., going on eating binges)?
   (a) Once a month or less (or never)
   (b) 2-3 times a month
   (c) Once or twice a week
   (d) 3-6 times a week
   +(e) Once a day or more

2. I am satisfied with my eating patterns.
   (a) Agree
   (b) Neutral
   (c) Disagree a little
   (d) Disagree
   +(e) Disagree strongly

3. Have you ever kept eating until you thought you'd explode?
   +(a) Practically every time I eat
   (b) Very frequently
   (c) Often
   (d) Sometimes
   (e) Seldom or never

4. Would you presently call yourself a "binge eater"?
   +(a) Yes, absolutely
   (b) Yes
   (c) Yes, probably
   (d) Yes, possibly
   (e) No, probably not

5. I prefer to eat:
   +(a) At home alone
   (b) At home with others
   (c) In a public restaurant
   (d) At a friend's house
   (e) Doesn't matter

6. Do you feel you have control over the amount of food you consume?
   (a) Most or all of the time
   (b) A lot of the time
   (c) Occasionally
   (d) Rarely
   +(e) Never
X 7. I use laxatives or suppositories to help control my weight.
   (a) Once a day or more
   (b) 3-6 times a week
   (c) Once or twice a week
   (d) 2-3 times a month
   (e) Once a month or less (or never)

8. I eat until I feel too tired to continue.
   + (a) At least once a day
   (b) 3-6 times a week
   (c) Once or twice a week
   (d) 2-3 times a month
   (e) Once a month or less (or never)

9. How often do you prefer eating ice cream, milk shakes, or puddings during a binge?
   + (a) Always
   (b) Frequently
   (c) Sometimes
   (d) Seldom or never
   (e) I don't binge

10. How much are you concerned about your eating binges?
    (a) I don't binge
    (b) Bothers me a little
    (c) Moderate concern
    (d) Major concern
    + (e) Probably the biggest concern of my life.

11. Most people would be amazed if they knew how much food I can consume at one sitting.
    + (a) Without a doubt
    (b) Very probably
    (c) Probably
    (d) Possibly
    (e) No

12. Do you ever eat to the point of feeling sick?
    + (a) Very frequently
    (b) Frequently
    (c) Fairly often
    (d) Occasionally
    (e) Rarely or never

13. I am afraid to eat anything for fear that I won't be able to stop.
    + (a) Always
    (b) Almost always
    (c) Frequently
    (d) Sometimes
    (e) Seldom or never
   + (a) Always
   (b) Frequently
   (c) Sometimes
   (d) Seldom or never
   (e) I don't eat too much

15. How often do you intentionally vomit after eating?
   + (a) 2 or more times a week
   (b) Once a week
   (c) 2-3 times a month
   (d) Once a month
   (e) Less than once a month (or never)

16. Which of the following describes your feelings after binge eating?
   (a) I don't binge eat
   (b) I feel O.K.
   (c) I feel mildly upset with myself
   (d) I feel quite upset with myself
   + (e) I hate myself

17. I eat a lot of food when I'm not even hungry.
   + (a) Very frequently
   (b) Frequently
   (c) Occasionally
   (d) Sometimes
   (e) Seldom or never

18. My eating patterns are quite different from eating patterns of most people.
   + (a) Always
   (b) Almost always
   (c) Frequently
   (d) Sometimes
   (e) Seldom or never

19. I have tried to lose weight by fasting or going on "crash" diets.
   (a) Not in the past year
   (b) Once in the past year
   (c) 2-3 times in the past year
   (d) 4-5 times in the past year
   + (e) More than 5 times in the past year

20. I feel sad or blue after eating more than I'd planned to eat.
   + (a) Always
   (b) Almost always
   (c) Frequently
   (d) Sometimes
   (e) Seldom, never, or not applicable
21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).
   +(a) Always
   (b) Almost always
   (c) Frequently
   (d) Sometimes
   (e) Seldom, or I don't binge

22. Compared to most people, my ability to control my eating behavior seems to be:
   (a) Greater than other's ability
   (b) About the same
   (c) Less
   (d) Much less
   +(e) I have absolutely no control

23. One of your best friends suddenly suggests that you both eat at a new restaurant buffet that night. Although you'd planned on eating something light at home, you go ahead and eat out, eating quite a lot and feeling uncomfortably full. How would you feel about yourself on the ride home?
   (a) Fine, glad that I'd tried the new restaurant
   (b) A little regretful that I'd eaten so much
   (c) Somewhat disappointed in myself
   (d) Upset with myself
   +(e) Totally disgusted with myself

24. I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolled eating).
   +(a) Absolutely
   (b) Yes
   (c) Yes, probably
   (d) Yes, possibly
   (e) No, probably not

25. What is the most weight you've ever lost in one month?
   +(a) Over 20 pounds
   (b) 12-20 pounds
   (c) 8-11 pounds
   (d) 4-7 pounds
   (e) Less than 4 pounds

26. If I eat too much at night I feel depressed the next morning.
   +(a) Always
   (b) Frequently
   (c) Sometimes
   (d) Seldom or never
   (e) I don't eat too much at night
27. Do you believe that it is easier for you to vomit than it is for most people?
+(a) Yes, it's no problem at all for me
(b) Yes, it's easier
(c) Yes, it's a little easier
(d) About the same
(e) No, it's less easy

28. I feel that food controls my life.
+(a) Always
(b) Almost always
(c) Frequently
(d) Sometimes
(e) Seldom or never

29. I feel depressed immediately after I eat too much.
+(a) Always
(b) Frequently
(c) Sometimes
(d) Seldom or never
(e) I don't eat too much

30. How often do you vomit after eating in order to lose weight?
(a) Less than once a month (or never)
(b) Once a month
(c) 2-3 times a month
(d) Once a week
+(e) 2 or more times a week

31. When consuming a large quantity of food, at what rate of speed do you usually eat?
+(a) More rapidly than most people have ever eaten in their lives
(b) A lot more rapidly than most people
(c) A little more rapidly than most people
(d) About the same rate as most people
(e) More slowly than most people (or not applicable)

32. What is the most weight you've ever gained in one month?
+(a) Over 20 pounds
(b) 12-20 pounds
(c) 8-11 pounds
(d) 4-7 pounds
(e) Less than 4 pounds

X 33. Females only. My last menstrual period was
(a) Within the past month
(b) Within the past 2 months
(c) Within the past 4 months
(d) Within the past 6 months
(e) Not within in the past 6 months
X 34. I use diuretics (water pills) to help control my weight.
   (a) Once a day or more
   (b) 3–6 times a week
   (c) Once or twice a week
   (d) 2–3 times a month
   (e) Once a month or less (or never)

35. How do you think your appetite compares with that of most people you know?
   +(a) Many times larger than most
   (b) Much larger
   (c) A little larger
   (d) About the same
   (e) Smaller than most

X 36. Females only. My menstrual cycles occur once a month:
   (a) Always
   (b) Usually
   (c) Sometimes
   (d) Seldom
   (e) Never

+ represents the most 'symptomatic' response and receives a score of 5 points

X denotes questions for which responses are not included in the summed BULIT score
The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No, and Don't know. Please use the scale provided when answering each question, and mark your answers on the answer sheet.

1. My friends give me the moral support I need.
2. Most other people are closer to their friends than I am.
4. Certain friends come to me when they have problems or need advice.
5. I rely on my friends for emotional support.
6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
7. I feel that I'm on the fringe in my circle of friends.
8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.
9. My friends and I are very open about what we think about things.
10. My friends are sensitive to my personal needs.
11. My friends come to me for emotional support.
12. My friends are good at helping me solve my problems.
13. I have a deep sharing relationship with a number of friends.
14. My friends get good ideas about how to do things or make things from me.
15. When I confide in friends, it makes me feel uncomfortable.
16. My friends seek me out for companionship.
17. I think that my friends feel that I'm good at helping them solve problems.
18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.
19. I've recently gotten a good idea about how to do something from a friend.
20. I wish my friends were much different.
The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their families. For each statement there are three possible answers: Yes, No, and Don't know. Please use the scale provided when answering each question, and mark your answers on the answer sheet.

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1. My family gives me the moral support I need. 
2. I get good ideas about how to do things or make things from my family. 
3. Most people are closer to their families than I am. 
4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable. 
5. My family enjoys hearing about what I think. 
6. Members of my family share many of my interests. 
7. Certain members of my family come to me when they have problems or need advice. 
8. I rely on my family for emotional support. 
9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later. 
10. My family and I are very open about what we think about things. 
11. My family is sensitive to my personal needs. 
12. Members of my family come to me for emotional support. 
13. Members of my family are good at helping me solve problems. 
14. I have a deep sharing relationship with a number of members of my family. 
15. Members of my family get good ideas about how to do things or make things from me. 
16. When I confide in members of my family, it makes me uncomfortable. 
17. Members of my family seek me out for companionship. 
18. I think that my family feels that I'm good at helping them solve problems. 
19. I don't have a relationship with my family that is as close as other people's relationships with family members. 
20. I wish my family were much different.
Social Interactions Scale

In the course of daily living, people's interactions with others can be pleasant, helpful, and supportive, or they can be a source of conflict and negative feelings. Please read each question below, and using the answer sheet, mark the number that best reflects the social interactions you have had in the past week.

1. In the past seven days, how much have people in your personal life acted in ways that show they appreciate you?
   1 2 3 4 5 6 7
   not at all  a great deal

2. In the past seven days, how much have people in your personal life treated you with respect?
   1 2 3 4 5 6 7
   not at all  a great deal

3. In the past seven days, how much have people in your personal life shown you that they cared about you as a person?
   1 2 3 4 5 6 7
   not at all  a great deal

4. In the past seven days, how much have people in your personal life given you useful information and advice when you wanted it?
   1 2 3 4 5 6 7
   not at all  a great deal

5. In the past seven days, how much have people in your personal life helped out when too many things needed to get done or you couldn't do them yourself?
   1 2 3 4 5 6 7
   not at all  a great deal

6. In the past seven days, how much have people in your personal life listened when you wanted to confide about things that were important to you?
   1 2 3 4 5 6 7
   not at all  a great deal
7. In the past seven days, how much have people in your personal life visited with you?

1 2 3 4 5 6 7
not at all a great deal

8. In the past seven days, how much have people in your personal life argued with you about something?

1 2 3 4 5 6 7
not at all a great deal

9. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal of impact

10. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation

11. In the past seven days, how much have people gotten on your nerves?

1 2 3 4 5 6 7
not at all a great deal

12. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal of impact

13. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation
14. In the past seven days, how much have people in your personal life misunderstood the way you thought and felt about things?

1 2 3 4 5 6 7
not at all a great deal

15. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal

16. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation

17. In the past seven days, how much have people in your personal life done things that conflicted with your own sense of what should be done?

1 2 3 4 5 6 7
not at all a great deal

18. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal

19. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation

20. In the past seven days, how much have people in your personal life acted in an unpleasant or angry manner toward you?

1 2 3 4 5 6 7
not at all a great deal
21. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal of impact

22. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation

23. In the past seven days, how much have people in your personal life invaded your privacy?

1 2 3 4 5 6 7
not at all a great deal

24. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal of impact

25. How would you explain why these interactions occurred?

1 2 3 4 5 6 7
something to do with me something to do with others or the situation

26. In the past seven days, how much have people in your personal life treated you as though they did not respect or value you as a person?

1 2 3 4 5 6 7
not at all a great deal

27. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1 2 3 4 5 6 7
no impact a great deal of impact
28. How would you explain why these interactions occurred?

1  2  3   4  5    6   7
something to do with me

29. In the past seven days, how much have people in your personal life broken a promise to help you or do something for you?

1  2  3   4  5    6   7
not at all a great deal

30. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1  2  3   4  5    6   7
no impact a great deal of impact

31. How would you explain why these interactions occurred?

1  2  3   4  5    6   7
something to do with me

32. In the past seven days, how much have people in your personal life hurt your feelings?

1  2  3   4  5    6   7
not at all a great deal

33. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

1  2  3   4  5    6   7
no impact a great deal of impact

34. How would you explain why these interactions occurred?

1  2  3   4  5    6   7
something to do with me
35. In the past seven days, how much have people in your personal life taken advantage of you?

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36. How much did these occurrences bother you, including your emotions, your thoughts, and your behavior?

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37. How would you explain why these interactions occurred?

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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>something to do with me</td>
<td>something to do with others or the situation</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Below you will find a list of specific behaviors or feelings. Imagine yourself in each situation, and using the rating scale given below, mark the most appropriate number on the answer sheet provided.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all</td>
<td>a little</td>
<td>quite a lot</td>
<td>a great deal</td>
</tr>
<tr>
<td>1</td>
<td>like me</td>
<td>like me</td>
<td>like me</td>
<td>like me</td>
</tr>
</tbody>
</table>

1. Start a conversation with someone I don’t know well, but would like to know better. 1 2 3 4

2. Be confident in my ability to make friends, even in a situation where I know few people. 1 2 3 4

3. Be able to mix well in a group. 1 2 3 4

4. Feel uncomfortable looking at other people directly. 1 2 3 4

5. Have trouble keeping a conversation going when I’m just getting to know someone. 1 2 3 4

6. Find it hard to let a person know that I want to become closer friends with him/her. 1 2 3 4

7. Enjoy social gatherings just to be with people. 1 2 3 4

8. Have problems getting other people to notice me. 1 2 3 4

9. Feel confident of my social behavior. 1 2 3 4

10. Seek out social encounters because I enjoy being with other people. 1 2 3 4
The series of questions on these pages ask for general information about several people in your life. Each page asks about a different person.

The following questions ask about _____. Please answer them on THIS sheet.

Age: _____ Length of time you have known this person: _____

The first series of questions concerns your relationship with ____. Please use the scale provided when answering each question and mark your answers on the answer sheet.

1 2 3 4
Not at all A little Quite a bit Very much

1. To what extent could you turn to this person for advice about problems?
2. How often do you have to work hard to avoid conflict with this person?
3. To what extent could you count on this person for help with a problem?
4. How upset does this person sometimes make you feel?
5. To what extent can you count on this person to give you honest feedback, even if you might not want to hear it?
6. How much does this person like you?
7. How much does this person make you feel guilty?
8. How important a role do you play in this person's life?
9. How much do you have to "give in" in this relationship?
10. To what extent can you count on this person to help you if a family member very close to you died?
11. How much better would your life be if you no longer had a relationship with this person?
12. How much does this person want you to change?
13. To what extent could you count on this person for help if you were in a crisis situation, even if he/she had to go out of his/her way to help you?
14. How much more do you give than you get from this relationship?
15. How upset do you think this person would be if he or she could not continue the relationship with you?
16. How positive a role does this person play in your life?
17. How significant is this relationship in your life?
18. To what extent can you trust this person not to hurt your feelings?
19. How confident are you that this person really cares about you?
20. How close will your relationship be with this person in 10 years?
21. How much would you miss this person if the two of you could not see or talk with each other for a month?
22. How often do problems that occur in this relationship get resolved?
23. How critical of you is this person?
24. If you could have only a very small number of social relationships, how much would you want contact with this person to be among them?
25. If you wanted to go out and do something this evening, how confident are you that this person would be willing to do something with you?
26. How responsible do you feel for this person's well-being?
27. How obligated would you feel to help this person?
28. How much do you depend on this person?
29. How considerate is this person of your needs?
30. To what extent can you count on this person to listen to you when you are very angry at someone else?
31. How much would you like this person to change?
32. How angry does this person make you feel?
33. If this person could afford to, how confident are you that he/she would loan you money if you needed it?
34. How much do you argue with this person?
35. If you were sick, how confident are you that this person would help you until you got better?
36. How upset would you be if your relationship with this person were completely ended?
37. To what extent can you really count on this person to distract you from your worries when you feel under stress?
38. How often does this person make you feel angry?
39. How often does this person try to control or influence your life?
40. How much do you enjoy spending time with this person?
41. Regardless of how positive this relationship might be for you, to what extent is it also negative, for example, a source of conflict (arguments, misunderstandings, guilt)?
42. If you had an important personal problem tomorrow, how confident are you that this person would help you?
43. Currently, how satisfied are you with this relationship?
44. How much does this person depend on you?
APPENDIX B

DYADIC EFFECTIVENESS SCALE
Dyadic Effectiveness Scale

1. If you had a somewhat dangerous or difficult assignment, to what degree would you like to have this person as your partner in carrying it out?

2. To what degree do you think this person would be a good friend?

3. To what extent would you like to have this person as your leader or supervisor?

4. If you had a personal problem, to what degree could you count on this person to help you solve it?

5. To what degree do you feel this person would be a team player, someone who would contribute to achieving group goals?

6. To what degree do you feel this person is considerate?

7. To what degree would you expect this person to have good judgment?

8. To what degree do you think this person is interested in what other people have to say?

9. To what degree do you see this person as being successful in social relationships?

10. To what degree does this person make a good impression physically?

1 = Not at all
2 = Very slightly
3 = Slightly
4 = Moderately
5 = Quite a lot
6 = Very, very much

Leadership subscale = Items 1, 3, 4, 5, and 7
Consideration subscale = Items 2, 6, and 8
Attractiveness subscale = Items 9 and 10
APPENDIX C

VIDEOTAPED INTERACTION
Instructions given to female dyads:

"Now I would like for you both to imagine that you are roommates and that you have a third female roommate. You have been living together for about a month, and have found that your third roommate is very difficult to get along with. What I want you to do now is to talk about how you might improve your living situation with regard to this difficult and annoying roommate. You have to continue living with her until the end of the semester. You'll have five minutes to discuss this issue. Please continue to talk about it until I tell you to stop. Do you have any questions?"

Instructions given to observer raters:

"You will be watching a five-minute interaction between two female roommates discussing how they might deal with a third female roommate who is difficult to get along with. What I want you to do is watch the entire video and then rate each subject in the video using this measure [Dyadic Effectiveness Scale]. There are 10 questions which you should rate using this scale from 1 (not at all) to 6 (very, very much). Please answer all 10 questions for one subject in each pair before going on to rate the second subject.

To indicate which subject you are rating, label the scale for each subject using the code on the videotape and indicate if the subject was on the right or the left."
Summary of training instructions given to confederate:

The female confederate who participated in all interactions was a first-year graduate student in clinical psychology who was introduced to subjects as simply another participant in the study. Prior to the beginning of the study, the confederate and the author generated a number of standard responses to possible subject verbalizations. These included questions or comments such as "What do you think we should do?", "How do you think she'd respond to that?", "We could try that," etc. The confederate was instructed to interact with each subject in as similar a manner as possible, and practiced with several individuals before the study began. She attempted to remain fairly passive, while contributing enough to the interaction that her status as a confederate would remain unknown. This was accomplished by using techniques such as reflection and paraphrasing rather than volunteering her own solutions to the situation. In addition, the confederate was instructed to refrain from expressing value judgments on the subject's opinions, and in general, to allow each subject as much opportunity as possible to demonstrate her social skills (or lack thereof).
REFERENCES


Abraham, S.F., & Beumont, P.J. (1982). How patients describe bulimia or binge eating. Psychological Medicine, 12, 625-635.


BIOGRAPHICAL SKETCH

Nadine Ines Grissett was born on September 26, 1964, in St. Croix, U.S. Virgin Islands, to Charles Grissett and Lydia Carlson. In 1985, Ms. Grissett obtained a Bachelor of Science degree in psychology from Stetson University in DeLand, Florida. After working briefly at an inpatient psychiatric facility, Ms. Grissett entered the graduate clinical psychology program at the University of Florida. Here she minored in medical psychology and obtained a Master of Science degree in August, 1987. At present, Ms. Grissett and her husband live in the Chicago area, where she is employed as program coordinator and health psychology counselor in the Eating Disorders Clinic at Northwestern Memorial Hospital. Following completion of her doctorate degree in clinical psychology, Ms. Grissett plans to pursue a career in research and clinical practice.
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Nancy K. Norvell, Ph.D., Chair
Assistant Professor of
Clinical and Health Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James Johnson, Ph.D.
Professor of Clinical and Health Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Anthony Greene, Ph.D.
Assistant Professor of
Clinical and Health Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Jacquelin Goldman, Ph.D.
Professor of Clinical and Health Psychology
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

John Kuldau, M.D.
Professor of Psychiatry

This dissertation was submitted to the Graduate Faculty of the College of Health Related Professions and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May 1991

Dean, College of Health Related Professions

Dean, Graduate School