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**SOCIAL INTERACTION: SEX DIFFERENCES IN THE EXCHANGE  
OF EMOTIONAL SUPPORT**

**By**

**Linda A. Sullivan**

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## ABSTRACT

### SOCIAL INTERACTION: SEX DIFFERENCES IN THE EXCHANGE OF EMOTIONAL SUPPORT

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A study was conducted to examine the exchange of emotional support in social interaction with a specific focus on sex differences in support and reciprocity of support. Previous research suggested that females would receive and provide more emotional support than would males, and that the exchange of support would be characterized by reciprocity. Subjects completed a modified version of the Rochester Interaction Record (RIR) for a period of two weeks on which they described their social interactions with specific emphasis on social support. They also completed a mood checklist daily and completed some postrecord-keeping personality measures. Results supported the hypotheses that females would need, provide, receive, and perceive a greater need in other's for support than would males. It was concluded that females greater level of negative affect and greater communal orientation in comparison with males contributed to these results. Results also supported the hypothesis that support exchange would be characterized by reciprocity. However, both sexes perceived that they received more support from

persons of the opposite-sex than they provided to them. These results were interpreted within the empirical framework of Clark and Mills' (1979) distinction between communal and exchange relationships. Mood analyses showed positive relationships between supportive behaviors and both negative and positive affect. It was concluded that the emotional content of both these indices created the positive relationship between them. Finally, personality measures (empathy and social skills) were less effective than sex in predicting differences in reported supportive behaviors and perceptions.

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**This dissertation is dedicated to six women:**

**Ann, Joan, Joyce, LAJ, Riia, and Sally,  
for never breaking an appointment with me.**

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## INTRODUCTION

Historically the study of human relationships and social interaction has not been considered a topic either worthy of, or appropriate for, scientific investigation (Berscheid & Peplau, 1983). Recently this viewpoint has been changing as evidenced by the publication of journals specifically devoted to social relationships (e.g. Journal of Social and Personal Relationships) and by the development and continuation of conferences focused on interpersonal relationships (e.g. The Iowa Conference on Personal Relationships).

Recent interest in social interaction as a focus of scientific inquiry has no doubt been encouraged by the relevance of social interaction to other social phenomena. Clearly, descriptive analyses of an individual's pattern of social interactions are of interest to social psychologists, while the characteristics of social networks are of interest to sociologists and ecological psychologists. However, social interaction assumes a social significance beyond mere academic interest when one considers its relevance to aspects of an individual's well-being or accomplishments. For example, research on loneliness (Berg & Peplau, 1982; Wheeler, Reis, & Nezlek, 1983) has shown that both the quantity and quality of social interaction, as well as specific dimensions of social interaction, are related to feelings of loneliness,

a state that affects about one quarter of the population (Peplau, Russell, & Heim, 1979).

Social interaction has also been found to affect performance, particularly academic performance. For instance the quality and quantity of males' social interaction is negatively related to their grade point average (Nezlek, Wheeler, & Reis, 1983B; Sullivan, 1986). At the graduate level, Hall (1969) found that amount of peer interaction was positively related to academic achievement, specifically on doctoral comprehensive examinations. Further, Kowalski (1982), after reviewing the reasons behind the 40% withdrawal rate at American colleges, concluded that "a positive personal relationship" (p. 47) with a faculty member can greatly increase the chances of students persisting in college. Thus social interaction appears to have important effects on academic performance.

Social interaction has also been related to health. Reis, Wheeler, Kernis, Spiegel, and Nezlek (1985) found that the quality of females' social interactions was negatively related to seeking health care. However, the major component of social interaction relating to health is social support. Reis et al. (1985) did not specifically measure social support, so it is not clear to what extent the measure of social interaction was tapping this phenomenon. Much research has shown that social support is positively related to health and well-being (see Cohen & Syme, 1985, for a review). Indeed, the vast majority of social support research has focused on its relationship to well-being.

Surprisingly, the social support research has not examined support as a component of social interaction, primarily because "there is a tendency among some researchers to equate social interaction with social

support" (Rook, 1984, p. 1097). Recently, some authors (e.g., Reis, 1984; Shinn, Lehmann & Wong, 1984) have argued that it is more appropriate to think of social support as a component of social interaction (e.g. Reis, 1984). Social interaction may take place with social support being irrelevant, but social support cannot take place without social interaction (House, 1981). In the view of the present author, social interaction should not be viewed as social support, but rather as the mechanism by which social support can be expressed. To consider social interaction and social support as identical processes is to confuse the figure with the ground. Social support is best conceptualized as a figure against the ground of social interaction.

It would appear then that any investigation of social support in the context of naturally occurring social interaction should increase our understanding of the underlying components of social interaction. Such an investigation should also increase our knowledge of the nature of support.

The purpose of the present research was to investigate sex differences in social interaction with the focus being on the exchange of support. The integration of support with social interaction makes imperative the investigation of sex differences and exchange. As Reis (1986) noted, sex is "a fundamental factor that differentiates numerous aspects of social life" (p. 105). Further, "interaction between persons is an exchange of goods, material and nonmaterial" (Homans, 1958, p. 597). Thus, by placing support in the context of social interaction, one must attend to sex differences and the exchange of support, both of which have been neglected in the research conducted on support to date. The following sections outline the operationalizations and measurement

of social interaction and social support in previous research and in the present research.

### Social Interaction: Definition and Measurement

Social interaction is considered by most to be a multidimensional activity whose focus is centered on the behavior of others. For example, Wheeler and Nezlek (1977) define the activity as any face-to-face encounter in which person A modifies her or his behavior in response to person B and vice versa. Social interaction involves components such as control, quantity, quality, intimacy, satisfaction, reciprocity, and support (Reis, 1984; Wheeler and Nezlek, 1977). In an attempt to classify social interaction according to characteristics that would lend themselves to empirical quantification, Forgas (1976) had subjects record all their interactions for the previous day. The 25 most often mentioned episodes were then presented to other subjects who placed them into categories according to their similarity. A measure of relatedness between each pair of stimuli was then calculated and submitted to multidimensional scaling. Forgas (1976) found that for students, the main attributes, or dimensions, differentiating social interactions were intimacy, pleasantness, and self-confidence i.e., knowing what to do in a social situation.

In general, social interaction is not a phenomenon that has been defined by researchers in their study of the topic. This problem has also been observed to occur in the friendship literature by Winstead and Derlega (1986). As they point out, the concept of friendship has rarely been defined in friendship research. One is left to infer the operational definitions of social interaction from the various measures used; and these measures have varied widely. Some have used interviews

to assess subjects' supportive and problematic social ties (e.g., Rook, 1984). Others assume that variables such as Greek organization membership are an index of social activity, considering members to be "socially prominent" (e.g., Sanford, 1962, p. 150).

Measures of interaction have been more precise in the laboratory. For example, the conversations of groups have been content-analyzed to measure themes of interaction (Aries, 1976). More detailed analyses of group conversations have been made possible with Bales (1950, 1970) Interaction Process Analysis, and naturalistic studies of interactions have been made possible with Ickes' Unstructured Interaction Paradigm (See Ickes, 1983, for a discussion of this paradigm). The laboratory, however, is a rather limited context for studies of social interaction, because these situations are either highly structured or are confined to relatively short periods of time. So too are questionnaire and interview studies limited in their measure of social interaction, because they are prone to memory limitations, memory distortion, and potential social desirability effects.

Clearly a naturalistic approach to the study of social interaction that is not subject to the above shortcomings is most appropriate. One such approach involves the maintenance of diaries or daily records of social interaction. Such an approach has been in use for many years (e.g., Bolton & Kammeyer, 1967); however, one particular diary method, the Rochester Interaction Record (RIR; Wheeler & Nezlek, 1977), recently has become popular among researchers interested in collecting data on person's social experiences.

The RIR is a standard form that requires subjects to record the duration of a given interaction, the sex of the participants, the

context of the interaction, as well as seven affective responses to the interaction. Thus the RIR measures the quantity, structure, and subjective dimensions of the diary keeper's interaction pattern. Nezlek and his colleagues (Nezlek, Wheeler, & Reis, 1983A) maintain that this measure has advantages over other methods. First, the RIR taps a wide variety of social interactions. Second, it reduces memory limitations and memory distortions because the diary is maintained daily. Each recording represents a single distinct social interaction thus alleviating the need for a subject to attempt to make global responses. Finally, the measure is flexible insofar as other researchers can redefine the subjective scales for their own purposes. Subsequent research has demonstrated that use of the RIR, or variants thereof, has become popular in investigations of a number of variables associated with social interaction, including social support (Cutrona, 1986), health (Reis, Wheeler, Kernis, Spiegel, & Nezlek, 1985), intimacy (Reis, Senchak, & Solomon, 1985), loneliness (Wheeler, Reis, & Nezlek, 1983), and physical attractiveness (Reis, Wheeler, Spiegel, Kernis, Nezlek, & Perri, 1982).

For the purposes of this study, social interaction is defined as behavior that involves the responding of one individual to another (Wheeler & Nezlek, 1977). The clearest example of interaction would be a conversation in which one person responds to the other. In contrast, sitting side-by-side watching television is not an interaction. A variant of the RIR, to be described in detail later, was used to measure social interaction.

### Social Support: Definition

Delineating the components, or dimensions, of social support has proved to be a major issue for researchers. The original definition claimed support to be information that led the individual to believe that she or he was cared for and loved and held in esteem and value, and belonged to a network of communication and mutual obligation (Cobb, 1976). It is rather ironic that social support should be referred to as a "really fundamental variable" (Cobb, 1979, p. 103) because researchers have defined this "fundamental variable" in many different ways. Some have been circular, asserting that social support is essentially support provided by one's social network (e.g., Lin, Simeone, Ensel, & Kuo, 1979). Others have been vague, defining social support as simply the frequency of social interactions (e.g., Goplerud, 1980). Still others have focused on the intent, defining social support as "an exchange of resources between two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker & Brownwell, 1984, p. 11). As Wilcox and Vernberg (1980) note, the question, "What is social support?" has elicited dozens of answers. In fact, Cohen and Syme (1985) maintain that there are probably as many definitions of social support as there are papers on the topic. Heller and Lakey (1985) have commented that "social support has come to stand for any type of social interaction that is associated with health and well-being" (p. 296)!

Social support researchers do agree that social support, like social interaction, is clearly a multidimensional construct (Leavy, 1983; Sarason & Sarason, 1985; Thoits, 1985; Wilcox & Vernberg, 1985). The issue of defining social support is now centered on what the

components, or dimensions, of social support are. These components are commonly referred to as "functions". (The reader is referred to Gottlieb (1978), House (1981), and Thoits (1985) for discussions and empirical derivations of the various components or functions of social support).

Although researchers differ in how they conceptualize and label support, five reasonably-common components can be extracted from the literature. Emotional support refers to a class of behavior that includes the conveyance of concern, love, empathy, and trust, such as confiding in one or comforting one in times of stress. Instrumental support involves acts that directly help an individual such as paying bills or helping complete a task. Informational support refers to indirect aid or information that the individual can use to cope, such as information about a job opening or how to complete a task. Appraisal support involves the conveyance of information relevant to self-evaluation, such as a supervisor informing an employee as to what constitutes an average performance. Finally, companionate or social interaction support refers to actions aimed at diverting or distracting an individual's attention away from a problem such as engaging an individual in athletic activity or playing games. This last function is also conceived of as simply having someone to do things with, so it is not clear how the concept is distinct from social interaction in general.

For a number of reasons, emotional support was the component of support that was examined in this research. First, the lay person's connotation of social support is likely to be what researchers call emotional support (House, 1981). Thus subjects should find it easier to

respond to questions about emotional support. Second, other kinds of support may not be independent of emotional support (House, 1981; Thoits, 1985). It is unavoidable that any act of helping may convey emotional support to an individual. For example, lending someone money or giving them a ride can express, indirectly, concern and caring. Further, as House and Kahn (1985) discussed in their review of the measurement of social support, the functions of social support are conceptually independent; empirically, however, there is some evidence that they are interdependent. Measures constructed by researchers designed to test different functions of social support frequently are found to be highly correlated. For instance, in one study, reviewed by House and Kahn (1985) the average correlation between four of the five measures of support was .90. Some researchers (Brookings & Bolton, 1988; Caldwell, personal communication, 28 April, 1988; McCormick, Siegert, & Walkey, 1987; Stokes & Wilson, 1984) have conducted factor analyses of various measures of support. Generally, large correlations between the subscales suggest an overall general support factor. However, there also appears to be some unique variance contained in the subscales. Brookings and Bolton (1988) concluded that use of either the total score or the subscale scores is empirically defensible for the measure they investigated. Others do not agree that use of subscale scores is defensible, unless one is striving for particular sensitivity, arguing that people who provide emotional support to others tend also to provide the other kinds of support (c.f., Sarason, Sarason, Shearin, & Pierce, in press; Sarason, Shearin, Pierce, & Sarason, 1987). Similarly, House and Kahn (1985) argue that a priority should be to

measure emotional support first with other aspects following as appropriate.

Third, most researchers (e.g., Cobb, 1976; House, 1981; Sarason et al, 1987; Thoits, 1985) claim that emotional support is the essence of social support, with other kinds of support playing less salient roles. Sarason et al (1987) concluded that in varying degrees, each of the measures they examined assessed feelings of being loved and accepted, and measures that tap directly these feelings "may provide the most accurate assessment of the construct"(p. 831). Specifically relating social support to health, Cobb (1979) claims that emotional support "is more important than all the others put together" (p. 94). Also of pertinence is Thoits's (1985) discussion of the conclusions reached by reviewers of social support literature: "Socioemotional support from significant, or primary, others appears to be the most powerful predictor of reduced psychological distress or disorder, whether stressful circumstances are present or absent" (p. 54). Thoits claims that such a conclusion should be viewed as tentative because researchers generally do not compare the various functions of support within one study, but she nevertheless notes that the empirical evidence is in favor of emotional support as the most important component of support. Gottlieb (1985) and Levy (1983) reached similar conclusions.

Fourth, Gottlieb (1978) found that of all the helping behaviors reported by his sample of single mothers in response to the three most stressful events they were currently experiencing, almost half could be classified as emotional support. Moreover, depending on the problem, emotional support was particularly salient. For instance an emotional problem elicited help that was primarily emotional and childcare

problems were also most commonly met with emotional support.

Fifth, it is of practical significance to focus on emotional support in the interaction of "normal" young adults. One would assume that when sampling a relatively short period of an individual's daily life, other kinds of support may be infrequent occurrences. For example, direct aid, such as helping one move, giving one a ride, or giving one money, are not daily occurrences. Informational aid such as giving guidance on how to perform a task or telling one about job openings are likely only if one is looking for a job or needs guidance. In contrast, the need or desire for concern or understanding are much more likely to be daily occurrences.

Finally, asking subjects to furnish a breakdown of the kinds of support they received, and provided to others, on a daily basis may be quite a burdensome task whose scope could easily affect the validity of the data. One must also question the need for such a request in light of the fact that different dimensions of social support do not appear to be empirically distinguishable.

For the reasons noted above, the present research focused on emotional support, operationalized as the extent to which another person makes one feel loved, accepted, or cared about; or the extent to which the other makes one feel valued, trusted, respected, or held in esteem (cf., Cobb, 1976). Emotional support was measured by the RIR because such an approach permitted a reliable assessment of the exchange of support in the context of social interaction.

#### Social Support: Measurement

To date there are almost as many measures of social support as there are studies on the topic because each investigator has tended to

design his or her own instruments (Cohen and Syme, 1985; House and Kahn, 1985). As a result, the validity and reliability of these measures, with a few exceptions, are largely unknown (Depner, Wethington, & Ingersoll-Dayton, 1984; Heitzmann & Kaplan, 1988; Levy, 1983; McFarlane, Neale, Norman, Roy, & Steiner, 1981). Reviews of the measurement of social support, such as those by Tardy (1985) and Sarason et al. (1987), have restricted their discussion to the few measures for which psychometric properties are known. Of these measures none appears to have psychometric properties that would support its use in preference to others (House & Kahn, 1985). Therefore, use of the RIR is justified because it has already been established as a reliable measure of social interaction.

Generally, social support has been measured by means of questionnaires or interviews. These procedures can be classified into three approaches (House & Kahn, 1985): (1) investigating the existence of social relationships; (2) conducting social network analyses; and, (3) examining the functional components of social support.

Investigations of social relationships have been the most simple and crudest means of assessing social support. This approach has involved determining the marital status of the subject, their membership in church organizations or other voluntary organizations, or the number of friends and relatives they have. The majority of these studies simple have measured the existence or quantity of relationships. Few have measured the quality or the frequency of contact within these relationships (House, 1981; House & Kahn, 1985). Nevertheless, these measures have been shown to be fairly objective, simple, and reliable (House & Kahn, 1985).

Measures of social networks have been more elaborate and informative of an individual's social life. However, the cost-effectiveness of such an approach is questionable, as is the validity of the measures (House & Kahn, 1985). The emphasis of this approach is on the structure of an individual's social relationships. Measures include network characteristics such as size, sex composition, density or connectedness (i.e., to what extent one's friends and/or relatives know each other), durability, frequency of interaction with network members, reciprocity, and homogeneity. Most researchers have not examined all these characteristics in one study but rather examine one, or a few, particular characteristics. Most popular has been size of the network followed by its density (House & Kahn, 1985). As with the social relationship approach there still remains a need to examine the quality of network variables and the amount and quality of support that network members extend to the individual (House, 1981).

The measurement of the functional components of social support has also been diverse. Measures have either tapped a global dimension of social support or have attempted to measure specific components. Some measure the perception of support that is available while others measure the actual amount received. Some investigate the availability of support and/or the satisfaction with, or the quality of the support that is available. Moreover, the various measures are not strongly related to one another (Barrera, 1986). For a more critical analysis of these measures and others the reader is referred to Barrera (1986), Heitzmann and Kaplan (1988), House and Kahn (1985), and Tardy (1985).

Regardless of the diversity of measurement most studies share two characteristics. First, studies have measured perceived support in

contrast to actual support. For example, in Heitzmann and Kaplan's (1988) review of twenty-three measures of support they describe only two scales as measuring the actual receipt of support. Of course, measures of the amount of support received are still very subjective and may be conceived of as measuring "perceived-received" support (Barrera, 1986, p. 417). As House (1981) notes, this is "appropriate because social support is likely to be effective only to the extent it is perceived" (p. 27). This is very much in line with the Lewinian and Symbolic Interactionist perspectives that the environment or reality is as one interprets or perceives it to be. House does argue, however, that more attention needs to be paid to the assessment of objective support, meaning the amount of support that others perceive they provide to the individual. Clearly these measures are also subjective but they are at least independent of the subject's perception (House, 1981).

Second, and perhaps most consistently, studies conducted to date have been directed at the receipt of support and not the provision of support (House, 1981; Tardy, 1985). It is rather interesting that social support research should focus on receipt to such a large extent, when one considers the helping or altruism literature in social psychology which, until recently, has focused entirely on the provision of help. More than likely the relationship between the receipt of social support and various well-being measures is responsible for this approach. Of those studies that have investigated the provision of support, the investigation has concerned reciprocity, asking questions such as "would this person come to you to discuss home and family?" (McFarlane, Neale, Norman, Roy, & Steiner, 1981, p. 91). Others (Ingersoll-Dayton & Antonucci, 1983) have asked if an individual has a

relationship in which confiding was a mutual activity and if there were people who would take care of them when ill and to whom they would return the favor. The measure of reciprocity was the number of people who received support from the individual minus the number who provided support. These measures clearly do not directly measure the amount of social support provided, thus little is known about "the other side of the coin".

As already noted, there appears to be no outstanding empirical or conceptual measure of social support. Therefore, the RIR was chosen because of its psychometric properties. Using the RIR to measure support is not entirely novel. Cutrona (1986) recently used a variant of this instrument to measure the number of helping behaviors that were conveyed to an individual during social interaction. However, she did not measure the amount of help extended. For instance, an individual might be offered advice in a given interaction but this advice could range from a little to a great deal. Furthermore, as Gottlieb (1978) has already suggested "The task of designing rigorous evaluative research on natural support systems is complicated by the fact that informal helping transactions arise spontaneously as the natural by-products of people's participation in their social networks and are, therefore, almost impossible to observe in vivo ..... it may be feasible to have the participants themselves complete daily or session-by-session logs in which they record their social interactions using a classification scheme" (p. 114).

It would seem most appropriate then, to measure support as an ongoing interaction process and, as noted earlier, if one conceptualizes support in this way then the research must be guided by the norms of

social interaction. Specifically, attention must be paid to sex differences and the exchange of resources because of their demonstrated importance to the issue. The next sections review the evidence on sex differences and exchange in social interaction and social support.

### Sex Differences in Social Interaction and Social Support

Perhaps the most obvious way in which sex exerts its effects on social life is simply on the frequency of social interaction. Females have been found to spend more time socializing than have males (e.g., Sullivan, 1986; Wheeler and Nezlek, 1977) and to have more close friends than have males. For instance, middle-aged adult males report an average of 3.2 close friends while middle-aged adult females report an average of 4.7 (Bell, 1981). In that study, every female reported having at least one close friend whereas ten percent of males reported having no close friend (Bell, 1981).

Both sexes most commonly engage in same-sex contact (Sullivan, 1986; Nezlek, Wheeler, & Reis, 1983A; Reis, 1986) spending between twice to three times as much time with the same sex as with the opposite sex. Although females prefer same-sex friendships more than do males (Rose, 1985) and fewer females than males have opposite-sex friends (Booth & Hess, 1974), Sullivan (1986) did not find any sex difference in the amount of time that subjects spent socializing with same-sex or with opposite-sex cointeractants. Nezlek, Wheeler, and Reis (1983A) did find sex differences in their research on social interaction. Males spent more time than did females socializing with the same sex, whereas females spent more time than did males socializing with the opposite sex. Sullivan's (1986) more restrictive definition of social interaction may explain this discrepancy.

A very robust and reliable sex difference in social activity is the finding that females tend to affiliate in dyads while males affiliate in groups. This difference emerges as early as kindergarten (see Winstead, 1986). Males and females also differ in the style or content of their interactions. In a review of sex differences in same-sex friendships Winstead noted that female interaction tends to be characterized by talking. Frequently the conversations are in-depth talks about feelings and concerns and involve mutual confiding. Male interaction, on the other hand, is better characterized by activity of some sort, or conversations about activities. This differentiation of interaction content has been documented elsewhere (e.g., Wheeler & Nezlek, 1977) and is particularly salient in group settings.

Aries (1976) found that the conversations of female groups centered on the expression of feelings and self-disclosure. The conversations of male groups centered around story telling and competition. When the subjects were placed in mixed-sex groups the conversations of males became more "female-like" by involving more self-disclosure than had been the case in the all-male groups. Over time the females showed a preference for the all-female groups while the males showed a preference for the mixed groups. This last finding has also been reported by Dabbs and Ruback (1984) who noted in their study of same-sex groups that the females appeared to be enjoying themselves more than the males were. They also found that the female groups vocalized more than the male groups did. Vocalizing was not limited to talking but included other sounds such as laughing.

Aries (1982) reported similar findings in her study of mixed-sex groups. Further, even though the sample was comprised of bright,

career-oriented, motivated individuals and the females initiated many interactions they nevertheless maintained a "reactive" stance by agreeing or disagreeing to suggestions. The males were more likely to adopt a "proactive" stance by making suggestions and giving opinions. Other evidence indicates that males are more likely than females to control interactions when females are present. Males also report more self-initiation and having had more influence over opposite sex interactions than do females (Nezlek, Wheeler, & Reis, 1983A).

Perhaps the most stereotypical sex difference in social interaction is the intimacy of the interaction. For instance, most middle-aged males have never told their closest friend that they like him (Bell, 1981). Females are more likely to express feelings of affection and love for same-sex friends than are males (see Winstead, 1986). Females of all ages are also more prone to engage in self-disclosure (Berg & McQuinn, 1986; Cozby, 1973; Jourard, 1979), and self-disclosure to a greater level of intimacy (Grigsby & Weatherby, 1983), than are males. These findings have been replicated with eight and eleven year old children (Cohn & Strassberg, 1983). Komarovsky (1976) has speculated that this sex difference in levels of self-disclosure may disappear in close heterosexual relationships. Parelman (1983) found this not to be the case. In marriage, the sex difference was still apparent. Females are also more prone to disclose their negative traits than are males (Kopfstein & Kopfstein, 1973).

Overall then, interactions in which females are present are rated as more intimate or "affectively richer" (Nezlek, Wheeler, & Reis, 1983A, p. 64) or "meaningful" (Reis, 1986, p. 94) than all-male interactions. Fischer and Norus (1981) report data that show that

female-female close relationships are rated highest on intimacy while male-male close relationships are rated lowest on intimacy of all possible sex compositions. This suggestion, that all-female interactions or relationships are more intimate than female-male interactions or relationships, is generally not supported by other research. The research by Nezlek and his colleagues (1983A) showed no significant differences in intimacy between female-male and all-female interactions in terms of intimacy. Further, Aries (1976) showed that males in mixed sex groups were more self-disclosing than were males in all male groups. It would seem that once a female is present in an interaction the balance swings toward more intimacy, thus the most marked sex composition effect on intimacy is the all male interaction which consistently turns out to produce the lowest level of intimacy in an interaction or relationship. These results suggest that females bring emotion, or intimacy, into social interactions.

The empirical evidence on intimacy or emotion supports Deaux's (1977) conceptualization of the different self-presentation styles developed by the sexes. She argues that males adopt a style of distancing themselves from others and asserting status. Females, in contrast, develop an affiliative style aimed at reducing distance between themselves and others. Deaux's conceptualization very much mirrors Gilligan's (1982) distinction between male and female images of relationships. Gilligan argues that males see a danger in connection or intimacy with others, females see a danger in separation or distance from others, as evidenced by an analysis of Thematic Apperception Test (TAT) imagery. These conceptualizations are not unlike earlier distinctions made between the sexes such as Parson's (1951; Parson &

Bales, 1955) distinction between the social roles of females and males, the one fulfilling the role of home and child care labelled the expressive role, and the other fulfilling the role of economical and political care-taker, labelled the instrumental role (see also Eagly, 1987).

Elsewhere Spence, Helmreich, and Deaux (1985) have noted that sex role researchers are in agreement that the sexes differ on personality traits. These traits form clusters commonly referred to as expressive and instrumental qualities (Spence et al., 1985) echoing Parson's distinction between the roles females and males characteristically adopt. A similar distinction is made by Bakan (1966) labelling the female personality cluster as communion and the male personality cluster as agency. Evidently, expression, emotion, intimacy, or communion are more dominant in females than in males, particularly in the realm of relationships or social interaction.

This concept of females' communal orientation is particularly interesting if one considers emotional support as a component of social interaction. It should follow that this characteristic difference between the sexes should be reflected in the exchange of emotional support. However, as Thoits (1985) and many others (e.g., Cohen & Syme, 1985; Heitzmann & Kaplan, 1988) have noted, it is difficult to review the literature on social support, particularly when attempting to review the work conducted on sex differences as many researchers have used only women (e.g., Gottlieb, 1978), others have used only men (e.g., Sarason, Sarason, Potter, & Antoni, 1985), others (e.g., Barrera, Sandler, & Ramsey, 1981; Cutrona, 1986; Sarason, Levine, Basham, & Sarason, 1983, study 1) have not reported any analyses testing for sex differences,

while still others (e.g., Rook, 1987, study 1) have not specified the sex of their subjects. As it stands we know very little about sex differences in social support (Burda, Vaux, & Schill, 1984; Rosenthal, Gesten, & Schiffman, 1986).

Of those who have examined sex differences--a variety of measures have been used. Stokes and Wilson (1984) used the Inventory of Socially Supportive Behaviors (ISSB; Barrera, Sandler, & Ramsey, 1981) which taps the frequency of receiving 40 specific supportive behaviors within the last month. The ISSB measures four kinds of social support--emotional, instrumental, informational, and socializing (Stokes & Wilson, 1984). On total ISSB scores, males and females did not differ, however females did report receiving significantly more emotional support than did males. Similarly, Caldwell, Pearson, and Chin (1987) examined sex differences on the ISSB and their own measure of social support--the Social Dimension Scale (SDS). The SDS measures the amount and satisfaction of support received from same sex friends, opposite sex friends, family, and helping professionals. Their results showed that females reported receiving more support from same-sex and opposite-sex friends and from family than did males. Females also scored higher on the ISSB than did males. Caldwell et al used the total scores from each measure thus collapsing across the four components of support that each one measures. This was done because a factor analysis of the measures revealed that only one factor emerged across the four components (Caldwell, personal communication, April 28, 1988).

Burda, Vaux and Schill (1984) found that females perceived more support from friends and family than did males on a global measure of support. On more specific measures of support, females reported

receiving more emotional support than did males but the sexes did not differ on the receipt of information, instrumental, or companionate support.

Butler, Giordano, and Neren (1985) asked their subjects to rate the severity of the most stressful event they had experienced in the previous year and to rate how well they believed they had coped with the event. They did not find any sex differences on either of these measures. However, when subjects were asked how much support they perceived they had been offered females reported receiving more support from friends and family than did males. Although the measure used by Butler et al. (1985) tapped five dimensions of support, the authors collapsed these dimensions to obtain a total support score.

Overall the evidence demonstrates sex differences in social support with females perceiving that they are given more support than are males. There are a number of explanations for these findings. The most obvious is that females ask for more support. Butler et al (1985) found that females reported requesting more support from family and friends than did males. Further, females self-disclose more than males do (Cozby, 1973; Jourard, 1979) and express more negative traits about themselves than males do (Kopfstein & Kopfstein, 1973) which may elicit support from others. In support of this argument Berg and McQuinn (1986) have found that females self-disclose more than males in dating relationships and also report receiving more favors and help from their partners than do males. Berg and McQuinn (1986) did not report correlations between these measures, however, so the relationship between the two is not clear. Also, females have been found to be more depressed than males (Weissman & Klerman, 1977) and depressed females have been shown to

somehow convey their depression to others (Coyne, 1976). These two factors may combine to elicit support from others although Coyne found that the conveyance of depression led to negative affect and less acceptance by others.

Another explanation for females' greater receipt of support is that it is more rewarding to support a female than a male. Females report more satisfaction with overall support (Caldwell, Pearson, & Chin, 1987) and with emotional support (Rosenthal et al., 1986) than do males. If they convey their satisfaction to the source of support they may increase the likelihood of future emotional support being provided. Overall, the evidence suggests that the social interactions of females are characterized by emotional support to a greater extent than are the social interactions of males.

The findings indicating that females request more support than males coupled with the expressive orientation of females would suggest that females need or desire more support than males do. Indeed, Rosenthal et al (1986) found that females reported more of a need for emotional support than males reported. However, the sex difference was attributable to an interaction with sex roles. Among the sex role groups the only difference found was that sex-typed males reported less of a need for emotional support than did sex-typed females. Nevertheless, one would expect to replicate the overall sex difference for emotional support in the context of social interaction.

Up to this point the discussion has been concerned with sex differences in social interaction and the receipt of social support. As noted earlier, social exchange or reciprocity is a factor fundamental to social interaction. Yet the exchange, or reciprocity of support is a

neglected topic. The next section reviews the evidence on reciprocity within social interaction and social support.

### Reciprocity in Social Interaction and Social Support

Berg and Clark (1986) have argued that individuals determine the norm of exchange in interactions very quickly. In discussing a number of studies conducted on social exchange they concluded that "the nature of social exchange was differentiated within the first hour!" (p. 113). Further, determining whether the relationship lasts can be predicted from measures of attitudes and social exchange (Berg & McQuinn, 1986). However, the authors note that social exchange is only one factor in the evaluation and maintenance of a relationship. Nevertheless, if social exchange is not perceived as fair or equitable, the individuals in the relationship will become distressed and attempts will be made to restore equity, regardless of whether the individuals are being overbenefited or underbenefited by the exchange (Walster, Berscheid, & Walster, 1973).

Research on social interaction demonstrates that the norm of reciprocity is particularly salient in the area of self-disclosure. For instance, Cohn and Strassberg (1983) found that children as young as eight years of age were able to reciprocate the level of self-disclosure of another child who was a stranger to them. These authors note that their results replicate the findings of self-disclosure reciprocity among adults (e.g., Cunningham & Strassberg, 1981). In discussing the findings that disclosure reciprocity may be greater among strangers than among friends or spouses (e.g., Morton, 1978), Berg and Clark (1986) argue that these findings do not imply that reciprocity of disclosure is any less among individuals who are well acquainted with each other. They maintain that strangers may reciprocate self-disclosure because of

an immediacy norm, whereas intimates may be less likely to reciprocate immediately because of the assumption that such an opportunity will arise in a future interaction. Disclosure reciprocity may operate at the same level among friends and strangers but friends may choose to exercise the possibility of "catch you later" that would not be open to strangers and obviously would not be measured in a short interaction in the laboratory.

One would expect the same norm of reciprocity to apply to support as a component of social interaction yet such investigations have been rare. Ironically, the original definition of social support (Cobb, 1976) emphasizes reciprocity as a defining feature of support in referring to "mutual obligation" (p. 300). The research that has been conducted on reciprocity has tended to be on samples selected from abnormal populations with a focus on reciprocal relationships rather than reciprocal support. Further, reciprocity was not the main focus of these studies but rather a post hoc consideration. Reports that those to whom support was given were also likely to be sources of support does not give any information about the amount of support exchanged. An individual may provide a great deal of support to another and only receive a small amount in return. This would be classified as a reciprocal relationship. However, it cannot be classified as reciprocal support, in the sense of being equitable. For instance, in their research on the development and evaluation of the Social Relationship Scale, McFarlane and his colleagues (McFarlane et al, 1981) used a sample of married couples involved in a parent therapist program, couples in treatment because of family problems, community college students, and graduate students. Their measure of reciprocity was the

number of people who would come to the respondent to discuss various problems. When describing the number of people to whom they felt they could turn, to discuss various categories of potential life stress, the mean number of people that the respondent mentioned three times or more, was 2.59. Of these people a mean number of 1.62 was considered to be reciprocal, i.e. these people would also turn to them. When asked about focal individuals who could be turned to in a major crisis--eighty-seven percent of these individuals were people who would also turn to the respondent. Thus a sizable proportion of relationships were perceived to be reciprocal, but the actual amount of reciprocity was not measured.

Ingersoll-Dayton and Antonucci's (1983) study of the reciprocity of support with adult females and males appears to be the only study specifically focused on the reciprocity of relationships. The aspects of relationships examined were confiding in another and providing care for another during illness. The measure of reciprocity was the number of individuals from whom such support was received minus the number to whom such support was provided. Among spouses, perceived reciprocity was quite high with more than 80% reporting mutual sick-care and confiding. The rate of reciprocity was somewhat lower for friends (63% and 56% respectively) and children (65% and 51%). Those who reported non-reciprocal relationships tended to provide support to a greater number of others than provided to them. Again it appears that there is a high level of reciprocal relationships but the amount of support is not being measured in this paradigm.

Tolsdorf (1976) compared the reciprocity of support among two groups of males hospitalized for psychiatric problems or medical problems. Results showed that the medical group demonstrated reciprocal

support by giving as much support, advice, and feedback to members of their social network as they received. The psychiatric group was found to receive more support than they gave. Tolsdorf maintained that the imbalance was due to the reported unwillingness of the psychiatric subjects to return the support. However, he also reported that the networks of these subjects were more heavily dominated by family members than were the networks of the medical subjects. It may be the case that individuals with problems are provided with more support than they want, or need, and therefore they are unwilling to return the "favor". Either way, caution is warranted in making conclusions about reciprocity when studying abnormal individuals. Another atypical sample, elderly individuals who resided in single-room occupancy hotels, was investigated by Cohen and Sokolovsky (1979). They classified the support relationships of these people as either reciprocal, instrumental--provision of support greater than receipt, or dependent--receipt of support greater than provision. The authors do not report the breakdown of these different kinds of relationships except to note that the older subjects had more dependent relationships than the younger ones.

Taken together these studies tell us little other than the fact that individuals tend to function in reciprocal relationships of support. They reveal nothing about the actual amount of support being reciprocated or about sex differences in the provision or reciprocity of social support. A notable exception is the finding of Burda, Vaux, and Schill (1984) that females report a larger percentage of reciprocal support relationships than do males. Obviously the provision of support is half the picture of reciprocity and it has already been demonstrated

that there are sex differences in the other half of the picture with females receiving more emotional support than males. In his review of sex differences in social support Vaux (1985) does not mention any studies on the provision of social support. He does hypothesize though that females may be more likely than males to provide support. There is other tangential evidence to support his hypothesis. Results from a study of middle-aged and older ethnic groups showed that social ties were negatively related to psychological adjustment for first and second generation Italian and Polish women (Cohler & Lieberman, 1980). The authors concluded that this relationship was perhaps due to the responsibility of caring for more people suggesting that females are more likely to be support providers than males.

Bernard (1981) also argues, in her review of female friendship research, that in the nineteenth century female friendships provided the emotional support that females did not receive from males. A century later it is still the same with males reporting that their closest confidant is their wife, and females reporting that their closest confidant is another female, with this effect being more salient in blue collar marriages. These results suggest that both males and females turn to females for the provision of emotional support.

Unfortunately, many of the studies of sex differences in social support have not fully crossed the sex of subject with the sex of the target. For instance, Berg's (1984) research on the development of friendship between pairs of roommates showed that females received more help with problems and projects from their roommate than did males. Because the investigation obviously had to be concerned with same-sex pairs it is not clear if the sex difference was due to a sex of subject

effect or a sex of target effect, although the evidence discussed above would suggest a sex of subject effect.

Other research has involved dating or married couples as subjects, again preventing target sex by subject sex analyses. Berg and McQuinn (1986) looked at the social exchange between continuing and non-continuing dating couples over two time periods. They found that with couples who continued to date, the females initially gave more resources (did things to help or give pleasure to the partner) than did the males, but with couples who broke up, the males reported more initial giving than the females did. Perhaps, females only give when they feel that the relationship may continue or when they have some feelings for their partner, or males who appeared too attentive were unattractive to these females.

Others have argued that females provide more social support than do males because of the demands of their social role, e.g., motherhood. Fischer (1982) reports that females with children were particularly likely to feel demands (presumably requests for support, implicit or explicit) from their family. "Children demand, and women respond to these demands, as well as to the demands of others" (p. 136). Belle (1982) argues along similar lines, maintaining that females provide most of the support in society because of their sense of connectedness to others. She argues that females are likely to find themselves involved in non-reciprocal support relationships such as the mother-child relationship. These arguments are quite valid, however, they appear to stress the social role of the female as being responsible for the excess support she supplies. This would suggest that if males were to occupy the same social roles they would be as supportive. The research

discussed above on roommates and dating partners casts doubt on this argument. These are identical social roles for males and females but there are sex differences. Of course, even when the role is the same for females and males, each sex may enact the role differently, based on stereotypical role requirements. Thus, college life may not erase sex-role requirements, however, the role requirement for females and males are as equitable as they are likely to be in the life-course and do not blatantly elicit sexist norms, particularly those pertaining to helpfulness. I would argue then, that if females provide more support than males it is not because of their social role requirements but because of some other aspect of their make-up. The evidence discussed above is not as "empirically pure" as one would like when addressing sex differences in the provision of social support. As noted, target sex has not been crossed with subject sex to produce an experimental design to answer the question directly. Rather, one is left to infer from the cross sex studies and the same sex studies that females provide more support than males.

Of interest here is the fact that the most closely related area of social psychology--helping and altruism--has travelled the same route as the social support literature but in reverse. It was remarked earlier that social support research is directed towards the receipt of support, while the helping research is directed toward the provision of help. Another major difference is that social support is concerned with "everyday" helping behaviors from friends and relatives over certain time periods while the helping studies have attended to brief interactions among strangers and research accomplices in an emergency situation. It is hard to believe, that essentially, these two fields

are measuring the same behavior: expressing concern and acting to alleviate another's distress. They do share one thing in common, however: a rare attention to sex differences.

In a recent review of the helping literature Piliavin and Unger (1985) summarized by stating that no firm conclusions could be reached regarding the effects of sex on the helping process because "no serious attention has yet been paid to the dynamics of the role of sex and gender in the helping relationship" (p. 181). The authors call attention to a problem mentioned above, namely the need to examine the interactive effects of sex of recipient and sex of helper. Up to this point, the physical attacks and the falls have been played by female accomplices, whereas the heart attacks and robberies have been played by male accomplices. If sex of subject is examined at all it is usually entered into the analyses post hoc--it is quite unlikely to be a major independent variable (Piliavin & Unger, 1985).

More recently, Eagly (1987) conducted a meta-analysis of sex differences in helping behavior. She reached much the same conclusion as Piliavin and Unger (1985) which is that no conclusion can be reached about sex differences in helping relationships. Eagly's treatment of her review was based on a social roles analysis. Although she found that males are more helpful than females she argued that such a result is due to the specialized situations of the research which hold dangers and difficulties for females to a greater extent than males. Indeed, when she had subjects rate the situations she was analyzing on a number of dimensions she found that males, in contrast to females, rated themselves as more comfortable, competent, and likely to help. Eagly went on to argue that the studies have examined the type of help that

males are more likely to provide and have ignored communal forms of caring which is the kind of help than women are likely to provide.

At this point there appears to be no clear cut evidence that females provide more help, of any kind, than do males. However, the research on social support discussed earlier does suggest that females provide more support than do males. There are also other reasons to support this expectation. First, the female stereotype of nurturance, connectedness, and kindness is very conducive to helping behavior of a communal or emotional kind. Second, females have been shown to be more empathetic than males which is a trait characterized by emotional matching and/or sympathetic responding (Eisenberg & Lennon, 1983) and is related with helping behavior (Fultz, Batson, Fortenbach, McCarthy, & Varney, 1986). Moreover, females have been shown to be more in tune to the needs and desires of their loved ones, to be more affected by the stresses of their loved ones, and to say that people are more important to them than have males (see Kessler, McLeod, & Wethington, 1985, for a review of these studies). If females are so affected personally then they should be more likely to perceive a need for emotional support and be more responsive than males by intervening and giving support when they perceive the need for it. The empathetic and interpersonal orientation of females would suggest not only that females provide more emotional support than do males but that they find it easier to do so. Earlier, it was noted that Eagly (1987) found that males rated themselves as more comfortable, competent, and likely to help than females, in situations conducive to "male-helping". The reverse should hold true: that females feel more comfortable and competent providing help of a communal or emotional kind than do males.

In conclusion then, the purpose of the present research was to examine sex differences in social interaction among college-aged adults with the main focus being on the exchange of emotional support. The following hypotheses were developed.

### Hypotheses

1. Research that has investigated sex differences in social support has consistently shown that females report receiving more support than do males (e.g. Caldwell, Pearson, & Chin, 1987; Stokes & Wilson, 1984). It was expected that this finding would be replicated, therefore, females will report receiving more emotional support than will males.
2. Many arguments have been presented to suggest that females provide more support than do males. These arguments center around females' greater comfort with interpersonal issues, their greater intimacy and empathy in interaction, and their greater sense of connectedness to others, in contrast to males (Belle, 1982; Bernard, 1981; Eagly, 1987; & Fischer, 1982). In line with these arguments it was hypothesized that females will report providing more emotional support than will males.
3. Rosenthal et al (1986) have found that females report a greater need for support than do males. Females also request more support from others than do males (Butler et al, 1985). It was hypothesized, therefore, that females will report a greater need or desire for emotional support than will males.
4. Given that females have been shown to be more empathetic (Eisenberg & Lennon, 1983), and more in tune to the needs and desires of their loved ones (Kessler et al, 1985) than have males, it was hypothesized that females will perceive a greater need for support on the part of others than will males.

5. Because females have been shown to be more empathetic (emotional matching; Eisenberg & Lennon, 1983), and more affected by the stresses of their loved ones (Kessler et al, 1985) than have males, and given the female stereotype of nurturance and kindness, it was hypothesized that females will be more responsive than will males such that there will be a stronger relationship, for females than for males, between the other's perceived need for support and the provision of support.

6. As noted above, females are more affected by the stresses of others than are males and they are more empathetic (sympathetic responding; Eisenberg & Lennon, 1983). Eagly (1987) has also suggested that females may be more comfortable, than would males, in providing help of a communal kind. These arguments suggest that there will be no relationship for females between the provision of support and the difficulty of providing support. A positive relationship between these variables is hypothesized for males.

Earlier it was stated that among the main attributes distinguishing social interaction for college students were intimacy and quality (Forgas, 1976). One must question how the exchange of support relates to these other attributes of social interaction. Quality has been defined (Wheeler & Nezlek, 1977) as the degree to which the interaction is pleasant. Intimacy has been defined as having components such as meaningfulness (Nezlek & Wheeler, 1984; Reis, Sanchez, & Solomon, 1985), self-disclosure, cohesiveness, support, and sexuality (see Clark & Reis, 1988). For present purposes, intimacy was considered to be cohesiveness, or closeness. Obviously, the pleasantness of an interaction is entirely a subjective judgment, but one would assume that a conversation about the weather would not be rated by many as a close

interaction and would therefore be low on intimacy. A conversation about one's personal fears and values, on the other hand, would probably be rated as rather close and thus high on intimacy. One would expect that the exchange of emotional support, earlier defined as the conveyance, or receipt, of feelings of being cared for or held in esteem, would be rated as quite close and thus high on intimacy. There is no reason to expect that the sexes would differ in their interpretation of such an interaction. One would expect sex differences, however, on the relationship between the exchange of emotional support and overall quality of the interaction. As discussed previously, the conversations of males tend to be less personally focused than those of females. Further, male interactions tend to be more task-orientated than those of females suggesting that emotional support is not necessarily seen as an enjoyable component of male interaction. On the other hand the conversational content of female interaction suggests that for them emotional support is an enjoyable pursuit. One would expect that emotional support is not related to the quality of interactions for males but positively related to the quality of the interaction for females. The following hypotheses were developed:

- 7 a. There will be positive relationships for both sexes between the intimacy of interactions and support received.
- 7 b. There will be positive relationships for both sexes between the intimacy of interactions and support provided.
- 7 c. There will be a positive relationship for females between the quality of interactions and support received. There will be no relationship for males.

7 d. There will be a positive relationship for females between the quality of interactions and support provided. There will be no relationship for males.

Previous research has shown that support relationships tend to be reciprocal, that is, people to whom help is provided tend to return this help (Ingersoll-Dayton & Antonucci, 1983). Further, the self-disclosure literature shows that self-disclosure tends to be reciprocated, in terms of amount and intimacy (e.g. Cunningham & Strassberg, 1981). 8. It was hypothesized then, that emotional support would also be characterized by equitable reciprocity.

#### Social Support, Personality, and Positive and Negative Affect

Two additional relationships were investigated; the relationship between social support and mood, and the relationship between social support and some personality indices. Many studies have shown consistent relationships between mood and helping. Because the present study concerned helping behavior, it was considered pertinent to investigate its relationship to mood. Analyses were conducted on the relationship between sex, the support measures, and the personality measures, as sex might, or might not, be the principal individual difference variable distinguishing between levels of support.

The author is unaware of any studies conducted on the relationship between support and mood, although much research has documented the positive relationship between the receipt of support and various measures of well-being (see Cohen & Wills, 1985; Leavy, 1983; for reviews) of which mood is a component (Diener, 1984). Numerous studies have been conducted, however, concerning the effects of mood on helping behavior from a social psychological perspective. For instance, Isen

and Levin (1972) found that good mood induced by receiving cookies or a dime led to more helping behavior than did a neutral mood. This finding, that a good mood promotes helping behavior, has been replicated in much research (see Carlson, Charlin, & Miller, 1988 for a meta-analytic review). Also positively associated with helping behavior is negative mood (Cialdini & Kenrick, 1976; Kenrick, Baumann, & Cialdini, 1979) but only when helping is perceived as a means to alleviate the negative mood. Moreover, mood has been associated with social activity in general. For instance, Stone (1987) found that desirable social events were positively related to positive mood and negatively related to negative mood. In a study conducted with Japanese students Clark and Watson (1988) found that the amount of important social events reported over a period of 90 consecutive days was positively related to positive mood and generally unrelated to negative mood. Social events that specifically involved helping behaviors were positively related to positive mood although not significantly so. They were unrelated to negative mood.

The above research suggests that the provision of support will be positively related to positive mood or affect. It was expected that the previous findings, although based on more temporally direct analyses, would generalize to the present study even though the measures in the present study were averages over a two-week period. Clear predictions for support provision and negative mood cannot be made. Experimentally induced negative mood sometimes leads to increased helping, however, if one considers helping to be a positive social event then the correlational studies show both a negative relation and no relation between provision of support and negative mood. Neither does previous

research suggest hypotheses pertaining to the relationship between other support variables and mood. One would expect though that the receipt of support is generally a positive event and would be related to positive affect and that need for support is a negative event and would be related to negative affect.

The relationship between personality and support was also explored. The variable that is perhaps most conceptually and empirically (e.g. Barnett, Howard, King, & Dino, 1981; Krebs, 1975; Schaller & Cialdini, 1988) linked with helping behavior is empathy, defined as the ability to role-play and thus vicariously experience the distress of another. Mehrabian and Epstein (1972) found that empathy was "a primary personality attribute for predicting helping behavior" being a better predictor than similarity to, or liking for, the person in need of help.

Previous research has shown that certain personality traits discriminate different amounts of support received. For instance, Dunkel-Schetter, Folkman, and Lazarus (1987) have shown that the higher subjects are in self-esteem, religiosity, and value for authority, the more emotional support they report receiving. Sarason, Sarason, Hacker, and Basham (1985) report that social skills assessed by subjects' partners in a dyadic interaction, the experimenter, and themselves were related to higher levels of social support receipt. Further, in a longitudinal study Cohen, Sherrod, and Clark (1986) have found that increases in social skills were positively related to increases in friendships and perceived support.

The personality measures examined in the present study were empathy (Mehrabian & Epstein, 1972) and social skills (Riggio & Throckmorton, 1986). These variables were selected to determine if potential sex

differences in supportive behaviors were being mediated by empathy and social skills. Females have generally been shown to be more socially skilled than have males (e.g. Riggio, 1986), and more empathetic (Eisenberg & Lennon, 1983) at least on self-report measures. The research question posed is whether sex, empathy, or social skill is the better predictor of support provision, difficulty of provision, and the perception of others' need, and whether social skill or sex is the better predictor of support receipt.

## CHAPTER II

### METHOD

#### Subjects

Eighty-six females and seventy-four males were recruited for a study titled "Psychological Record Keeping". All subjects were freshmen at Michigan State University who participated in exchange for credit towards their Introductory Psychology class. Their mean age was 18 years, 89% of the sample were white, 8% were black, and 3% were classified as other. After attending the introductory meeting three males and two females declined to participate. One male discontinued participation during the recording period. An additional 16 males and 14 females were excluded because of inaccuracy in their records and failure to understand the instructions. <sup>1</sup> Thus the final sample consisted of 70 females and 54 males (78% of those who attended the initial session).

#### Materials

Rochester Interaction Record (RIR). A modified version of the RIR was used to measure social interaction. The measure was modified to include subjective measures of social support in place of the previous measures of disclosure, satisfaction, initiation, and influence. The RIR can be found in Appendix A.

Personal Reaction Form (PRF). This form consisted of 24 items pertaining to positive and negative affect (Diener & Emmons, 1985; Emmons, 1986). Subjects rated each item on a 1-7 point scale (1 = not at all, 7 = extremely much). Included in the 24 items were additional items to measure feelings of helpfulness and sociability. The Personal Reaction Form can be found in Appendix B.

Social Skills Inventory (SSI). The SSI (Riggio & Throckmorton, 1986; Riggio, 1986) was used to assess social skills. The inventory includes six sub-scales, each containing 15 items. Ratings are made on 9 point scales (1 = not at all true of me, 9 = very true of me). The Emotional Expressivity subscale measures the ability to send emotional messages including the nonverbal expression of attitudes. The Emotional Sensitivity dimension assesses skill at receiving and decoding the emotional and nonverbal communication of others. The Emotional Control dimension measures skills of controlling emotional and nonverbal expression. The Social Expressivity dimension assesses skills of verbal expression and the ability to engage others in social discourse. The Social Sensitivity dimension measures skills of receiving verbal messages and an understanding of norms of appropriate social behavior. Finally, the Social Control dimension assesses skills of self-presentation.

Empathy Scale. A 33 item measure of emotional empathy was used (Mehrabian & Epstein, 1972). All items were rated on a 9 point scale (1 = disagree strongly, 9 = Agree strongly). Sample items include "It makes me sad to see a lonely stranger in a group", and "Seeing people cry upsets me".

## Procedure

Introductory meeting. The subjects met in mixed-sex groups of 12 to 16. At this meeting the nature of the study was explained in detail. Subjects were told that the study was designed to uncover some facts about people's patterns of social interaction. An interaction was defined as any situation involving two or more people in which the behavior of each person is in response to the behavior of the other person. Subjects were given some examples of interactions (e.g. a conversation, dancing). Two examples of what would not constitute an interaction also were provided (e.g. sitting side by side in class and not talking, sitting beside someone while eating dinner and not conversing with them). The subjects were informed that they would be required to record every social interaction they had lasting 10 minutes or longer for a period of two weeks. The researcher emphasized that the success of the study depended on their honesty and full cooperation. 2

The subjects were given a full description and explanation of the interaction record. As the scales on the RIR were being described the nature of support was explained. Support was defined as a feeling of being loved, accepted or cared about; or a feeling that one is valued, trusted, respected, or held in esteem. Examples of supportive interactions were provided. The examples were generated from pilot test undergraduates who were asked for examples of their social interactions in which support was either provided or received. The subjects were then informed that they would be required to complete the Personal Reaction Form at the end of each day, indicating their feelings at the time of completing the form.

Subjects were instructed to read the booklet of instructions at this time and were provided with a copy to take with them. This booklet, presented in Appendix C, reiterated what was said at the meeting, provided examples of social interactions, and outlined in detail how to complete the interaction records. When subjects had finished reading these instructions it was stressed that they had to complete the records at least once each day. If a day was forgotten or missed it was to be skipped. They were not to attempt to remember interactions from a previous day. They were once again assured of their confidentiality in completing the records and told that anyone who wished could decline to participate at any time.

The subjects were then provided with a packet that contained 14 Personal Reaction Forms; 28 sheets of paper, each one containing 4 interaction records; a booklet of instructions; and a scratch sheet, to be used to jot down the initials of interactants and time of interactions if the subject did not have their records with them during the day. Finally, subjects were told that they would be telephoned during the first week of recording to check that everything was proceeding as planned, and that they would also be telephoned during the second week to arrange a time to return with the completed records for a post-experimental session. A copy of the verbatim script for this meeting is presented in Appendix D.

Recording period. All subjects completed their recording during the last week of October and the first three weeks of November of Fall Term 1987. This time period was chosen so as not to conflict with midterm examination times or holiday periods. All subjects began their recording early to mid-week. The purpose of this was to ensure that a

subject did not begin recording on a weekend day which would be an atypical start to their recording. Within three to five days of recording each subject was telephoned and asked if there were any unforeseen problems. No subject reported having difficulty with the procedure. A week later each subject was called to arrange a time for the post-record-keeping session.

Post-recording-period session. Subjects met in groups 14 to 17 days after the initial meeting. They returned their materials and completed a post-recording-period questionnaire. This questionnaire contained items pertaining to reactions to the study, along with the Empathy scale and the Social Skills Inventory. Subjects were informed that some of them would be randomly selected for a short interview a few days later. When the materials were completed subjects were provided with some background information to the study (See Appendix E) and address labels, to be completed if they wished to receive the results of the study. They were then dismissed.

A few days after this session 20 females and 20 males were randomly chosen, telephoned, and asked to participate in a short interview. All subjects agreed and were asked questions about their experience with the record keeping. A copy of the format for this interview is presented in Appendix F.

The completed data packages for each subject were examined for accuracy and ambiguity. Any participant whose record appeared to contain inaccurate data was telephoned and asked questions pertaining to sources of difficulty or inaccuracy.

## CHAPTER III

### RESULTS

#### Construction of Variables

The Rochester Interaction Record Analysis Package (RIRAP; Nezlek & Wheeler, 1984) was used to transform the data into summary indices. RIRAP calculates three different sets of summary variables. One set of variables represents all the interactions a subject recorded, producing overall averages for the various dimensions. The second set of variables represents a breakdown of interactions by sex of interactant, constructing variables in which either the same-sex or the opposite-sex were represented. The third set of variables classifies interactions by degree of closeness according to sex, constructing variables such as those pertaining to interactions in which the same-sex best friend was present or in which the second-best opposite-sex friend was present. Closeness was defined by the number of times a set of initials appeared in the subjects' record (see Wheeler & Nezlek, 1977, for empirical support for this operationalization of friendship).

Seven measures of the subjective aspects of the interaction were calculated by averaging across all interactions that fell into a particular category (e.g., same-sex, opposite-sex best friend). These measures were: support received, support needed, intimacy of interaction, quality of interaction, support other needed, support

provided, and difficulty of providing support (e.g., the average intimacy of same-sex interactions, the average amount of support provided during interactions in which the opposite-sex best friend was present). Measures of the quantitative aspects of the interactions included the following: percent calculations of all interactions falling into a certain category (e.g., the percentage of interactions that were with the same-sex, the percentage of interactions that were with the opposite-sex); length calculations of the average length of interactions in a certain category (e.g., the average length of interactions overall, the average length of interactions with groups); and per day calculations of the average number of interactions in a certain category recorded per day (e.g., the average number of interactions per day with the best friend, the average number of interactions per day overall).

In addition, the general nature of the interaction, socializing, relaxing, work, life necessity, and other, was represented by a percentage breakdown within each category of interaction. All the above measures were calculated separately for each subject, corrected by the number of days of record keeping. See Appendix G for the nomenclature and a more detailed description of all variables calculated by RIRAP. 3

Reliability of the RIR

Subjects maintained the records for a mean number of 13.74 days. The reliability of the RIR measures could not be assessed formally, thus the replicability was assessed by comparing the results with those of similar studies using the RIR (see Wheeler, 1988, Wheeler & Nezlek, 1977; & Nezlek, Wheeler, & Reis, 1983A). These comparisons can be seen in Table 1.

Comparing the present findings with those of past research for the quantitative variables reveals a clear pattern. Interactions with the same-sex were more common than interactions with the opposite-sex or with mixed sex interactants. Most interactions involved only one other person, followed by interactions with two others, three others, and groups. The present subjects differed somewhat from previous subjects

Table 1  
Comparative Quantitative Indices of Interaction Patterns

Interaction	Present Study	Previous Study
With Same-sex	51%	56%
With Opposite-sex	26%	19%
With Mixed-sex	23%	25%
With Groups	16%	22%
With One Person	53%	48%
With Two People	18%	19%
With Three People	13%	11%
Number Per Day	4.9	7.4
Length Per Day	311	363
Average Length	65	50

in that they spent less time interacting, and interacted with fewer different people over the two week recording period (present: 28, previous: 39).

On the subjective measures, the data from present and previous research are comparable on two measures; the quality and intimacy of interactions. Repeated measures analyses, used to examine the quality and intimacy of interactions among the different sex composition categories revealed main effects for composition on both quality,  $F(1,122)=13.81$ ,  $p < .01$ , and intimacy,  $F(1,122)=74.45$ ,  $p < .01$ . As will

be presented more fully later, opposite-sex interactions were rated as more intimate and pleasant than same-sex interactions, findings that correspond well with those of Wheeler and Nezlek (1977).

#### Quality of Social Interactions: The Research Hypotheses

One-tailed t-tests and Pearson correlations were used to examine the research hypotheses. To further explore the subjective aspects of interactions a number of repeated measures analyses of variance were conducted. The first repeated measures analysis investigated the sex composition of the interaction comparing same-sex and opposite-sex interactions by way of a 2 (sex of subject) X 2 (interaction composition; same, opposite) analysis with sex of subject as the between subjects variable and interaction composition as the within subjects variable. The second set of analyses were 2(sex of subject) X 2(sex of friend) X 2(closeness of interaction; best friend present, second-best friend present) repeated measures analyses with sex of subject as the between subjects variable, and sex of friend and closeness as the within subjects variable. It was expected that interactions with second-best friends would be qualitatively "less rich" than interactions with best friends. It was also expected that potential sex effects of composition would remain when friends only were investigated. 4

Receipt of Support. In support of Hypothesis 1, females reported receiving more support, overall ( $M=2.83$ ), than did males ( $M=2.35$ ),  $t(122)=2.67$ ,  $p < .01$ . A 2 (sex of subject) X 2 (interaction composition: same-sex, opposite-sex) repeated measures analyses revealed a main effect for composition  $F(1,120)=66.89$ ,  $p < .01$ . More support was received from opposite-sex interactants ( $M=3.17$ ) than from same-sex interactants ( $M=2.44$ ).

The 2 (sex of subject) X 2 (sex of friend) X 2 (closeness) repeated measures analysis revealed a main effect for sex of friend,  $F(1,117)=52.01$ ,  $p < .01$ . More support was received from the opposite-sex friends ( $M=3.02$ ) than from the same-sex friends ( $M=2.36$ ).

There was also a main effect for closeness,  $F(1,117)=6.58$ ,  $p < .05$ . More support was received during interactions in which the best friend was present ( $M=2.81$ ) than during interactions in which the second best friend ( $M=2.57$ ) was present. The interaction between sex of friend and closeness was significant  $F(1,117)=4.43$ ,  $p < .05$ . The interaction indicated that the effect for closeness occurred among opposite-sex friends. The means for these analyses are displayed in Table 2, along with the average number of interactions occurring within each category of interaction.

**Table 2**  
**Mean Number of Interactions for Recording Period and Means and Standard Deviations for Receipt of Support as a Function of Interaction Category**

Interaction	Female			Male		
	N	$\bar{X}$	<u>SD</u>	N	$\bar{X}$	<u>SD</u>
Same-sex	40	2.69	1.03	30	2.13	0.84
Opposite-sex	17	3.35	1.41	17	2.95	1.12
Same Best	19	2.55	1.13	15	2.17	1.00
Same Second Best	11	2.47	1.20	8	2.12	1.05
Opposite Best	10	3.43	1.67	9	2.94	1.30
Opposite Second Best	5	2.86	1.58	5	2.75	1.28

Overall, the results for receipt of support show that females received more support than did males and that more support was received from the opposite-sex. This effect was also found when only interactions that involved the best friends were examined. Closeness of friendship distinguished between the amount of support received but only for opposite-sex friends. The closer the friend, the more support received from him or her.

Provision of Support. In support of Hypothesis 2, females provided more support, overall ( $M=2.69$ ), than did males ( $M=2.33$ ),  $t(122)=2.00$ ,  $p < .05$ . The repeated measures analysis conducted with sex composition (same-sex, opposite-sex) as the within subject variable revealed a main effect for composition  $F(1,120)=44.16$ ,  $p < .01$ , and an interaction with sex,  $F(1,120)=4.04$ ,  $p < .05$ . More support was provided to opposite-sex interactants ( $M = 2.97$ ) than to same-sex interactants ( $M = 2.45$ ). The interaction was due to the significant sex difference in providing support to same-sex others,  $F(1,120)=8.97$ ,  $p < .01$ . Males provided less support to same-sex others ( $M=2.14$ ) than did females ( $M=2.70$ ).

The 2 (sex of subject) X 2 (sex of friend) X 2 (closeness) repeated measures analysis revealed a main effect for sex of friend,  $F(1,116)=29.28$ ,  $p < .01$ . More support was provided to opposite-sex best friends ( $M=2.85$ ) than to same-sex best friends ( $M=2.37$ ). The main effect for closeness was also significant,  $F(1,116)=8.25$ ,  $p < .01$ . The best friends ( $M=2.72$ ) were provided with more support than the second best friends ( $M=2.49$ ). The interaction between sex of friend and closeness was also significant  $F(1,116)=4.67$ ,  $p < .05$ . Again, the effect for closeness was due to the difference between opposite-sex best friends

and opposite-sex second-best friends. See Table 3 for the means for these analyses.

In sum, the results for provision of support evidenced a pattern similar to that for receipt of support. Females provided more support than males, more support was provided to the opposite-sex, and males provided less support to same-sex cointeractants than did females. Again, the opposite-sex friends were provided with more support than their same-sex counterparts and closeness of friendship affected the amount of support provided, but only for opposite-sex friends. The best friend was provided with more support than the second-best friend.

**Table 3**  
**Means and Standard Deviations for Provision of Support as a**  
**Function of Interaction Category**

Interaction	Female		Male	
	<u>X</u>	<u>SD</u>	<u>X</u>	<u>SD</u>
Same	2.70	1.09	2.14	0.89
Opposite	3.08	1.28	2.83	1.02
Same Best	2.59	1.26	2.16	1.01
Same Second Best	2.56	1.35	2.05	0.93
Opposite Best	3.16	1.55	2.89	1.26
Opposite Second Best	2.66	1.53	2.63	1.14

**Need for Support.** In support of Hypothesis 3, females reported needing more support ( $M=2.99$ ), than did males ( $M=2.37$ ),  $t(122)=3.29$ ,  $p <$

.01. The 2 (sex) X 2 (composition: same-sex, opposite-sex) repeated measures analyses demonstrated a main effect for composition  $F(1,122)=56.99$ ,  $p < .01$ . More support was needed from opposite-sex interactants ( $M = 3.19$ ) than from same-sex interactants ( $M = 2.54$ ).

The 2 (sex) X 2 (sex of friend) X 2 (closeness) repeated measures analysis revealed a main effect for sex of friend,  $F(1,117) = 52.50$ ,  $p < .01$ . More support was needed from the opposite-sex friends ( $M=3.05$ ) than from the same-sex friends ( $M=2.46$ ). The main effect for closeness was also significant,  $F(1,117) = 6.39$ ,  $p < .05$ . More support was needed from the best friends ( $M=2.88$ ) than from the second-best friends ( $M=2.63$ ). These means are presented in Table 4.

**Table 4**  
**Means and Standard Deviations for Need of Support as a Function of Interaction Category**

Interaction	Female		Male	
	<u>X</u>	<u>SD</u>	<u>X</u>	<u>SD</u>
Same	2.83	1.19	2.17	0.91
Opposite	3.40	1.41	2.91	1.08
Same Best	2.78	1.26	2.22	0.98
Same Second Best	2.62	1.42	2.06	0.95
Opposite Best	3.56	1.67	2.76	1.11
Opposite Second Best	3.03	1.72	2.69	1.33

In sum, females reported needing more support than did males and more support was needed from the opposite-sex than from the same-sex. The finding that more support was needed from the opposite-sex held for the analyses involving only the best friends of each sex. Closeness of friendship also distinguished between the amount of support needed for both same and opposite-sex friends. The closer the friend, the more support was needed.

Perception of Others' Need for Support. In support of Hypothesis 4, females ( $M=3.67$ ) perceived that others needed more support than did males ( $M=3.09$ ),  $t(122)=2.91$ ,  $p < .01$ . A 2 (sex) X 2 (composition: same-sex, opposite-sex) repeated measures analyses produced a main effect for composition  $F(1,122)=32.76$ ,  $p < .01$ . More need was perceived during interactions with the opposite-sex ( $M=2.73$ ) than during interactions with the same-sex ( $M=2.25$ ). The significant interaction ( $F(1,122)=6.86$ ,  $p < .01$ ), was due to the sex difference found for same-sex interactions,  $F(1,122)=13.97$ ,  $p < .01$ . Males ( $M=1.89$ ) perceived less need for support on the part of same-sex cointeractants than did females ( $M=2.54$ ).

The 2 (sex) X 2 (sex of friend) X 2 (closeness) repeated measures analysis revealed a main effect for sex of friend,  $F(1,117) = 31.75$ ,  $p < .01$ . Subjects perceived more need of support when interacting with opposite-sex friends ( $M=2.68$ ) than they did when interacting with the same-sex friends ( $M=2.18$ ). There was also a main effect for closeness of friendship,  $F(1,117)=6.12$ ,  $p < .05$ . Best friends ( $M=2.54$ ) were perceived as needing more support than second best friends ( $M=2.32$ ). The means for these analyses are presented in Table 5.

The results for perceived others' need for support show that females perceived more need than did males, more need was perceived on

the part of the opposite-sex, and males perceived less need on the part of same-sex cointeractants than did females. The finding that more need was perceived for the opposite-sex held across the analyses for best friends and again, closeness of friendship distinguished between the perceived need for support. Best friends were perceived as being more in need than were second-best friends.

**Table 5**  
Means and Standard Deviations for Perception of Other's Need for Support as a Function of Interaction Category

Interaction	Female		Male	
	<u>X</u>	<u>SD</u>	<u>X</u>	<u>SD</u>
Same	2.54	1.09	1.89	0.78
Opposite	2.81	1.26	2.62	0.99
Same Best	2.50	1.29	1.88	0.93
Same Second Best	2.35	1.23	1.83	0.91
Opposite Best	3.03	1.56	2.61	1.21
Opposite Second Best	2.54	1.44	2.50	1.10

Support Provision and Perceived Need for Support. Hypothesis 5 stated that females would be more responsive to the perceived needs of others than would males such that there would be a stronger relationship between support provided and the perceived need for support, for females than for males. This hypothesis was not supported. Correlational analyses showed that both sexes were equally responsive to the perceived

need of support in others (females  $r(69) = .78$ ,  $p < .01$ ; males  $r(53) = .81$ ,  $p < .01$ ). Table 6 shows the correlates between support provision and perceived need of support across the categories of interactions. As can be seen in this table, composition of the interaction had minimal effects on responsiveness.

**Table 6**  
**Relationship between Support Provision and Support Other Needed**

	Same	Opposite	S1	S2	O1	O2
Female	.77	.80	.75	.78	.87	.83
Male	.76	.74	.77	.78	.72	.57

**Note.** S1 = Same-sex best friend. O1 = Opposite-sex best friend. S2 = Same-sex second-best friend. O2 = Opposite-sex second-best friend. For females  $n = 70$ , for males  $n = 54$ . All  $p$ 's = .000

Two (sex of subject) X 2 (support: support provided, support other needed) repeated measures analyses were conducted with support as the within subject variable to determine the direction of the difference between these two variables. The repeated measures were conducted for sex composition (same-sex and opposite-sex) and best friends (same-sex best friend, opposite-sex best friend, same-sex second-best friend, and opposite-sex second-best friend). For example, the first repeated measure analysis would have support provided to the same-sex and perceived need for support for the same-sex as the two levels of the within subject variable. A main effect for support would indicate a significant difference between support provision and perceived need for support. Results showed that with the exception of the analysis for the

second best opposite-sex friend there was more support provided than was perceived as being needed. The reader is referred to Tables 3 and 5 to compare the means within each category of interaction.

Provision of Support and Difficulty of Support Provision.

Hypothesis 6 stated that there would no be relationship between support provided and the difficulty of providing that support for females, but there would be a positive relationship between these variables for males. There was support for this hypothesis. The provision of support and the difficulty of such provision was positively correlated for males,  $r(53) = .39$ ,  $p < .01$ . These variables were only marginally related for females,  $r(69) = .18$ ,  $p < .08$ . Table 7 shows the correlates for these variables for the other categories of interactions. What is of interest is the pattern that emerged between same and opposite-sex interactions. Generally, it appears that both females and males had difficulty when they supported same-sex interactants but difficulty was not related to the support they gave to opposite-sex interactants.

Table 7  
Relationship between Support Provided and Difficulty

	Same	Opposite	S1	S2	O1	O2
Female	.35	.16	.20	.27	.13	.19
Male	.41	.14	.29	.48	-.19	-.03

Note. For females  $n = 70$ ; the .05 level of significance is  $r = |.21|$ . For males  $n = 54$ ; the .05 level of significance is  $r = |.23|$ .

Relationships between Support Receipt and Support Provision.

Intimacy and Quality of Interactions. In support of hypotheses 7 a. and 7 b. there were significant positive relationships for both sexes between the intimacy of the interaction and the support received (females  $r(69) = .42$ ,  $p < .01$ ; males  $r(53) = .29$ ,  $p < .05$ ), and the intimacy of the interaction and the support provided (females  $r(69) = .30$ ,  $p < .01$ , males  $r(53) = .25$ ,  $p < .05$ ). In both cases it can be seen (see Tables 8 and 9) that the relationships between support and intimacy were not as

Table 8  
Relationship between Support Received and Intimacy

	Same	Opposite	S1	S2	O1	O2
Females	.32	.61	.38	.54	.78	.57
Males	.13	.35	.24	.44	.50	.36

Table 9  
Relationship between Support Provided and Intimacy

	Same	Opposite	S1	S2	O1	O2
Females	.30	.46	.30	.44	.70	.38
Males	.15	.25	.29	.17	.38	.34

Note. For females  $n = 70$ ; the .05 level of significance is  $r = |.21|$ . For males  $n = 54$ ; the .05 level of significance is  $r = |.23|$ .

strong for males as they were for females. Also apparent is that the strongest relationship between these variables occurs for the best

friend of the opposite-sex, for both sexes. Further, the results suggest that males' same-sex cointeractants need to be close friends before intimacy and support are related.

Hypothesis 7 c. stated that there would be a positive relationship between the quality of interactions and support received for females, and no relationship between these variables for males. In partial support of this hypothesis, results showed positive relationships between the quality of interactions and support received for both sexes (females  $r(69)=.34$ ,  $p < .01$ , males  $r(53)=.30$ ,  $p < .01$ ). A similar pattern of results partially supported hypothesis 7 d. which stated that there would be a positive relationship between the quality of interactions and support provided for females, and no relationship between these variables for males. Again positive relationships were found for both sexes between quality and support provided (females  $r(69)=.36$ ,  $p < .01$ , males  $r(53)=.30$ ,  $p < .05$ ). The correlations between these variables for the various categories of interactions are presented in Tables 10-11. Overall then, for both females and males, quality, intimacy, and support show moderate relationships with each other.

Table 10  
Relationship between Quality and Support Received

	Same	Opposite	S1	S2	01	02
Females	.25	.53	.22	.33	.47	.47
Males	.29	.37	.32	.05	.62	.39

Table 11  
Relationship between Quality and Support Provided

	Same	Opposite	S1	S2	O1	O2
Females	.33	.47	.33	.24	.43	.54
Males	.33	.35	.35	.00	.46	.47

Note. For females  $n = 70$ ; the .05 level of significance is  $r = |.21|$ . For males  $n = 54$ ; the .05 level of significance is  $r = |.23|$ .

Reciprocity of Support. To test the final hypothesis, that support exchange is characterized by reciprocity, the overall amount of support received was correlated with the overall amount of support provided. The results for both females ( $r(69) = .84$ ,  $p < .01$ ) and males ( $r(53) = .88$ ,  $p < .01$ ) demonstrate that support exchange is reciprocal in nature. Amount of support received, and amount provided was correlated for same and opposite-sex interactions, and other interactions characterized by degree of friendship. These correlates are shown in Table 12 and also demonstrate a high degree of reciprocity.

Table 12  
Relationship between Support Provided and Support Received

	Same	Opposite	S1	S2	O1	O2
Females	.77	.81	.66	.84	.85	.65
Males	.80	.76	.82	.55	.82	.61

Note. For females  $n = 70$ , for males  $n = 54$ . All  $p$ 's  $< .01$ .

Repeated measures analyses conducted on support exchange (amount of support received and amount provided) supported the correlational analyses. The absence of a main effect on the within subject variable (support exchange) would indicate reciprocity. There were main effects for support exchange on interactions involving the opposite-sex  $F(1,122)=7.74$ ,  $p < .01$ , and the opposite-sex best friend  $F(1,122)=5.03$ ,  $p < .05$ . Both these main effects were due to support having been received to a greater degree than it was provided.

Overall, the correlational analyses support Hypothesis 8, demonstrating that support was characterized by a high degree of reciprocity. In those cases where there was a difference between support received and support provided, the imbalance was due to more support having been received from the opposite sex than was provided to them. The means for both variables can be compared by referring to Tables 2 and 3.

#### Quality of Social Interactions: Additional Analyses

Difficulty of Providing Support. No hypothesis was formulated regarding the difficulty of providing support, and indeed the t-test showed that females ( $M=2.22$ ) did not differ from males ( $M=2.34$ ),  $p = n.s.$ , in the difficulty they reported with providing support.

The same series of repeated measures analyses was conducted on this variable as was conducted on the other subjective variables. Few effects were found. The 2 (sex) X 2 (sex of friend) X 2 (closeness) repeated measures revealed a significant interaction between sex of friend and sex of subject,  $F(1,82)=9.26$ ,  $p < .05$ . It appeared that both sexes had more difficulty providing support to their female friends (females

$M=2.48$ ; males  $M=2.66$ ) than to their male friends (females  $M=2.24$ ; males  $M=2.30$ ).

Intimacy of Interactions. Overall, females ( $M=3.67$ ) reported more intimacy in their interactions than did males ( $M=3.09$ ),  $t(122)=2.91$ ,  $p < .01$ . Repeated measures analyses [2 (sex) X 2 (composition: same-sex, opposite-sex)] revealed a main effect for composition,  $F(1,122)=74.45$ ,  $p < .01$ , and an interaction with sex of subject,  $F(1,122)=5.56$ ,  $p < .05$ . More intimacy was reported with opposite-sex interactants ( $M = 4.09$ ) than with same-sex interactants ( $M = 3.15$ ). The significant interaction was due to the greater sex difference found for same-sex interactions. Males ( $M=2.70$ ) rated these interactions as less intimate than did females ( $M=3.50$ ;  $F(1,122)=12.51$ ,  $p < .01$ ).

The 2 (sex) X 2 (sex of friend) X 2 (closeness) repeated measures revealed a significant main effect for sex of friend  $F(1,117)=111.41$ ,  $p < .01$ . Interactions with the opposite-sex friends ( $M=4.08$ ) were more intimate than interactions with the same-sex friends ( $M=3.12$ ). There was also a marginal effect for closeness,  $F(1,117)=6.03$ ,  $p < .06$ . Interactions with best friends present ( $M=3.72$ ) were rated as more intimate than were interactions with the second-best friends ( $M=3.48$ ).

These analyses also produced some significant interactions. The interaction between sex of friend and sex of subject,  $F(1,117)=5.78$ ,  $p < .05$ , showed that males evidenced a greater difference in ratings of interactions with opposite-sex friends and same-sex friends than did females. The interaction between sex of friend and closeness,  $F(1,117)=9.49$ ,  $p < .05$ , showed that the effect for closeness was due to ratings for the opposite-sex. Closeness did not affect the intimacy of

same-sex interactions. The means for these analyses are presented in Table 13.

In summary, the results for intimacy show that females had more intimate interactions than did males, opposite-sex interactions were more intimate than were same-sex interactions, and the intimacy of males' interactions with friends were affected to a greater extent by the sex of the friend than were the interactions of females. Finally, closeness of friendship also affected the intimacy of interactions with opposite-sex friends, but not same-sex friends. The closer the friend, the more intimacy reported.

**Table 13**  
Means and Standard Deviations for Intimacy of Interaction as a Function of Interaction Category

Interaction	Female		Male	
	$\bar{X}$	$SD$	$\bar{X}$	$SD$
Same	3.50	1.33	2.70	1.14
Opposite	4.20	1.41	3.93	1.02
Same Best	3.42	1.45	2.68	1.17
Same Second Best	3.37	1.50	2.82	1.32
Opposite Best	4.41	1.56	4.13	1.42
Opposite Second Best	3.82	1.64	3.80	1.55

Quality of Interactions. Overall, there was no difference between females and males regarding the quality or pleasantness of their

interactions. However, the 2 (sex) X 2 (composition: same-sex, opposite-sex) repeated measures analysis revealed a main effect for sex composition. Opposite-sex interactions ( $M=4.86$ ) were rated as more pleasant than same-sex interactions ( $M=4.53$ ,  $F(1,122)=13.81$ ,  $p < .01$ ).

The 2 (sex) X 2 (sex of friend) X 2 (closeness) repeated measures revealed a significant main effect for sex of friend  $F(1,117)=19.67$ ,  $p < .01$ . Interactions with the opposite-sex friends ( $M=4.93$ ) were more pleasant than interactions with the same-sex friends ( $M=4.56$ ). The means for these analyses are presented in Table 14. Overall then, the results for quality show that opposite-sex interactions were more pleasurable than were same-sex interactions.

**Table 14**  
**Means and Standard Deviations for Quality of Interaction as a Function of Interaction Category**

Interaction	Female		Male	
	$\bar{X}$	$SD$	$\bar{X}$	$SD$
Same	4.58	0.90	4.45	0.87
Opposite	4.86	1.35	4.86	0.90
Same Best	4.48	1.06	4.49	0.97
Same Second Best	4.68	1.08	4.59	1.04
Opposite Best	5.07	1.28	4.90	1.08
Opposite Second Best	4.84	1.21	4.92	1.16

**Support Needed and Support Received.** The relationship between support needed and support received was examined to determine if

individuals generally received the support that they reported needing. The relationship between these variables was examined with correlational analyses and repeated measures ANOVA's [2 (sex) X 2 (support: support needed, support received)]. For both males and females, overall receipt and need was strongly correlated (females  $r(69)=.92$ ,  $p < .01$ ; males  $r(53)=.88$ ,  $p < .01$ ). As the correlates in Table 15 demonstrate, there was a strong relationship between the variables across all categories of interaction indicating that individuals tended to receive the amount of support they reported needing. However, the direction of differences between support needed and support received indicated that less support was being received than was needed. Significant main effects derived from the repeated measures showed that imbalances between support

Table 15  
Relationship between Support Received and Needed

	Same	Opposite	S1	S2	O1	O2
Females	.93	.88	.87	.92	.86	.91
Males	.84	.75	.91	.78	.80	.63

Note. For females  $n = 70$ , for males  $n = 54$ . All  $p$ 's = .000

receipt and support need occurred during interactions with the same-sex  $F(1,122)=5.51$ ,  $p < .05$ , and with the same-sex best friend  $F(1,122)=8.27$ ,  $p < .01$ . In both cases the main effect was due to less support having been received than was needed. The means for these variables can be compared by referring to Tables 2 and 4.

Support Needed and Support Other Needed. The relationship between support needed and support other needed was examined to determine if subjects tended to perceive the others' need for support as similar to their own. As can be seen in Table 16, the generally moderate to high correlations suggest that one's perception of one's own need for support and one's perception of another's need for support were positively related.

Table 16  
Relationship between Support Needed and Support Other Needed

	Overall	Same	Opposite	S1	S2	O1	O2
Females	.69	.60	.60	.49	.65	.65	.53
Males	.69	.63	.42	.61	.65	.59	.55

Note. For females n = 70, for males n = 54. All p's < .05.

Support Provided and Support Other Needed. The relationship between support provided and support other needed was examined to determine if subjects tended to respond to others at a level similar to their own need for support. The high correlations presented in Table 17

Table 17  
Relationship between Support Needed and Support Other Needed

	Overall	Same	Opposite	S1	S2	O1	O2
Females	.81	.75	.77	.55	.76	.79	.64
Males	.78	.75	.58	.76	.75	.65	.39

Note. For females n = 70, for males n = 54. All p's < .05.

show that one's provision of support was related to one's own need for support.

Relationship between Variability of Support and Personality. The final set of additional analyses concerned the relationship between the various personality measures and variability in support. The research question posed was whether personality was significantly related to support variability. Table 18 shows the correlations between the

Table 18  
Relationship between Variability of Support and Personality for Females

	Personality						
	Empathy	Esens	Econt	Eexpr	Ssens	Scont	Sexpr
SDSSR	.12	.07	-.05	.14	-.11	.20	.21
SDSSP	.12	.20	-.10	.20	-.10	.31	.30
SDSSN	.01	.06	.06	.03	-.03	.14	.15
SDSON	.13	.14	-.06	.24	.03	.18	.20
SDDIFF	-.06	.17	.13	.02	-.02	.08	.07

Note. For females  $n = 70$ ; the .05 level of significance is  $r = |.21|$ . SDSSR=standard deviation for support receipt. SDSSP=support provision. SDSSN=support need. SDSON=support other need. SDDIFF=support difficulty. Esens=emotional sensitivity. Econt=emotional control. Eexpr=emotional expressivity. Ssens=social sensitivity. Scont=social control. Sexpr=social expressivity.

various personality measures and the standard deviations for the various support measures, for females. Table 19 shows the corresponding correlations for males. As can be seen in these tables, personality did not appear to be related to variability in the supportive behaviors and

perceptions of females. However, these variables were positively related for males.

**Table 19**  
**Relationship between Variability of Support and Personality for Males**

	Personality						
	Empathy	Esens	Econt	Eexpr	Ssens	Scont	Sexpr
SDSSR	.30	.34	.22	.21	.13	.40	.35
SDSSP	.26	.36	.33	.20	.13	.36	.32
SDSSN	.46	.35	.07	.09	.34	.11	.18
SDSON	.23	.40	.25	.09	.00	.29	.20
SDDIFF	.34	.26	-.14	.03	.20	.12	.09

Note. For males  $n = 54$ ; the .05 level of significance is  $r = |.23|$ . See Table 18 for nomenclature of variables.

#### Personality Variables as Mediators of Support Measures

The SSI is a new measure of social skills, however, the subscale means, intercorrelations, and Cronbach's alphas for this sample compare very well with those reported by Riggio (1986). The subscale intercorrelations ranged from  $-.47$  to  $.83$ . The means and Cronbach's alphas for each of the subscales ranged from  $4.82 - 6.29$ , and  $.72 - .87$ , respectively. The mean rating for the Empathy scale was  $6.19$ . The standardized Cronbach's alpha was  $.85$ .

To examine the effects of social skills and empathy on the overall support measures stepwise multiple regression analyses were performed for all subjects. Because the focus of the study was on sex differences, multiple regressions were calculated separately for females

and males, with the different support measures as the criterion, and with sex of subject and the subscales of the two personality measures as predictors. Interactive terms were also entered as predictors (e.g., sex X empathy).

The results for the overall regression analyses are presented in Table 20. Emotional sensitivity predicted the amount of support

**Table 20**  
**Multiple Regression Analyses to Predict Support Measures**

Criterion	Predictors	Beta	F-value	R	R <sup>2</sup>
Provide	Emotsens	.29	11.06**	.29	.08
Receive	Emotsens	.24	7.28**	.24	.06
	Sex	-.18	5.80**	.30	.09
Need	Sex	-.29	10.62**	.29	.08
Difficulty	No significant predictors				
Other need	Sex	-.25	08.06**	.25	.06

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

received and provided. The more emotional sensitive an individual was the more support they provided and received. Sex was also a predictor of the receipt of support; being female was associated with receiving support. Sex was the only predictor of the amount of support needed and the amount of support perceived as being needed by others. Again, being female was associated with needing support and perceiving that need in others. There were no significant predictors of the difficulty of providing support. Overall then, being female was the primary predictor

of support indices with emotional sensitivity being the stronger predictor of support receipt and provision.

When the regressions were performed separately for the sexes an interesting pattern emerged. For females, emotional expressivity predicted the receipt of support: the more emotionally expressive the more support females reported receiving. Empathy predicted the difficulty of providing support: greater empathy was associated with less difficulty in providing support. There were no significant predictors for the provision of support, the need for support, or the perception of others' need. The results of these analyses can be seen in Table 21.

**Table 21**  
**Multiple Regression Analyses to Predict Support Measures for Females**

Criterion	Predictors	Beta	F-value	R	R2
Provide	No significant predictors				
Receive	Emotexpr	.27	5.22*	.27	.07
Need	No significant predictors				
Difficulty	Empathy	-.24	4.07*	.24	.06
Other need	No significant predictors				

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

As can be seen in Table 22 emotional sensitivity was the only significant predictor of all the support measures for males. In each case the relationship between the criterion and the predictor was positive.

**Table 22**  
**Multiple Regression Analyses to Predict Support Measures for Males**

Criterion	Predictors	Beta	F-value	R	R2
Provide	Emotsens	.40	9.68**	.40	.16
Receive	Emotsens	.31	5.19*	.31	.09
Need	Emotsens	.32	5.59*	.32	.10
Difficulty	Emotsens	.44	11.87**	.44	.19
Other need	Emotsens	.32	5.59*	.32	.10

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

It should be noted that there were sex differences on the various personality measures. Females were more empathetic ( $t(120)=6.04$ ,  $p < .01$ ; females  $M = 6.50$ , males  $M = 5.72$ ); more emotionally expressive ( $t(120)=1.91$ ,  $p < .06$ ; females  $M = 5.62$ , males  $M = 5.28$ ); more emotionally sensitive ( $t(120)=3.05$ ,  $p < .01$ ; females  $M = 6.51$ , males  $M = 5.99$ ); and more socially sensitive ( $t(120)=3.65$ ,  $p < .01$ ; females  $M = 6.42$ , males  $M = 5.69$ ). Males ( $M = 5.29$ ) were more emotionally controlled than females ( $M = 4.51$ ),  $t(120)=4.48$ ,  $p = .01$ . There was no sex difference for social expressiveness (females  $M = 5.95$ , males  $M = 5.87$ ) or social control (females  $M = 5.63$ , males  $M = 6.01$ ).

It did not appear that restriction of range attenuated the correlations between personality and support, as females and males did not differ on variability on these measures. That is, the differences between the sexes on the standard deviations of the personality measures were small.

### Relationships between Support Indices and Mood

Items from the Personal Reaction Form were totaled and divided by the number of days the mood checklist was maintained. Thus each score represented the average daily rating for that particular feeling. 5 Factor analyses by the principal components method followed by varimax rotation revealed two factors, labelled positive and negative affect, accounting for 50% and 23% of the variance, respectively (the other factors had eigenvalues less than one). The first factor had all 13 positive affect items loading above .67 (range .68 - .89, eigenvalue = 9.44) and none of the negative affect items loading above .56. The negative affect factor had all 6 items loading above .62 (range .62 - .89, eigenvalue = 4.45) with none of the positive affect items loading above .46.

Because the principal variables of interest pertained to support, items indicative of support or helpfulness were included on the mood measure. These items loaded on the positive affect factor (range .75 - .89). However, conceptually they were considered to be distinct from positive affect and were labeled collectively as the altruism factor. A reliability analysis was then conducted on the positive affect, negative affect, and altruism factors. See Appendix B for the items contained in each of the three factors.

Cronbach's alpha for the 9 items on the positive affect factor was .95 ( $M = 3.24$ ). The standardized Cronbach's alpha for the 6 items on the negative affect factor was .68 ( $M = 2.62$ ). The standardized Cronbach's alpha for the 4 items on the altruism factor was .95 ( $M = 3.08$ ).

The intercorrelations between the three factors showed that, for females, positive and negative affect were independent,  $r(68) = .10$ ,  $p = \text{n.s.}$  Positive affect and altruism were strongly related,  $r(68) = .69$ ,  $p < .01$ , with negative affect and altruism showing a moderate relationship with each other,  $r(68) = .36$ ,  $p < .01$ . For males, positive and negative affect were moderately related,  $r(52) = .31$ ,  $p < .05$ . Positive affect and altruism were strongly related,  $r(52) = .83$ ,  $p < .01$ , as was negative affect and altruism,  $r(52) = .54$ ,  $p < .01$ . For both sexes then, these feelings were positively related to each other. Females and males differed only on the negative affect factor  $t(1,120) = 2.72$ ,  $p < .01$ . Females reported more negative affect ( $M = 2.80$ ) than did males ( $M = 2.37$ ).

The three factors were correlated with the various support measures separately for overall support, same-sex support, and opposite-sex support. The correlates for these analyses are presented in Tables 23 through 25. It can be seen that across the various categories of interaction the three mood factors were moderately related to most of the support measures. Because these relationships were all positive it was suspected that intensity of feelings might be mediating these relationships, such that individuals high on feeling intensity might simply be rating themselves high on all moods and support measures, and those low on feeling intensity might be rating themselves low on all moods and support measures. Auxiliary data collected from Larsen's Affect Intensity Measure (AIM, 1984) provided a measure of emotional intensity. The correlational analyses were repeated with emotional intensity partialled out. As the partial correlates in Tables 19-21 indicate, emotional intensity had minimal effects on the relationships

between the variables. Further, positive affect was partialled out of subsequent correlations with negative affect, and negative affect was partialled out of subsequent correlations with positive affect. Again, the partials had minimal effects on the pattern of correlates. Although this pattern is quite strong across the different categories of interaction, there are two salient deviations from the pattern. First, if one looks at the correlates of need for support, it is quite clear that needing support was associated with feeling good for females. There was no relationship between these variables for males. The second salient deviation from the pattern of results is the pattern for the difficulty of providing support. Feelings had no relationship with difficulty for females. For males, it appeared that difficulty was associated with feeling bad, however, emotional intensity mediated these relationships. When emotional intensity was taken into account there was generally no relationship between difficulty and feelings.

**Table 23**  
**Correlations between Moods and Overall Support Measures**

Support	Females			Males		
	POSAFF	NEGAFF	ALTRUISM	POSAFF	NEGAFF	ALTRUISM
Receipt	.48 (.43)	.48 (.45)	.51 (.47)	.35 (.33)	.49 (.44)	.39 (.35)
Provision	.40 (.41)	.37 (.37)	.50 (.50)	.47 (.44)	.51 (.42)	.52 (.45)
Need	.34 (.29)	.60 (.58)	.43 (.40)	.17 (.15)	.50 (.48)	.29 (.27)
Other Need	.27 (.27)	.34 (.34)	.33 (.33)	.36 (.35)	.37 (.33)	.36 (.33)
Difficulty	-.06 (-.06)	.10 (.10)	-.06 (-.06)	.17 (.00)	.35 (.18)	.15 (-.05)

**Note.** For females  $n = 69$  and  $r = |.20|$ ,  $p < .05$ . For males  $n = 53$  and  $r = |.23|$ ,  $p < .05$ . Values in parentheses are the corresponding correlates controlling for emotional intensity: for females  $n = 66$ , for males  $n = 48$ .

**Table 24**  
**Correlations between Moods and Same-Sex Support Measures**

Support	Females			Males		
	POSAFF	NEGAFF	ALTRUISM	POSAFF	NEGAFF	ALTRUISM
Receipt	.43 (.38)	.54 (.52)	.49 (.46)	.24 (.30)	.36 (.31)	.27 (.30)
Provision	.35 (.38)	.33 (.34)	.45 (.46)	.42 (.43)	.42 (.32)	.47 (.46)
Need	.30 (.26)	.60 (.58)	.41 (.38)	.13 (.16)	.34 (.30)	.18 (.20)
Other Need	.21 (.21)	.29 (.29)	.26 (.27)	.27 (.27)	.29 (.19)	.30 (.28)
Difficulty	.09 (.12)	.06 (.08)	.00 (.02)	.26 (.16)	.36 (.26)	.25 (.11)

**Note.** For females  $n = 69$  and  $r = |.20|$ ,  $p < .05$ . For males  $n = 53$  and  $r = |.23|$ ,  $p < .05$ . Values in parentheses are the corresponding correlates controlling for emotional intensity: for females  $n = 66$ , for males  $n = 45$ .

**Table 25**  
**Correlations between Moods and Opposite-Sex Support Measures**

	Females			Males		
Support	POSAFF	NEGAFF	ALTRUISM	POSAFF	NEGAFF	ALTRUISM
Receipt	.39 (.34)	.38 (.34)	.44 (.41)	.32 (.31)	.35 (.33)	.29 (.26)
Provision	.33 (.34)	.30 (.29)	.46 (.46)	.50 (.47)	.45 (.38)	.47 (.39)
Need	.28 (.22)	.49 (.46)	.39 (.35)	.17 (.14)	.45 (.41)	.29 (.23)
Other Need	.26 (.26)	.17 (.05)	.31 (.31)	.44 (.44)	.31 (.29)	.31 (.30)
Difficulty	-.03 (-.04)	.09 (.08)	.05 (.04)	-.06 (-.17)	.19 (-.02)	.04 (-.13)

**Note.** For females  $n = 67$  and  $r = |.20|$ ,  $p < .05$ . For males  $n = 53$  and  $r = |.23|$ ,  $p < .05$ . Values in parentheses are the corresponding correlates controlling for emotional intensity: for females  $n = 63$ , for males  $n = 48$ .

## CHAPTER IV

### DISCUSSION

It was argued that researchers need to conceptualize social support as a component of social interaction. Such a conceptualization makes imperative the investigation of sex differences and the norms of reciprocity. The significant patterns of results for both these variables (to be discussed in more detail later) support the use of such a conceptualization. Putting social support into this framework guides the direction of research and delineates the boundaries of support in its relationships to other variables. As Rook points out, the nature of support has continued to expand, thus masking the essence of what the variable is (Rook, 1983, cited in Shumaker & Brownell, 1984). The significant correlations of intimacy and quality with support indicate that these variables are related, but the magnitude of the correlates demonstrate that they are not the same variables. Further, the mean ratings of support fall somewhere between two and three on a seven point rating scale. These ratings suggest that support is obviously a component of relevance to social interaction but it is not an overriding one. Neither is it as focal as other components, such as quality and intimacy (see also Forgas, 1976). Thus social support is distinct from other components of social interaction, and these components are just as relevant, if not more so, to an interaction.

### Sex Differences in Social Support

The first major pattern of findings to be discussed are the overall sex differences in support exchange. The results showed support for all hypotheses regarding sex differences. Females received and provided more support than did males. They also needed more support and saw that need in others to a greater extent than did males. The finding that females received more support than did males is in agreement with other research (Burda, Vaux, & Schill, 1984; Butler, Giordano, & Neren, 1985; Caldwell, Pearson, & Chin, 1987; Dunkel-Schetter, Folkman, & Lazarus, 1987; Stokes & Wilson, 1984; see also Sarason, Sarason, Hacker, & Basham, 1985) as is the finding that they needed more support than did males (Rosenthal et al, 1986).

The finding of greater female provision of support substantiates the conceptual arguments of Belle (1982), Bernard (1981), Cohler and Lieberman (1980), Fischer (1982), and Vaux (1985). These authors argued that females are more interpersonally focused and responsive than males, and assume a stereotypical presentation of being the confidante in interpersonal situations. This result does not agree with Eagly's (1987) finding that males are the more helpful sex. However, as she notes, her review concerned behaviors that males were more comfortable about performing than were females (e.g. intervening in a dangerous situation such as a potential drowning incident). The present study provides a nice complement to Eagly's (1987) review in that here, the help investigated was presumably more comfortable for females to provide than it was for males to provide (e.g. interpersonal comfort).

Why do females provide more support than do males? One possibility is that females do not actually provide more support than males but perceive that they do. Another possibility is that they do provide more support than males because they perceived a greater need for support than do males, and these variables were strongly related. Surprisingly the regression analyses showed that neither empathy nor social skills predicted this perception of others' need for females. It is possible that females are more skilled than are males at perceiving others' need and the results are indicative of a skill other than those measured in the present study. It is also possible that females, having a greater desire or motivation to be communal, may want to perceive a need for, or provide, support in order to be responsive and execute their communal orientation towards others. It is important to note that there is no measure of accuracy of perception in these data. We do not know how much the other interactant(s) needed support but simply that females perceived the need to be greater than did males.

The second question about these results is why did females report receiving more support than did males? Females may simply perceive that they receive more support than do males. If females actually did receive more support than did males, the more pertinent question is--how? Receiving support is not a behavior but rather the elicitation of behavior from another. The only significant predictor of support receipt for females was emotional expressiveness (a sample item being "I show my emotions or feelings"). In other words--if females want support they engage in behaviors conducive to receiving it. This concords with previous research showing that females do indeed ask for more support

(Butler et al, 1985) and self-disclose (e.g. Cozby, 1973) more than do males.

The reason that females request more support (as shown in previous research) appears to be due to the finding that they need more support than did males. Females need for more support is not predicted by any of the personality measures. Perhaps their greater need for support is due to their greater communal nature, in comparison with males. Thus, females may need the caring and support of others because of their orientation towards interrelatedness. On the other hand, females reported a greater level of negative affect than did males and negative affect was strongly associated with needing support. If females were more depressed/unhappy than were males, then they should have needed the good feelings of others to a greater extent than did males.

#### Reciprocity of Social Support

One of the main focuses of this research was to examine the reciprocity of support exchange. In agreement with social exchange theorists (e.g. Homans, 1958; Walster, Berscheid, & Walster, 1973) and in concordance with hypothesis eight support exchange was characterized by reciprocity. The overall amount of support that individuals reported receiving was strongly correlated with the overall amount of support they reported providing. This result is not surprising and extends the previous research on support reciprocity. That research (Ingersoll-Dayton & Antonucci, 1983; McFarlane et al, 1981; Tolsdorf, 1976) showed that relationships tended to be reciprocal, i.e. the people one helps tend to help one in return. The present results showed that the rate of support exchanged during interactions is perceived as being highly

reciprocal, that is, the more one helps another, the more they return the help. Results specifically addressing the perceived amount of support exchanged showed that where there was an imbalance between the receipt and provision of support it was due to more support being received than was provided. Moreover, this imbalance only occurred during interactions with the opposite-sex, for both sexes.

There are a number of explanations for this finding. The first is that there is a reporting bias such that both sexes like to portray themselves as the receiver rather than the provider, but only to the opposite-sex. This is not what one would expect from a socially desirable bias in reporting. Further, other results indicated that subjects reported needing more support than they received, but only from the same-sex. If these subjects are responding with a socially desirable bias then they are doing so in a strange and unsystematic way.

Another potential explanation is that there is no bias and that the females are reporting about a different group of males than those who participated, and likewise for the males (clearly very different groups)! It was the observation of the investigator that a number of subjects attended the study sessions accompanied by the opposite-sex. It seems quite likely that these individuals appeared in each others records which does not add credence to this explanation.

The results point more towards a perceptual bias. Obviously, one can never measure the actual amount of support an individual receives or provides because it is an entirely subjective judgment, but both sexes show some desire or motivation to perceive themselves as receiving more from the opposite sex than they provide in return. Perhaps the best

explanation is to draw on Clark and Mills (1979) distinction between exchange and communal relationships. In a nutshell, Clark and Mills (1979) argue that perceptions of reciprocity depend on the type of relationship one is engaged in, or desires to be engaged in. In a communal relationship benefits and costs are not part of an exchange process. If this is an issue, then the relationship is specifically one of exchange. The defining feature of a communal relationship is that members are concerned about the welfare of the other and respond to the others' need, regardless of previous exchange. A family is the most typical example of a communal relationship, or relationships that fall under the rubric of the model of altruistic love. Clark and Mills (1979) found that attraction for a partner decreased when a benefit was directly reciprocated and a communal relationship was desired, suggesting that individuals do not want "tit for tat" reciprocity when the development of such a relationship is their intention.

If one accepts that freshmen are in the process of heterosocial orientation then the opposite sex may be considered a potential pool of communal relationships. One may be motivated, at this age and in this social milieu, to perceive exchanges with opposite-sex interactants as communal and not exchange-based. One is also motivated to believe that the other is responding to the one's needs unselfishly (cf Kelley, 1983) hence the perception that one receives more support from the opposite-sex than one provides to them. Other results support this argument. On the other support measures--provision, receipt, need, and other's need--the opposite-sex elicited higher ratings than did the same-sex. That is, more support was provided to the opposite-sex and received from

them, than from the same-sex. More support was needed from them and they were perceived as needing more support than were the same-sex. Recall that support was defined as the expression of caring, love, esteem, or respect for another. By definition, it appeared that subjects believed that their interactions with the opposite-sex were characterized by caring to a greater degree than their interactions with the same-sex.

Closeness of friendship was also a factor in the results, indicating that the more time one spent with another, the more supportive those interactions were perceived to be. Most likely the results are due to knowing a person better and understanding their needs more, and also turning to them to satisfy one's own needs. Some results showed that closeness interacted with sex of friend, such that closeness of the friendship distinguished only between opposite-sex friends. This implies that same-sex friends achieve a certain level of support exchange but go no further, perhaps because the romantic or communal element is not present to distinguish these relationships on that level of closeness.

One final note is in order regarding the exchange of support as it depends on the sex of the participants in the interaction. House and Kahn assert that "obviously, the issues of reciprocity and sex composition are related in that women may benefit more from relationships with other women not because such relationships are less demanding, but because they are more reciprocal" (1985, p. 93). These data support House and Kahn. Results showed that same-sex interactions were more reciprocal than opposite-sex interactions. However, the

effects hold for both sexes. Males' interactions with other males were also more reciprocal than their interactions with females. Of course, how one defines benefit and whether reciprocity is more beneficial than non-reciprocity depends on the relationship and what is sought by its members.

### Relationships between Supportive Behaviors

Intercorrelations between the subscales of the RIR generally supported the hypotheses and produced some surprising results. It was hypothesized that females would be more responsive than would males, in terms of providing support where they perceived a need for it. In fact both sexes were very responsive to others' need for support and regardless of interaction sex composition, subjects perceived that they provided more support than was needed. It is not clear why subjects would provide more support than was needed unless one agrees with Batson and his colleagues (1988) that individuals do act to the benefit of others, and perhaps there is a belief that when expressing support, if one simply matches the amount of support the other needs then the expression of support is not genuine. This idea is somewhat consistent with Blau's notion that "social exchange then, is an intermediate case between pure calculation of advantage and pure expression of love" (1964, p. 112).

Of interest is the finding that subjects did not receive the support they needed from the same-sex. And this included interactions with their same-sex best friend. It was not the case that subjects needed more support from same-sex friends than they needed from opposite-sex friends. Quite the opposite. But perhaps they expected

more support from same-sex friends in terms of understanding their feelings about relationships and class or whatever, and judged their receipt of support against that standard. In support of this explanation is the finding that subjects reported difficulty with providing support to same-sex others. There was a hypothesized sex difference here in that overall, there would be no relationship between these variables for females but that males would have difficulty with providing support. This hypothesis was supported. Nevertheless, for both sexes, difficulty was associated with provision of support to the same-sex but was unrelated to the provision of support to the opposite-sex. Perhaps this reported difficulty is due to an expectation that one should be supportive to the same-sex and such support may be seen in light of expectation and exchange, whereas, supporting the opposite-sex is seen as more indicative of genuine caring and not expectation. Further, individuals spend a great deal more time in the company of the same-sex. Thus more same-sex interactions may be inescapable than may opposite-sex interactions, for example at bedtime or early morning, etc. Interactions with the opposite-sex are more likely to be freely chosen, for example dates or lunch-breaks, etc. Indeed the higher quality reported for opposite-sex interactions would support this argument. This argument is in line with Thibaut and Kelley's (1959) assertion that dyadic interaction is facilitated by interactants being able to provide each other with high rewards (support) at low cost (difficulty) to themselves. There may be a "vicious cycle" operating, for individuals at this stage of development, such that if expectation and exchange norms cease to operate, one freely gives certain social resources

without difficulty. Because of the lack of difficulty one becomes more attached and because of the attachment one gives more freely and so on it goes.

### Intimacy, Quality, and Support

Much has already been said about the intimacy and quality of same-sex and opposite-sex interactions and relationships, and sex differences therein (e.g Blyth & Foster-Clark, 1987; Clark & Reis, 1988; Davis, 1978; Fischer & Narus, 1981; Lewis, 1978; Nezlek, Wheeler, & Reis, 1983A; Reis, Sanchak, & Soloman, 1985; Reis & Shaver, 1988; Shields, 1987). Those findings and arguments will not be reiterated here, except to note that the present results replicate very well those of previous research, with females reporting more intimacy in interaction than did males, and the male-male interaction being lower on intimacy than were other sex compositions. The purpose of including the measures of intimacy and quality in the present research was to examine their relationship with support. It was hypothesized that the exchange of support would be related to feelings of intimacy, for both sexes. It is not surprising that such feelings would be related to each other. The pattern of correlates suggest that these feelings tended to be more closely related for females and for interactions with best friends of the opposite sex. However, a larger sample size is needed to test these differences for significance. A tentative conclusion is that the relationship between intimacy and support may be somewhat dependent on an interpersonal orientation to interaction, such that closeness and expression of feelings are related. It is probable that a more task-focused orientation to interaction, as is characteristic of males

(Aries, 1976; Sullivan, 1986), would show that perceived closeness may be related to factors other than the expression of feelings, such as a ball-game with others.

It was expected that the quality or pleasantness of interactions would not be related to support for males because of their greater focus on task-oriented interaction. It was found that quality and support were similarly related for males and females indicating that regardless of sex, supportive exchanges are pleasant events. Overall then, quality and intimacy are moderately to strongly related with support depending on the sex composition of the interactions.

#### Personality and Support

Sex was the better predictor of supportive behavior than the personality measures used in this study. Emotional sensitivity was the only predictor of the provision of support. Regardless of sex, the more emotionally sensitive a person was the more support they provided. The sex difference on provision of support then, is apparently due in part to the greater emotional sensitivity of females, as compared with males.

Both sex and emotional sensitivity were predictive of support receipt with emotional sensitivity being the better predictor. Sex did account for additional variance suggesting that there is something about being female above and beyond the characteristic of emotional sensitivity that is predictive of support receipt. The regression results for females suggest that this characteristic is emotional expressiveness. It appears that sensitive people elicit support from others, but others are also more likely to respond if they interact with someone who clearly expresses their feelings. The pattern of results

for males is quite interesting and demonstrates that supportive behavior in males is characterized by emotional sensitivity. A tentative conclusion is that the emotional interactions of males are dependent on their emotional make-up with their social orientation playing a minor role. The emotional interactions of females appear to depend on characteristics other than those used in this study. The correlational analyses conducted on the standard deviations of support measures and the personality variables enriched the regression results. Recall that there was no relationship between these variables for females. Taken together, the two sets of results indicate that the amount and variability of females' supportive behaviors and perceptions are generally not due to empathy and social skills. Female support then, is either more dependent on the social situation or personality variables other than social skills. Male support, on the other hand, appears to be due, at least in part, to personality variables such as empathy and social skills.

#### Affect and Support

Before discussing the relationships between affect and social support a couple of issues need to be addressed. These are the interrelations between the different dimensions of affect and sex differences on these dimensions. Females differed from males on the negative affect factor, reporting a greater level of negative affect. Diener and Emmons (1985) and Watson, Clark, and Telieghren (1988) report no sex differences in their studies, although Diener (1984) reports elsewhere that women report more negative and positive affect than do males but the sex difference is never great.

There is considerable debate in the field on the relationship between positive and negative affect. That debate will not be discussed here, except to note the work of Diener and Emmons (1985) which is most comparable to the present method. They report between-subject correlations of positive and negative affect that were recorded on a daily basis for six weeks. It is important to recognize that between-subject correlations refer to the correlations computed for mean positive affect and mean negative affect summed across the recording period. Their results showed that the correlates ( $-.23$  to  $.26$ ) did not reach significance indicating independence of the two kinds of affect. Recall that in the present study these variables were related for males, however, the size of the correlate corresponds well with the range found by Diener and Emmons (1985) and the larger sample size of the present study may have created the significant effect. Interestingly, altruism and negative affect were related for both sexes. This is surprising because one would expect that feeling helpful would not make one feel bad, unless one considers the alternative--feeling bad makes one feel helpful (e.g. Cialdini & Kenrick, 1976). More than likely, subjects who felt bad helped others in order to alleviate their distress and subsequently rated themselves as altruistic (Cialdini & Kenrick, 1976).

The hypothesized relationships between mood and social support were in general supported. The findings did not support Clark and Watson (1988) or Stone (1987) who showed that negative affect was not related to social engagement. The measures in the present study more specifically measured social support. Perhaps the difference in measurement accounts for this discrepancy. Overall, the results showed

a very consistent pattern of positive correlations. One could attempt to explain each result individually, but a more parsimonious explanation is in order given the consistent pattern. By definition, support exchange is an emotional experience and it is unlikely that such behavior is considered to be affectively neutral. Thus it really is not surprising that emotion expressed during social interactions was related to emotion felt at the end of the day. Another way to view the results is to consider supportive interactions as an exchange of feelings, thus one engages in supportive interactions when one is feeling "up" or "down" or is engaged by others who feel emotional. One must also keep in mind that both measures (support and affect) were indices averaged over a two-week period so these are representative summaries of individuals' level of affect and support as opposed to precise temporal relationships. A more temporal-specific analysis may show different relationships between these variables.

The positive correlations held constant across interaction composition, thus, sex of cointeractant appeared to have minimal effects on the relationship between the variables. Even though the pattern was quite consistent there were two noteworthy differences. For males, positive affect and need for support were not related. This finding may be due to males' greater orientation towards autonomy. Needing support is incompatible with independence and it follows that such need would not be related to feeling good for males. One may argue that it should be negatively correlated. However, it is a very human quality to need others and be affiliative, so for males needing support might sometimes make them feel good and sometimes not.

The other deviation from the pattern of results was the generally null relationship for difficulty and affect. Difficulty is perhaps seen as a skill more so than an emotion and is a skill irrelevant to the general emotional character of an interaction. Given that interactions are not comprised of support alone then any difficulty with support provision is not necessarily a social skills deficit and thus is affectively neutral.

Overall, the findings suggest that experienced emotions are related to emotional interactions, regardless of one's sex or level of emotional intensity, regardless of the emotional components of the interaction, and regardless of the valence of the emotion.

### Conclusions

The main objectives in this research were to examine sex differences in the exchange of emotional support and to examine the reciprocity of support exchange. These objectives came about by conceptualizing social support as a component of social interaction. As the results clearly show, both sex and reciprocity are major factors in the exchange of support. These findings are of interest to research psychologists and students of social interaction. However, these results take on a greater significance when one considers how they should direct future research.

Much substantive work has been done on the relationship between social interaction/social support and well-being (see reviews by Cohen & Wills, 1985; and Levy, 1983). The argument here is that our research paradigms must be broadened in scope if we are to fully understand the complex relationship between these variables. The research has shown

that the receipt of support is positively related to well-being (e.g. Cohen & Wills, 1985), however, some (e.g. Antonucci, 1985) have cautioned about the costs of receiving help and the costs associated with other aspects of social interaction, such as intimacy (Clark & Reis, 1988; Hatfield, 1984). Moreover, a recent article in *Psychology Today* (Luks, 1988) discusses the benefits of helping others, while others have discussed the costs of helping others (Kessler, McLeod, & Wethington, 1985). The costs of social interaction and the provision of support have been neglected areas in research on both social interaction and social support. The present results showed that provision of support is just as relevant to a social interaction as is the receipt of support. Moreover, there were many sex differences in the present findings, and relationships between social interaction measures and some indices of well-being are differentiated by sex (e.g. Sarason, Shearin, Pierce, & Sarason, 1987). In sum, sex and exchange are essential factors in social interaction and support and they should be included as factors in future research to more clearly understand how social interaction affects well-being. For example, females have consistently been shown to receive more support than have males, and support has consistently been shown to be positively related to well-being, yet females are less mentally healthy than are males, especially married females (e.g. Gove, 1973; Radloff, 1975; Striegel-Moore, Silberstein, & Rodin, 1986; Weissman & Klerman, 1977). Longitudinal work or cross-sectional work may explain how health and support are related, and how this relationship may differ for males and females. For instance, it may be the case that older females, who function in a different social

network than the present subjects, provide more support than they receive (to children and aged parents) and the excess provision of support is associated with poorer mental health.

The present work can be used to stimulate more applied work, as mentioned above, and clearly some experimental laboratory work needs to be conducted to examine the potential perceptual and expectancy issues which arose in these results. Obviously the present work has some shortcomings, the greatest of which is the sample. The results apply to young incoming freshmen and may not be comparable with research investigating the social exchange among older settled individuals, given that the social network would undergo dramatic changes over time. This research requested subjects to describe instances of supportive interactions. As a result we do not know what specific behaviors are contained in those interactions. Also, the data were corrected for the number of interactions recorded, and it was these average measures that were correlated with each other and other variables. A different approach, such as calculating day by day correlations between social interaction and mood would provide more temporal-specific results and may increase our knowledge of how these variables are related in other ways.

The present project produced one hundred and fifty-four folders describing students social lives. The knowledge contained therein stands to challenge social support researchers to consider sex and exchange as factors affecting the results of their work.

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## APPENDICES

## APPENDIX A

## Rochester Interaction Record (RIR)

Date: \_\_\_\_\_ Day: \_\_\_\_\_ Time: \_\_\_\_\_ am \_\_\_\_\_ pm \_\_\_\_\_

Length: \_\_\_\_\_ hrs \_\_\_\_\_ mins

Initials: \_\_\_\_\_ If more than 3 others: # of females \_\_\_\_\_

Sex: \_\_\_\_\_ # of males \_\_\_\_\_

Support needed  
or desired: none 1 2 3 4 5 6 7 a lot

Support received: none 1 2 3 4 5 6 7 a lot

Intimacy: not at all 1 2 3 4 5 6 7 very intimate

Quality: unpleasant 1 2 3 4 5 6 7 very pleasant

Support provided: none 1 2 3 4 5 6 7 a lot

Difficulty: very easy 1 2 3 4 5 6 7 very difficult

Support other  
needed/desired: none 1 2 3 4 5 6 7 a lot

Nature: Work/Study Socializing Relaxing Life necessity Other

## APPENDIX B

## Personal Experience Form

Date: \_\_\_\_\_ Day: \_\_\_\_\_

Please fill in the circle for the number that best represents how you are feeling right now on the scale next to each item.

	* Happy	1	2	3	4	5	6	7
	# Depressed	1	2	3	4	5	6	7
1 = Not at all	* Joyful	1	2	3	4	5	6	7
2 = Very slight	# Unhappy	1	2	3	4	5	6	7
3 = Somewhat	* Pleased	1	2	3	4	5	6	7
4 = Moderate amount	* Aroused/Active	1	2	3	4	5	6	7
5 = Much	Sociable/Friendly	1	2	3	4	5	6	7
6 = Very much	@ Helpful	1	2	3	4	5	6	7
7 = Extremely much	@ Kind	1	2	3	4	5	6	7
	Selfish	1	2	3	4	5	6	7
	Lonely	1	2	3	4	5	6	7
	* Dominant	1	2	3	4	5	6	7
	* Enjoyment/Fun	1	2	3	4	5	6	7
	# Frustrated	1	2	3	4	5	6	7
	* Satisfied	1	2	3	4	5	6	7
	# Worried/Anxious	1	2	3	4	5	6	7
	* Anticipating/ Looking Forward to	1	2	3	4	5	6	7
	# Angry/Hostile	1	2	3	4	5	6	7
	* Self-confident	1	2	3	4	5	6	7

## APPENDIX B (CONT')

Dependent	1	2	3	4	5	6	7
@ Giving	1	2	3	4	5	6	7
@ Sympathetic	1	2	3	4	5	6	7
# Needy	1	2	3	4	5	6	7
Intimate	1	2	3	4	5	6	7

Note. \* = Positive affect items. # = Negative affect items.  
 @ = Altruistic items.

## APPENDIX C

## Instruction Booklet

Dear Student and Co-investigator:

Surprisingly, psychologists know very little about the nature of social activity. The purpose of this study is to uncover some facts about this area. One way to find out about people's social lives would be to sit down and ask them a series of questions about how active they are, who they see, etc. However, we don't believe that anyone could give a very accurate answer to those types of questions; it is simply too difficult to remember everything at once.

Therefore, in order to find out something about how people spend time with other people we have devised a simple record keeping technique, a diary of sorts. By obtaining information via this technique here and at other places in the country and abroad (so far there have been four other studies like this in the U.S., one in Canada, and one in Hong Kong), we hope to discover something about social needs and behaviors.

We must emphasize that the study can succeed only with your cooperation. The only other way to obtain the type of information this study will provide would be to follow a group of people 24 hours a day and write down all they did and then ask them questions about how they felt about what they did. Not to mention the impracticality of this approach, it is not hard to imagine the troubles this would cause!! This is why we addressed you both as a student and a co-investigator because we need you to investigate social interaction with us. You are a co-investigator in the sense that you are the creator, observer, and recorder of the data we need. This is a very unusual way to collect psychological information, but with your honesty and full cooperation, we know it will work.

So What do We Mean by Social Interaction?

By social interaction we mean a situation in which two or more people are responding to one another. A conversation is the clearest example of an interaction. Person A says something, Person B responds, Person A responds to that response, and so forth. Dancing and love-making are also interactions. In other words you do not have to speak to the other person(s) to interact with them. Sitting side-by-side and watching television is not an interaction. Listening to a lecture is not an interaction, even if you occasionally ask a question. We include the reading and writing of letters as instances of interactions.

## APPENDIX C (CONT')

Based on previous research, we have found that we can get accurate and informative data about people's social lives by asking them to describe the social contacts they have had each day which last ten minutes or longer. Ten minutes is a good minimum for it gives us a reasonable summary of the meaningful social events in a person's day and does not cause the record keeping to be particularly difficult or troublesome. If we were to ask people to record every time they spoke with anybody their records would be cluttered with a good deal of nonsense and also probably be somewhat inaccurate.

Let's take a difficult example of a social interaction. Suppose you are dining at the cafeteria in the presence of a group of people. You are listening to their conversation but seldom say anything yourself. Do you record this as a social interaction? We think it is a social interaction if you are following the conversation and you could enter into it if you wished. If you are not following the conversation or if it would be inappropriate for you to enter it, it would not be counted as a social interaction.

Now let's take some more difficult examples. For instance, you are with a friend Debbie for 25 minutes, walking around campus. You are joined by a friend John who talks to you both for 15 minutes and then leaves. You and Debbie continue walking and talking for another 20 minutes. This sequence of events should be recorded as three separate interactions - one with Debbie for 25 minutes; a second with Debbie and John for 15 minutes and a third with Debbie for 20 minutes. If you had not met John you probably would have recorded the event as one interaction of an hour in length. Another example might involve you and a friend Mike who go out to eat together and then decide to go and play some pool. On the way home you decide to stop by the ice-cream store and spend half an hour in there. If the quality of your interaction with Mike did not change over the course of the evening then you may record this event as one interaction. On the other hand, if Mike was upset about something and discussed this with you over dinner, but cheered up by the time you started playing pool, you may record two separate interactions. Moreover, if the quality of the interaction changed when you went to get ice-cream, you may record three interactions.

We should point out that you don't have to know the people you are with to have a social interaction. As an example, if you talk to a stranger at a bus stop for ten minutes or more, that would be a social interaction.

## APPENDIX C (CONT')

At this point you have probably gathered that we have set no hard and fast rules about what is, and is not, an interaction and when an interaction changes substance and when it doesn't. We are interested in your impressions of your lives and therefore how you describe it is precisely the way we want it described. Many ambiguities will arise as you record what goes on around you. Strive to be objective, but when in doubt follow your own impressions, however subjective you think they may be.

At the end of the record keeping period we'll request some additional background information. All the information that you provide us will be held in the strictest confidence. At no point in time will your name ever be used in a data analysis. We ask for your name only so that we can more easily sort your data and keep things organized. All the data will be analyzed anonymously via the computer. At any time during the study you may ask us any questions you desire and we will attempt to answer them as completely as we can. At the completion of the study you will be given the option of receiving a copy of the results if you so wish, however, in keeping with our policy of confidentiality, we cannot release individual results.

Thank you for your cooperation.

If any difficulties or questions arise you can call any time.  
Linda Sullivan 353-3935 (office) 339-9775 (home)  
436 Baker Hall

Experimental assistant:

## GUIDELINES FOR SOCIAL INTERACTION

We would like you to record every interaction of ten minutes or more in length, for a period of two weeks. An interaction is defined as any situation involving 2 or more people in which the behavior of each person is in response to the behavior of the other person. A conversation is the clearest example of an interaction, but merely being in the presence of another, like watching TV and not talking to or touching the person next to you, is not an interaction. Whether you are on campus or not, whatever you are doing, keep the record. Make sure to record any phone calls lasting longer than 10 minutes. You do not have to be face-to-face to interact with someone. The more consistent and reliable your recording is the more valid our inferences about the data become. It is most important that you keep the record everyday, all the time. The only exception to this is class time. Do not record your class meetings as interactions.

## APPENDIX C (CONT')

Participants in other studies have found it useful to update the record in the afternoon, sometime in the evening, and before they retire. Regardless, you need to update your record every day. The entire study depends on your cooperation in keeping these records. Even if you feel that a certain day was completely routine with nothing out of the ordinary, record your interactions. If you have lunch with the same people every day, record it every day. If you forget to complete your records on a certain day, don't try to remember, simply skip that day.

We understand, however, that there may be times when you cannot carry the forms with you or you may not have the opportunity to fill out the interaction records immediately. In this case, we have designed a single "scratch" sheet for you to note the initials of the people with whom you have interacted. The sheet will serve as a memory jog when you get the chance to fill in the detailed log later.

Do not be dissuaded by the lengthy description of the diary - the diary itself takes approximately 1 minute to complete. We have included the following guidelines in case any questions arise. Read them over, make sure you understand them and go to it!!

**DATE:** Always record the month and day (e.g., Nov 12 = 11/12) when the interaction occurred. Do not put down the date only on every other interaction or only on the first interaction of the day.

**DAY:** Write down the day of the week.

**TIME:** Write down the time the interaction started and check a.m. or p.m.

**LENGTH:** Record how long the interaction lasted in hours and minutes.

**INITIALS:** Record the initials of the other people in the interaction. If two people have the same initials distinguish them with a middle initial (if you know it) or the second letter of their last name. As an example, if you list Jack Kramer as J.K. then James Kennedy would be J.K.E. The most important thing is to be consistent. Once you describe James Kennedy as JKE always do that, otherwise we will have no idea whom certain initials represent. If you do not know a certain person's name, put two question marks for their initials. If you know one initial but not the other, put down the one you know and put a question mark for the other. If you happen to find out a person's name after you have represented them with question marks, change the "?"s. Be certain to change only those question marks which you are certain represent the person whose name you just found out.

## APPENDIX C (CONT')

**SEX:** In the space provided on the record sheet, write F (for female) or M (for male) to describe the sex of the person(s) with whom you interacted, under their initials.

**IF MORE THAN 3 OTHERS:** There are only spaces for three sets of initials. If you are interacting with more than three others, do not put down any initials. Instead, indicate the number of males and the number of females in the appropriate blank. Do not, of course, count yourself in this measure. If you are unsure of the number of people, or if it varied, give the best estimate you can.

## GUIDELINES FOR THE PERSONAL EXPERIENCE FORM

Before you retire for the evening put the day and date on the Personal Experiences Form and then use the rating scale to report how you are feeling right at that moment.

For all of the following, circle only one number.

**SUPPORT NEEDED OR DESIRED:** Circle a number to indicate the extent to which you needed or desired to feel loved, accepted, or cared about: or the extent to which you needed or desired to feel that you were valued, trusted, respected, or held in esteem. This could be conceptualized as needing or desiring to feel good or feel better (if you feel down). The need refers to the time of the interaction not a feeling that you had in retrospect.

**SUPPORT RECEIVED:** Circle a number to indicate the extent to which you received support as defined above.

**INTIMACY:** Circle a number to indicate the degree of closeness you felt in the interaction. Intimacy may be physical or sexual, but it does not have to be. For example, circle a 1 if the interaction was not at all close e.g., you chatted about the weather. Circle a 7 if the interaction was very close e.g you spoke about something very personal. Circle a 4 if the interaction was close, e.g., talking to your roommate about a family matter.

**QUALITY:** Circle a number to indicate how pleasant the interaction was. Circle a 1 if the interaction was unpleasant or unenjoyable.

Circle a 2 if the interaction was slightly unpleasant.

Circle a 3 if the interaction was pleasant.

Circle a 4 if the interaction was between pleasant and quite pleasant.

Circle a 5 if the interaction was quite pleasant.

Circle a 6 if the interaction was between quite pleasant and very pleasant.

Circle a 7 if the interaction was very pleasant.

## APPENDIX C (CONT')

**SUPPORT PROVIDED:** Circle a number to represent the extent to which you provided support, as defined above, to the other(s).

**DIFFICULTY:** If you provided support to the other(s) circle a number to indicate the extent to which you felt uncomfortable, tense, or unconfident in any way, in providing support. If you did not provide any support then leave this item blank.

Circle a 1 if it was very easy.

Circle a 2 if it was somewhat easy.

Circle a 3 if it was slightly easy.

Circle a 4 if it was neither easy nor difficult.

Circle a 5 if it was slightly difficult.

Circle a 6 if it was somewhat difficult.

Circle a 7 if it was very difficult.

**SUPPORT OTHER NEEDED OR DESIRED:** Circle a number to indicate the extent to which you felt the other(s) needed support, as defined above.

**NATURE:** Circle a word that indicates the primary nature of what you did during the interaction. Circle one and only one word. Some interactions are difficult to classify, but try to base your decision on the predominate theme of the interaction, and be consistent.

1. **WORK/STUDY:** any obligatory activity for which you are paid or activity such as student volunteer on committees, and study time.

2. **SOCIALIZING:** any activity in which the main focus is to be with other people such as talking or having dinner together.

3. **RELAXATION:** any activity in which the main focus is on doing a task, such as playing sports or spending time at a hobby.

4. **LIFE NECESSITY:** any activity that you have to do. For instance going to pick up mail, running errands, eating lunch or dinner and so on.

5. **OTHER:** none of the above.

## APPENDIX D

## Verbatim Script

The purpose of this meeting is to describe what your participation will involve should you decide to take part in this study. The study is designed to uncover some facts about people's social lives. Surprisingly, psychologists know very little about the nature of social interaction. You might be wondering what we mean by social interaction. A social interaction is any situation in which two or more people are responding to one another. A conversation is the clearest example of an interaction. Person A says something, Person B responds, Person A responds to that response and so on. Sitting side by side watching TV is not an interaction, nor is listening to a lecture.

In order to gain a greater understanding of social interaction we could approach the topic from a few directions. For instance, we could interview you and ask you questions about your social activity. However, it is unlikely that you could accurately describe the quantity and quality of your social life in an interview.

We could also follow you around and write down how often you spent time talking to other people and ask you questions about how you felt when you interacted with these people. This approach would be very impractical if not impossible.

However, we will use a technique which, in previous research, has been shown to provide accurate descriptions of people's social interactions. There have been a few other studies like this conducted in the U.S. Basically, this technique involves you, as participants, completing daily records of your social interactions which last 10 minutes or longer. This involves recording the length of the interaction, the number of people you were with, and a few rating scales on which you rate how you feel about the interaction. It takes about a minute to complete each record. These records are not too difficult to complete and we would like you to complete them for a period of two weeks. Don't be put off by the idea of doing this for 2 weeks, even if you have 10 interactions per day this is only 10 minutes of recording.

Before I describe the interaction record in detail and provide you with some examples of social interactions, I must stress that the entire study depends on your honesty and full cooperation. If you are not honest we cannot make valid inferences about the data. Your honesty and cooperation are essential to the study because you are not only subjects in this study - you are co-investigators in the sense that you are creating, observing, and recording the data we need. The data you give us are kept in the strictest confidence. The only reason we need your name is for organizational purposes. Your name is never used in a data analysis. We enter the data anonymously and the results are

## APPENDIX D (CONT')

reported as aggregates. At no point of the process will you, as an individual, ever be identified. We want the project to take place in an atmosphere of trust. We will respect your confidentiality and we hope that you will be honest and cooperative with us.

So let me describe the diary and a few examples of social interaction to you [materials are administered; repeat what a social interaction is, and describe the diary examples being explicit about each scale].

Now at the end of the day there is another measure we would like you to complete. It is very short. It is called the Personal Reaction Form (hold up) and involves rating how you feel at the end of the day, i.e., at the time you are completing the form.

In a nutshell then we want you to describe your social experiences and how you felt on a daily basis.

We would like you to read over the instructions right now to make sure you understand them. ANY QUESTIONS? O.K. begin your recording tomorrow. You will receive 8 credits for your participation. During the week, (assistant's name) will call you to see if all is going well with the record keeping. You will be called again in the second week to arrange a meeting during which you will complete a post-experimental questionnaire booklet which includes questions about your reactions to the study. This meeting will take about an hour and at the end you will be given your credits. You can turn in your completed records at this meeting. We have rooms scheduled for this meeting. We would like you to attend the session on \_\_\_\_\_. If not, we have other times.

If you have any questions at any time of the study do not hesitate to call us. There will be extra materials on my door for anyone who needs them. If, for whatever reason, after hearing about what your participation involves you feel that you would not like to be a part of this study, that's fine. You will get one credit for coming to the meeting. If you would like to be a part of the study please read over the consent form being administered and sign your name. On the index card put your name and a phone number where we can reach you and a good time to call you. These index cards are only used for the purposes of calling you to see how things are going and to arrange the last meeting. Look over the instruction booklet again, it has our names and numbers, and office location on it in case you need to call. Remember to begin your recording tomorrow and read your instruction booklet again. If you do not want to participate come up now and we'll stamp your card for one credit.

## APPENDIX E

## Information to Participants

We would like to take this opportunity to thank you very much for participating in this study. Your responses have made an important contribution to the study of social interaction and psychology in general.

As we told you at the beginning of the study, social psychologists do not know a great deal about social interaction. We will be using the responses of all the participants in this study to further investigate how patterns of social interaction affect other variables such as health and academic performance and how personality may affect these relationships.

The records you completed measured the exchange of support and the quality and intimacy of your interactions. We are interested in potential sex differences in these measures. Previous research has shown that females receive more support from others than do males. We expect to repeat this finding but we also have hypothesized that females will report providing more support than will males. We also expect, as previous research has shown that females will report more pleasure and intimacy with their interactions than will males.

Previous research has shown that the more support people receive the better off they are in terms of mental and physical health. In other words, someone who has many friends and supportive relationships is healthier than someone who doesn't have any friends or only non-supportive relationships. Our measures of health were some of the questionnaires in your booklet as well as the daily feelings list. Research has also shown that this relationship may depend on the level of stress an individual is experiencing. That is, it is not always the case that supportive relationships affect your health directly but that they act to buffer stress such that your friends reduce the negative affects that stress can have on your health. The measure of stress in this study was the daily hassles scale. We hope to repeat these findings but also investigate the affect that the provision of support may have on your health. Previous research suggests that providing support in excess of what you receive may adversely affect your health. We intend to use the data you provided to test this hypothesis.

## APPENDIX E (CONT')

We are also interested in how social interaction affects grades. For instance, previous research revealed that the more time males spent socializing the lower their GPA while the GPA of females was unaffected by the amount of time that females spent socializing. We hope to shed further light on this relationship by investigating various components of social interaction, such as support, thus giving us a more in-depth look at what may explain this sex difference.

The post-experimental questionnaire was designed to assess your reactions to maintaining the records and to get some background information as to what kind of person you are. The analyses of these data will allow us to see how various individual differences affect social interaction. We expect to replicate the findings of previous research showing that those who score high on the various measures of social orientation report receiving more support. We also expect that individuals high on the measure of emotional intensity would be more likely to provide and need emotional support than individuals low on emotional intensity.

You should also be aware that this method of data collection is not that common. Many studies of social interaction and social support use either questionnaires or interviews to assess the nature of people's social lives. Other researchers bring people into the lab and observe their interaction with another person. These are all valid ways of studying social interaction. The present method, however, is more naturalistic than these others in that you are recording the data as you go about your daily activities thus providing a more dynamic approach to the study of social interaction.

If you have any questions regarding your participation in the study you can call Linda Sullivan at 353-3934, 436 Baker Hall.

## APPENDIX F

## POST-EXPERIMENTAL INTERVIEW

Name:

Sex:

Hi my name is ---- etc. We would like to ask you a few questions about the experience of keeping the interaction records to get a more personal reaction to the experience. Your name was randomly chosen from the sign up sheet along with a number of others. Do you have a few minutes?

If no -- thank them anyway and try someone else.

(1) Did you have any difficulties using the diary to record your social interactions?

(2) About how many minutes did you spend each day recording your interactions?

\_\_\_\_\_minutes

(3) About how many minutes did you spend each day on the mood scales?

\_\_\_\_\_minutes for mood

(4) How many times per day did you update the records?

\_\_\_\_\_times                      When did you do so? (What time)

(5) How did you decide what a social interaction was, that is, what prompted you to make a recording?

(6) What situations or times made it difficult to make a recording?

(7) Did the % of interactions that lasted 10 minutes or more you did not record refer to entire missed days or did it refer to a few interactions missed everyday?

(8) Why didn't you record some interactions that lasted 10 minutes or longer? If they hesitate prompt them. E.g. "only recorded important interactions or long ones or couldn't remember". Be sure to find out why--no one said they recorded 100% so they all missed some.

## APPENDIX G

## NOMENCLATURE OF RIRAP VARIABLES

SEX, OVSSN, OVSSR, OVINT, OVQUAL, OVSSP, OVDIFF, OVSON, OVPD,  
 OVTPD, OVLEN, OVPER1, OVPER2, OVPER3, SLIST, OLIST,  
 GSSN, GSSR, GINT, GQUAL, GSSP, GDIFF, GSON, GPD, GTPD, GLEN, GPCT,  
 SSSN, SSSR, SINT, SQUAL, SSSP, SDIFF, SSON, SPD, STPD, SLEN, SPCT, SPER1,  
 SPER2, SPER3,  
 OSSN, OSSR, OINT, OQUAL, OSSP, ODIFF, OSON, OPD, OTPD, OLEN, OPCT, OPER1,  
 OPER2, OPER3,  
 MSSN, MSSR, MINT, MQUAL, MSSP, MDIFF, MSON, MPD, MTPD, MLEN, MPCT, MPER1,  
 MPER2, MPER3,  
 SFSSN, SFSSR, SFINT, SFQUAL, SFSSP, SFDIFF, SFSON, SFPD, SFTPD, SFLEN, SFPCT,  
 SFBPCT, SFPER1, SFPER2, SFPER3,  
 OFSSN, OFSSR, OFINT, OFQUAL, OFSSP, OFDIFF, OFSON, OFPD, OFTPD, OFLEN, OFPCT,  
 OFBPCT, OFPER1, OFPER2, OFPER3,  
 S1SSN, S1SSR, S1INT, S1QUAL, S1SSP, S1DIFF, S1SON, S1PD, S1TPD, S1LEN, S1PCT,  
 S1BPCT, S1PER1, S1PER2, S1PER3,  
 S2SSN, S2SSR, S2INT, S2QUAL, S2SSP, S2DIFF, S2SON, S2PD, S2TPD, S2LEN, S2PCT,  
 S2BPCT, S2PER1, S2PER2, S2PER3,  
 S3SSN, S3SSR, S3INT, S3QUAL, S3SSP, S3DIFF, S3SON, S3PD, S3TPD, S3LEN, S3PCT,  
 S3BPCT, S3PER1, S3PER2, S3PER3,  
 O1SSN, O1SSR, O1INT, O1QUAL, O1SSP, O1DIFF, O1SON, O1PD, O1TPD, O1LEN, O1PCT,  
 O1BPCT, O1PER1, O1PER2, O1PER3,  
 O2SSN, O2SSR, O2INT, O2QUAL, O2SSP, O2DIFF, O2SON, O2PD, O2TPD, O2LEN, O2PCT,  
 O2BPCT, O2PER1, O2PER2, O2PER3,  
 O3SSN, O3SSR, O3INT, O3QUAL, O3SSP, O3DIFF, O3SON, O3PD, O3TPD, O3LEN, O3PCT,  
 O3BPCT, O3PER1, O3PER2, O3PER3,  
 STSSN, STSSR, STINT, STQUAL, STSSP, STDIFF, STSON, STPD, STTPD, STLEN, STPCT,  
 STBPCT, STPER1, STPER2, STPER3,  
 OTSSN, OTSSR, OTINT, OTQUAL, OTSSP, OTDIFF, OTSON, OTPD, OTTPD, OTLEN, OTPCT,  
 OTBPCT, OTPER1, OTPER2, OTPER3,  
 OVWRK, OVSOC, OVREL, OVLIF, OVOTH, GWRK, GSOC, GREL, GLIF, GOTH,  
 GPER05, GPER10, GPER15, GPER20, GPER25, GPER30, GPER35,  
 SWRK, SSOC, SREL, SLIF, SOTH, OWRK, OSOC, OREL, OLIF, OOTH,  
 MWRK, MSOC, MREL, MLIF, MOTH,  
 SFWRK, SFSOC, SFREL, SFLIF, SFOTH, OFWRK, OFSOC, OFREL, OFLIF, OFOTH,  
 STWRK, STSOC, STREL, STLIF, STOTH, OTWRK, OTSOC, OTREL, OTLIF, OTOTH,  
 S1WRK, S1SOC, S1REL, S1LIF, S1OTH, S2WRK, S2SOC, S2REL, S2LIF, S2OTH,  
 S3WRK, S3SOC, S3REL, S3LIF, S3OTH, O1WRK, O1SOC, O1REL, O1LIF, O1OTH,  
 O2WRK, O2SOC, O2REL, O2LIF, O2OTH, O3WRK, O3SOC, O3REL, O3LIF, O3OTH,

## APPENDIX G CONT'

## DESCRIPTION OF RIRAP VARIABLES

The first part of an index name indicates what group of behaviors was used to calculate the index and the second part indicates what aspect of those behaviors the index represents. Indices beginning with OV represent overall (or all) interactions, including group interactions. Those beginning with G represent group interactions, that is, those interactions where more than three people were present. Interactions that included only same sex others are represented by indices beginning with S, opposite sex only with an O, and those of mixed sex composition with M. All of these three include appropriately composed group interactions. Interactions that included any of the three most frequent same sex initials are represented by indices beginning with SF, with the corresponding opposite sex summaries beginning with OF. Interactions in which the most frequent same sex interactant was present are represented by indices beginning with S1, those in which the second most frequent same sex interactant was present are represented by variables beginning with S2, and the third with S3; with corresponding indices for the three most frequent opposite sex interactants. The last prefixes are ST and OT and these indices represent interactions with same and opposite sex (respectively) individuals who were not among the three most frequently mentioned interactants. These may be considered to be acquaintances or strangers. Because no initials are recorded for group interactions, group interactions are not included in calculation of the SF, OF, S1-3, O1-3, ST and OT indices.

The second part of each index name indicates what quantity was used to calculate the index. The various scales used on the RIR are represented rather clearly: SSN, social support needed; SSR, social support received; QUAL, quality; INT, intimacy; SSP, social support provided; DIFF, difficulty of providing social support; SON, perception of others' need for social support. All of these indices are simple averages of all the valid values for a variable within a class of interactions. So, for example, OVINT, is the average intimacy across all of the interactions reported by a diary keeper, whereas S1INT is the average intimacy across only those interactions in which the most frequently appearing same sex initial was recorded. The index suffix PD represents per-day, and stands for the average number of interactions of a certain type that were recorded for each day the RIR was maintained. Therefore, OPD is the average number of opposite sex interactions recorded each day by a particular diary keeper. Similarly, the suffix TPD represents time per-day and stands for the average amount of time spent in interactions of a certain type. For example, SFTPD, represents the average amount of time a diary keeper spent per day in interactions that included at least one of his or her three closest friends.

## APPENDIX G CONT'

Most of the other index suffixes represent percentage breakdowns of different kinds. The most common of these are the PER1, PER2, PER3 suffixes, and they stand for the percent of interactions of a certain type in which one, two, or three people were represented as being present. Therefore, SPER1 represents the percent of all same sex interactions in which only one other person was recorded as present. The second major percentage breakdown is represented by the PCT indices, and they stand for the percent of all interactions that fell into a certain category. The SPCT, OPCT, MPCT, and GPCT use the total number of all interactions as a denominator. Therefore, MPCT is the percent of a participants's interactions that were mixed sex in composition. However, the friendship percent indices, SF, OF, S1-3, O1-3, ST, and OT, use only the total number of non-group interactions in the denominator. Group interactions were not included in these denominators because individual interactants are not recorded for group interactions and it would be misleading to count an event in a denominator that could not be counted in the numerator. A similar set of indices are the BPCT indices. These percents use the same numerator as the PCT indices, but use a slightly different denominator. For the same sex BPCT indices the denominator is all non-group interactions minus opposite sex non-group interactions, while for the opposite sex indices it is all minus same sex. The rationale for these additional indices was that since a same sex person could not be present in an opposite sex interaction, such events should not be included in the denominator and vice versa for opposite sex. In essence, the BPCT indices are the PCT indices adjusted for relative differences in the amount of same and opposite sex contact that has been reported. As an example, O2PCT is the percent of all non-group interactions in which the number two opposite sex set of initials appeared, whereas O2BPCT is the percent of opposite and mixed sex non-group interactions in which this person appeared. The third major percent breakdown represents the nature categorical scale used on the RIR: WRK, work; SOC, socializing; REL, relaxation; LIF, life necessity, and OTH, other. Denominators used to compute these percents are the totals of different behaviors of a certain type of interaction. For example, SREL is the percent of all same sex interactions that were recorded as being relaxation.

The only two groups of indices not covered by the previous description were LIST and GPER sets. The SLIST index represents the number of different same sex individuals recorded per day in all of a diary keepers' interactions and OLIST represents the corresponding opposite sex figure. The GPER05 index represents the percent of group interactions recorded as having up to 5 others present, GPER10 is the percent of group interactions with 6-10 others, etc.

## FOOTNOTES

1 For example, some subjects reported recording only important interactions, others recorded only a small percentage of their interactions, and others made consistent errors of omission such as not recording any interactions with their roommate.

2 Ten minutes was chosen as a minimum length so as to capture as much as possible of an individual's social life without rendering the recording overburdensome or trivial. Further, a pretesting session conducted with 36 females and 18 males revealed that the average length of an interaction that was considered to be supportive was considerably longer than ten minutes (females,  $M = 38.94$ ,  $SD = 36.31$ ; Males,  $M = 58.56$ ,  $SD = 79.82$ ;  $t(1,52) = -1.25$ ,  $p = n.s.$ ). Thus, the ten-minute minimum was considered to be appropriate.

### 3 Accuracy of and Reactions towards Recording

On the post-experimental questionnaire and interview, subjects were asked about the experience of maintaining the records. T-tests revealed some differences between males and females on these measures. All items were responded to on a 7-point scale (1 = not at all; 7 = extremely) unless otherwise indicated.

1. Was it difficult to maintain the records?  $T(1,122) = -2.26$ ,  $p < .05$  (females  $M = 3.01$ , males  $M = 3.59$ ).

2. Were your records accurate?  $T(1,121) = 3.01$ ,  $p < .01$  (females  $M = 5.72$ , males  $M = 5.28$ ).

3. Was maintaining the records time consuming? Females  $M = 3.36$ , males  $M = 3.63$ ;  $p = n.s.$

4. Did maintaining the records interfere with your daily events? Females  $M = 2.35$ , males  $M = 2.61$ ;  $p = n.s.$

5. How interesting did you find this research project? Females  $M = 4.72$ , males  $M = 4.39$ ;  $p = n.s.$

6. Percentage of interactions, lasting ten minutes or longer, that were not recorded? Females  $M = 16.03$ , males  $M = 17.91$ ;  $p = n.s.$

7. Minutes per day spent recording interactions? Females  $M = 13.87$ , males  $M = 12.06$ ;  $p = n.s.$

8. Minutes per day spent recording feelings? Females  $M = 3.73$ , males  $M = 3.81$ ;  $p = n.s.$

9. Times per day that interaction records were updated? Females  $M = 1.81$ , males  $M = 1.95$ ;  $p = n.s.$

Subjects were asked if maintaining the records drew attention to any aspect of their daily behavior and/or changed that behavior. Twenty-eight females and eighteen males responded to this question. The responses constituted "a mixed bag" of reactions, ranging from some negative "... created anxiety to keep up to date, did not look forward to filling out sheets, made end of day annoying" through the generally more positive "it drew my attention to the people I was spending most of my

## FOOTNOTES (CONT')

time with and how happy I was with that time" and the enlightening "it made me realize that approximately 75% of my social interactions were with females" to the encouraging "the questionnaire that asks for a response at the end of the day about how much we felt a certain emotion, such as happy, needy or depressed, seemed very useful. Even after this project was finished I still asked myself how I felt about several emotional inside characteristics before I went to sleep".

Subjects who were randomly selected for interviews were asked if they had any specific difficulty with their recordings. Very few did, and of those who did, the amount of time spent recording was most often mentioned. These subjects were also asked what times created difficulty with recordings. Most subjects mentioned the weekends as the most problematic of times due to increased nighttime activity.

4 Due to a coding error at the level of program input it was decided to exclude four subjects from analyses that involved the various levels of friendship. The exclusion of these subjects did not affect the pattern of results. They were included in analyses presented in subsequent sections.

5 The 24 ratings were factor analyzed by the principal components method followed by varimax rotation. Reliability analyses were then conducted on the emergent factors. The results of these analyses revealed that the 'dependent' and 'selfish' items did not load substantially on any factor and greatly reduced the alpha coefficient of any scale they were entered into. Upon reviewing the remaining items it was decided that the 'social,' 'intimate,' and 'lonely' items would create overlap of measurement when entered into any analyses with the social variables. It was therefore decided upon to drop these five variables from analyses. The factor analyses were then rerun on the remaining 19 items.