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An Evolutionary-Psychological Interpretation of Self-Esteem

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AN EVOLUTIONARY-PSYCHOLOGICAL

INTERPRETATION OF SELF-ESTEEM

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A Thesis

Presented to

The Faculty of the Department of Psychology

The College of William & Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts
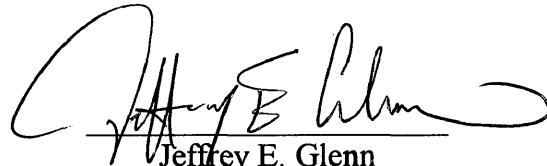
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by

Jeffrey E. Glenn

1998

APPROVAL SHEET

This thesis is submitted in partial fulfillment of

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ABSTRACT

Leary and colleagues (1995) propose that self-esteem evolved as a sociometer to monitor social exclusion. An evolutionary analysis however, suggests that is too domain-general and that their model of self-esteem should be more domain-specific. Two studies were conducted. These were modeled after two of Leary et al.'s studies but included additional manipulations designed to show that self-esteem is a more complex phenomenon. Results showed that the effects of social exclusion on self-esteem were moderated by several variables, including characteristics of the person and of the person by whom one is being rejected.

AN EVOLUTIONARY-PSYCHOLOGICAL

INTERPRETATION OF SELF-ESTEEM

Introduction

The psychological literature on self-esteem is vast. Leary, Tambor, Terdal, & Downs (1995) note that the role of self-esteem has been implicated in a number of diverse phenomena, including self-handicapping (Jones & Berglas, 1978), depression and anxiety (Rehm, 1988), paranoid delusions (Zigler & Glick, 1988), social comparison, (Festinger, 1954; Morse & Gergen, 1970), and in-group/out-group perceptions (Crocker, Thompson, McGraw & Ingerman, 1987). High self-esteem has been found to correlate positively with identity achievement (Marcia, 1966), lack of susceptibility to the influence of others (Cohen, 1960), optimism, and confidence in one's abilities and goal-achievement (Coopersmith, 1967). Leary et al. note that many emotional and behavioral problems have been attributed to low self-esteem, and many schools of psychotherapy have focused on the patient's feelings about himself or herself (Adler, 1930; Allport, 1937; Bednar, Wells & Person, 1989; Horney, 1937; Maslow, 1968; Rogers, 1959). Also, many scales have been developed to measure self-esteem (e.g., Beck, 1967; Helmreich & Stapp, 1974; Rosenberg, 1965).

Given that self-esteem is the explicit subject of so much research, and the implicit subject of even more, it is fair to say self-esteem is a topic of some importance in the field of psychology. Yet despite the enormous literature on self-esteem, few researchers have explored why we have self-esteem. It seems that most researchers have accepted self-esteem simply as a given. Leary et al. (1995, p. 518) note that psychology as a field "...has taken it for granted that people have a motive to protect their self-esteem without adequately addressing the question of why they should have such a motive or what function it might serve." In short, psychologists generally attempt to explain the "what" of self-esteem, but not the "why."

Leary et al. (1995) used an insightful analogy to illustrate the problem with the predominant view of self-esteem in the psychological community: Imagine a behavioral researcher from another planet observing Earthlings in their automobiles. Every time the gas gauge needle approaches "empty" humans behave in ways to push the needle back to "full." An alien researcher might conclude from this that humans behave as they do to keep the gas gauge at "full," when in fact, the reason for the behavior was to keep the car full of gas, so in turn, the car could keep running. Similarly, current psychological research assumes that the reason for much of human behavior is to keep our self-esteem gauges on "full", without asking what underlying human need our self-esteem gauge may actually be measuring.

A few researchers have tried to look past the monolith of self-esteem, in search of what lies beyond. Some theories have incorporated the idea of self-esteem serving some kind of evolved psychological function. Unfortunately, these researchers have applied evolutionary theory in inappropriate ways. Solomon, Greenberg and Pyszczynski (1991) proposed that fear of death drives human activity, and thus self-esteem works as a buffer against death-anxiety. They conducted a variety of experiments in which reminding participants of their mortality caused them to bolster their self-esteem in defense. Furthermore, when participants' self-esteem was bolstered first, they did not show increased anxiety to death-related stimuli. Baumeister (1995) pointed out that the main objection to the "terror management" approach to self-esteem is that the imminent threat of death is not a common enough danger to be behind all anxiety and all concern over self-esteem. Furthermore, Leary et al. (1995) point out that it is unclear why such a system for buffering individuals against fearing death would have developed, noting that developing anxiety around death-related stimuli

should be a highly adaptive trait. Thus, a psychological mechanism protecting individuals from that seemingly beneficial anxiety would be maladaptive.

The Sociometer Hypothesis

Leary et al. (1995) hypothesized that self-esteem functions as a monitor designed to help people avoid social exclusion. Leary and Downs (1995) argued that self-esteem functions as a sociometer that (a) monitors the social environment for cues indicating disapproval, rejection, or exclusion and (b) alerts the individual via negative affective reactions when such cues are detected. Accordingly, self-esteem serves as an indicator of the quality of one's social relations vis-à-vis inclusion and exclusion. Leary et al. argued that events that lower self-esteem are at a deeper level events that make social exclusion salient. Collective living during ancestral times would have been more adaptive than living in solitude. It would have brought increased protection from the elements and predators. It would have afforded individuals the opportunity to work with others to accomplish things they could not have done alone. Most importantly, it would have increased mating opportunities. Given all of these advantages, Leary et al. reasoned that humans who were ostracized by others during the course of human evolution were less likely to reproduce than those who lived with a group of humans. Based on this, they argued that humans developed psychological systems that..."motivated people to develop and maintain some minimum level of inclusion in social relationships and groups" (p. 520). When viewed from a sociometer approach, self-esteem is just such a mechanism.

In order to test their hypothesis about self-esteem functioning as a sociometer, Leary et al. (1995) conducted a series of empirical studies. In the first of these, participants rated how positively or

negatively they thought others would react to 16 behaviors that varied in social desirability (e.g., I lost my temper; I donated blood; I cheated on a final exam). After completing a series of unrelated distracter measures, participants also rated how positively or negatively they would feel about themselves if they carried out these 16 behaviors. The results showed that participants' reports of good or bad self-feelings after performing each of the 16 behaviors were highly correlated with their expectations of how positively or negatively others would respond to these behaviors. Leary et al. (1995) noted that these results were consistent with the hypothesis that self-esteem feelings serve as a internal index of the degree to which one's behavior is likely to result in inclusion versus exclusion by others.

Leary et al. (1995) concluded that one problem with their first study was that participants responded to hypothetical, rather than real, target behaviors. In the absence of direct experience, respondents may have relied on their personal assumptions about how people would react to such behaviors, rather than personal experience with how others react.

Study 2 therefore, examined the relationship between exclusion and self-esteem in situations that respondents had actually experienced. Participants were randomly assigned to write a paragraph about the last occasion when they were in social situation in which they experienced either a negative emotional response or a positive emotional response. Participants then rated how "included" or "excluded" they felt in the situation, and how they felt about themselves on the occasion they described. The results indicated that respondents' retrospective accounts of personal experiences showed a strong relationship between perceived exclusion and self-feelings. Leary et al. (1995) again interpreted these results as indicating that

an individual's self-esteem was influenced by their feelings of inclusion or exclusion.

In Study 3 and Study 4, Leary et al. (1995) examined the causal effect of exclusion on self-esteem. Both of these studies took place in a lab setting. In Study 3, participants were told they were part of a five-person group who would be completing a task. In this group, three members would work together and two would work separately. The study had a 2 X 2 factorial design. Participants were made to feel either included (told they would work with the three-person group) or excluded (told they would work alone). They were also told either that this assignment was made at random or that it was based on the preferences of the others in the experiment. After receiving their task assignments, participants completed a questionnaire rating how they felt about themselves using a set of adjectives drawn from McFarland and Ross' (1982) low and high self-esteem feelings factors (e.g., good versus bad; useful versus useless; etc.). Leary et al. found that individuals who believed they were included in the group on the basis of others' preferences felt no better about themselves than individuals who believed they were included by chance. However, respondents who thought they had been excluded because of the group's preferences rated themselves significantly more negatively than those who believed they had been randomly excluded. Leary et al. noted that this pattern of means strongly suggests that exclusion based on the rejection by others leads to negative self-feelings.

Leary et al.'s (1995) fourth study used a different empirical framework than Study 3, but similarly tested the hypothesis that social exclusion leads to lowered self-esteem. In Study 4, participants completed a twelve-item generic self-esteem measure in pretesting. In the experimental setting, participants provided information about

themselves via an intercom to an anonymous participant. Participants then received feedback, ostensibly from the participant to whom they had just introduced themselves, intended to connote acceptance or rejection. Alternatively, a third group of participants received no feedback. Participants then completed the same generic self-esteem measure they had completed in mass-testing. Leary et al. found that the self-feelings of those **participants** in the positive or no feedback conditions did not differ in the pretesting and experimental conditions. The self-feelings of those in the exclusion condition were significantly lower after the experimental session than they had been at pretesting. Leary et al. interpreted these findings as further support that social exclusion leads to reduced self-esteem.

Study 5 tested the hypothesis that individual differences in trait self-esteem should be related to individual differences in the extent to which people feel they are socially included versus excluded. Leary et al. (1995) asked participants to complete a measure of the extent to which individuals generally feel included vs. excluded (e.g., people often seek out my company.; I often feel like an outsider at social gatherings.) Participants also completed Rosenberg's (1965) Self-Esteem Scale. Finally, participants rated themselves on each of the thirteen items found by McFarland and Ross (1982) to load on a self-esteem feelings factor. Leary et al. found that exclusionary status was negatively correlated with each of their self-esteem measures, thus supporting their hypothesized link between social exclusion and self-esteem.

Evaluation and Extension of the Sociometer Hypothesis

Leary et al. (1995) rightly acknowledged that the current murky state of the self-esteem literature is a significant problem for psychology. Moreover, they accurately pointed out that it is not only

the study of self-esteem per se that is important. Researchers must also begin to explore why self-esteem exists at all. Leary et al. correctly identified self-esteem as being rooted in social interaction. Furthermore, they were right to note that a sociometer should monitor rejection and exclusion more so than inclusion and acceptance. Despite all of these insights however, Leary et al.'s application of evolutionary theory to the sociometer model is problematic. To explain why this is so, it is necessary to give some background on the application of evolutionary theory to psychology.

According to evolutionary theory, the mind is made up of numerous specialized problem-solving mechanisms that are highly context sensitive. These mechanisms came into being as a result of the unique adaptive problems human ancestors faced while living in the African savanna 100,000 years ago. This early environment is referred to as the Environment of Evolutionary Adaptation (EEA). Such specialized mechanisms include a language acquisition device (Pinker & Bloom, 1992), mate preference mechanisms (Buss, 1989), sexual jealousy mechanisms (Wilson & Daly, 1992), and social contract algorithms (Cosmides, 1989), among many others (Tooby & Cosmides, 1992).

Humans in the EEA faced unique adaptive problems based on the different types of individuals they encountered. Kirkpatrick (1997) argued that being rejected by a potential short-term sex partner, long-term mate, sibling, parent, child, higher-status individual, lower-status individual, or peer would all pose different adaptive problems for an individual. The "group-acceptance detector" role Leary et al. (1995) ascribed to self-esteem is too generalized to map onto a domain-specific model of the mind because it does not differentiate among individuals within the generalized group.

Different kinds of interpersonal relationships involve fundamentally different adaptive problems (Daly, Salmon, & Wilson, 1997; Kirkpatrick, 1997). For example, relationships with mates involve several adaptive problems including selecting, attracting and retaining a desirable mate (Buss, 1992). Ellis (1997) and Wright (1994) argued that in terms of mate-value, self-esteem could serve to (a) determine one's self-assessed mate-value, and (b) to guide one's mating choices and preferences. Given the unique adaptive problems that mating presents, evolutionary theory would predict that there is a psychological mechanism, such as a mate-value sociometer, that is sensitive to rejection by potential mates. Such a mechanism would alert individuals via negative affective reactions to situations in which social exclusion is imminent.

Similarly, relationships with same-sex friends involve the adaptive problems of creating and maintaining coalitions and reciprocal alliances, as well as intrasexual competition for status and power. Being able to contribute to a coalition would have increased one's fitness in ancestral times. Again, evolutionary theory would predict that given these particular adaptive problems, there should be a specific mechanism, such as a coalitional sociometer, that is sensitive to exclusion by potential or actual coalitional partners and that is distinct from mechanisms that are sensitive to rejection by individuals such as mates or offspring.

It is also possible that there is some kind of in-group sociometer that would be similar in some respects to the generalized sociometer posited by Leary et al. (1995). Monitoring and maintaining one's in-group status presented at least two adaptive problems: (1) maintaining cooperative relationships with other group members for social exchange and mutual assistance; and (2) cooperative defense of

the in-group against out-groups. It would therefore be adaptive to know the popular sentiment of one's in-group was toward oneself because this would help one solve these adaptive problems. However, mechanisms designed to monitor acceptance or rejection by one's in-group would only be part of an array of mechanisms designed to monitor acceptance or rejection by other important people. It seems unlikely that this in-group status maintenance function is the most important function of self-esteem.

In summary, Leary et al. (1995) conceptualized the sociometer as a unitary construct designed to give feedback about how one is being perceived by a generalized "other." Evolutionary theory predicts there could be as many different types of sociometer as there are interpersonal relationships. Thus, self-esteem, which has generally been conceptualized as an undifferentiated trait (e.g., Jones & Berglas, 1978; Leary et al., 1995; Rosenberg, 1965), should in fact be made up of several discrete types of self-feelings, including mate-value self-esteem, coalitional self-esteem, in-group self-esteem, paternal self-esteem, and sibling self-esteem to name just a few.

Although it is likely that each of these different sociometers would have evolved to solve a particular adaptive problem, it is important to note that not all these adaptive problems are of comparable magnitude. Wright (1994) and Ellis (1997) noted that mate-value self-esteem can help guide prudent decision-making with regard to choosing mates. A mate-value sociometer would help solve the adaptive problems of (a) getting the highest quality mate attainable, while simultaneously (b) avoiding wasting effort on trying to attract unattainable mates. Thus, knowing one's own mate-value would greatly assist in deciding which potential mates to pursue. It is possible, therefore, that one's mate-value sociometer plays the most important

role in determining humans' self-feelings. In other words, self-esteem that serves as an index of the quality of one's relationships with a mate vis-à-vis inclusion and exclusion will lead to the most profound negative affective reactions when rejection cues are detected.

Although certainly important, coalitional membership will not likely be as central to one's reproductive success as successful mating. Similarly, determining acceptance by one's in-group likely has not placed as intensive selective pressure on the human psyche as selecting a good mate. Thus, coalitional and in-group self-esteem likely would not occupy as central a role in an individual's self-esteem repertoire. However, a psychological mechanism such as a coalitional sociometer should lead individuals to form more beneficial coalitions. Similarly, an in-group sociometer designed to monitor exclusion should lead to continued good-standing in one's in-group. Having high status is an important part of an individual's mate-value. Because these sociometers should lead individuals to maintain high status, they also will have an influence on an individual's mate-value. Therefore, I conceptualize Leary et al.'s (1995) sociometer as a device that is principally about one's self-assessed mate-value, with other secondary forms of self-esteem feeding into it. Thus, measures that are designed to assess self-esteem as a general construct may be cueing responses that are based primarily on participants' mate-value self-esteem.

The understanding of sex differences is a potential area in which an evolutionary approach promises to make unique contributions to the understanding of self-esteem. Men and women have different qualities that would have been particularly desirable to the opposite sex (Trivers, 1972). There is a sizable literature confirming that there are sex differences in mate preferences (e.g., Buss, 1988, 1989).

Therefore men and women may evaluate their own mate value based on different kinds of information. Buss (1992) noted that men who were capable of providing resources such as food and shelter to their offspring would have been valued by females. Conversely, women with child-bearing potential would have been valued by males (Buss, 1992). Therefore, there should be important sex differences in the factors that serve as rejection cues to a mate-value sociometer. Men's mate-value self-esteem should be more influenced than women's by factors such as their own status and possession of resources, while females mate-value self-esteem should be influenced more than men's by factors surrounding their physical appearance.

Overview of Present Research

The preceding discussion suggests that the Leary et al. (1995) model of self-esteem overlooks a number of important factors. While sensitivity to social exclusion is the function of self-esteem, the sociometer model proposed by Leary et al. treats social exclusion in too general a way. Because rejection by different kinds of individuals poses different adaptive problems (Kirkpatrick, 1997), the process of self-esteem may be moderated by important factors overlooked by the Leary et al. generic model. Thus, the results of the Leary et al. study may be potentially misleading, in the sense that the results may be very different depending on who the individuals doing the excluding are.

The purpose of the present research is to show that the impact that rejection has on an individual is a direct function of the kind of relationship an individual has, or could have, with the person who is rejecting him or her, specifically, an opposite-sex versus same-sex individual. I revised the first and fourth studies from Leary et al. (1995) in light of the domain-specific predictions made based on

evolutionary theory. The present studies differentiated among the various types of individuals who constitute the others by whom one is being accepted or rejected, individuals viewed in the Leary et al. studies as simply "others." Findings should indicate that the methods from Leary et al. (1995) produce different results depending on who participants believe to be accepting or rejecting them.

<center>Study 1</center>

Study 1 was designed to closely follow the Leary et al. (1995) Study 1. In the first Leary et al. study, participants first rated how positively or negatively they thought others would react to 16 different behaviors that varied in terms of social desirability, then rated how they would feel about themselves if they had carried out the same 16 behaviors. Leary et al. found that the two sets of ratings were positively correlated, indicating that self-esteem serves as an internal index of the degree to which one's behavior will lead to inclusion or exclusion.

In the present study, on the first questionnaire, or others'-evaluation item, participants rated how they thought specific individuals would feel about them if they carried out the same activities described, rather than how "other people" would feel. Specifically, individuals were asked to imagine how either an opposite-sex potential date or a same-sex potential friend would feel about them. On the second, self-evaluation item, participants rated how they would feel about themselves if they carried out the same activities described by Leary et al. in their first study. As with Study 1 from Leary et al., I predicted that these sets of ratings should be positively correlated.

The Leary et al. (1995) measure was designed to assess self-esteem as a general construct, certain behaviors from their original study would seem to be potential cues for a mate-value sociometer (e.g., I was

unfaithful to my boyfriend/girlfriend; I was voted best-looking in my class), whereas others would not (e.g., I took care of a friend's houseplants while she was out of town; I volunteered to donate blood). Thirteen additional behaviors were added to this measure, some of which were designed to asses mate-value self-esteem (e.g., I had a lot of previous sex partners; I came from a very wealthy family) while others were designed not to be mating-specific (e.g., I am a good listener; I can hold my liquor better than anyone I know).

I predicted that in any given situation, a participant's rating of how much a particular behavior will affect others' feelings about them will vary based on (a) who that other person is (i.e., same- versus opposite-sex), (b) what that particular behavior is, and, (c) the sex of the participant. For behaviors that serve as cues for a mate-value sociometer, I predicted that how an individual thinks a person of the opposite sex would react to a given behavior should correlate more highly with how that individual would feel about themselves if they carried out that behavior than will how they think a person of the same sex would react.

Furthermore, for cues to the mate-value sociometer, differences would be expected on at least some variables. As mentioned earlier, men tend to rate attractive physical appearance as an important quality in a mate, whereas women tend to rate status and resource potential as important qualities (Buss, 1992). On certain items the correlation of males' self-ratings with how they believe females would react to them should be higher than the correlation of females' self-ratings with how males would react to them (e.g., I came from a wealthy family). On other items, the correlation of females' self-ratings with how the believe males would react to them should be higher than the correlation of

males' self-ratings with how they believe females would react to them (e.g., I was voted best looking in my class).

Finally, individuals who are currently involved in a serious dating relationship were expected to differ from individuals who are not currently dating in the extent to which the feelings that an opposite-sex individual has toward them will affect their own perceived mate-value. Individuals who are in a relationship have an obvious cue as to their own mate-value, namely their significant other, which individuals who are not in a relationship do not have. Furthermore, individuals who are in a dating relationship are less likely to be interested in pursuing a new romantic relationship. For these reasons, they are less likely to be sensitive to rejection by an opposite-sex individual. Because mate-value was being assessed in the present study, it was necessary to hold constant the impact that rejection by an opposite-sex individual would have on self-feelings. The results that I am predicting for cues to the mate-value sociometer should be stronger in individuals who are currently not in a committed relationship as compared with those who are, because individuals who are not in a relationship should be more sensitive to rejection by opposite-sex individuals. Thus, only individuals in this study who were not currently involved in dating relationships were used in this study.

Method

Participants. Sixty-six male and 76 female undergraduate students served as participants to fulfill part of their introductory psychology research-participation requirement. Subjects were randomly chosen from among those respondents to a mass-testing questionnaire who identified themselves as not currently in a dating relationship.

Procedure. Participants completed two questionnaires that were part of a much longer instrument. Each questionnaire contained 13 items

take from the first study in Leary et. al (1995). Three of original 16 items from Leary et al. were omitted from both questionnaires because they produced near-zero correlations in the original study. The 13 remaining items varied in terms of social desirability (e.g., I cheated on a final exam; I saved a drowning child). Both questionnaires contained 13 additional items designed by the experimenter. These were intended to either serve as cues for a mate-value sociometer or coalitional sociometer.

The first questionnaire, or others'-evaluation measure, assessed how individuals thought another person would react to them if they carried out a series of behaviors (see Appendix A). This measure differed slightly from the first questionnaire used in the Leary et al. study. The Leary et al. others'-evaluation questionnaire asked respondents to indicate on a 5-point scale how they thought others would react to them if they to them if they had performed each behavior (1 = many people would reject or exclude me, 5 = many people would accept or include me). In the present study, the scale was changed to a 7-point scale that ranged from -3 (definitely reject or exclude) to 3 (definitely accept or include). Because many items were strongly socially desirable or undesirable, the smaller response scale could have resulted in very little variance in responses, and therefore smaller correlations. It was hoped that increasing the range of possible responses would increase the variance, thereby leading to stronger correlations.

The others'-evaluation questionnaire in the present study also differed from Leary et al. (1995) in terms of who respondents were asked to imagine reacting to them if they personally carried out a particular behavior. In the Leary et al. study, respondents rated how they thought unspecified "others" would react to them. In the present study,

respondents were randomly assigned to one of two conditions. Thirty-two male and 34 female participants were asked to imagine how a same-sex individual they had just met, who was a potential friend, would react to them if they knew they had carried out these behaviors. The remaining 34 males and 42 females were asked to imagine how an opposite-sex individual they had just met, who is a potential date, would react.

As in the Leary et al. (1995) study, the second questionnaire, or self-evaluation item, asked subjects to rate on four 7-point bipolar adjective scales how they would feel about themselves if they had performed each behavior (see Appendix B). The mean of subjects' ratings on these four adjectives were taken for each item; items were reverse scored so that higher ratings indicated more positive self-feelings.

The questionnaires were separated by several other measures that took approximately 30 minutes to complete. As in Leary et al. (1995), these measures were chosen simply as distracters rather than for any potential scientific contribution to the study. Half of the respondents were randomly assigned to complete the inclusion-exclusion ratings first, while the other half were assigned to complete the self-feeling ratings first.

Results and Discussion

For each of the 26 items on the self-evaluation item, responses on the four 7-point bipolar adjective scales (i.e., good-bad, proud-ashamed, valuable-worthless, happy-dejected) were averaged to create a mean self-evaluation score. If respondents did not respond to all four 7-point bipolar adjective scales for a given item, their self-evaluation score was the mean of those items to which they did respond. Each of the 26 four-item self-feeling scales demonstrated an adequate degree of interitem reliability, with Cronbach's alpha being greater than .70 for

each. These findings were comparable to those of Leary et al. (1995) for the 13 items used in their study.

Correlations were calculated between the others'-evaluation and self-evaluation questionnaires for each of the 26 items. Correlations were calculated separately within each of the sex (male versus female) and condition (opposite-sex other versus same-sex other) groups for Leary et al.'s (1995) original 13 items (see Table 1) as well as the 13 additional items created specifically for this study (see Table 2). As predicted, the self-other correlations for many variables appeared to differ substantially across the sex and experimental conditions.

The average correlations obtained in the present study across sex and experimental condition were similar to the correlations obtained by Leary et al. (1995) on ten of the 13 original items (see Table 3). This was determined by computing an average within-group correlation on the present data, then using Fisher's r to r-prime transformation, and finally, conducting a Z test to test for differences between the correlations from this study and those reported by Leary et al. (1995). This indicates that the present study successfully replicated their basic findings, thus indicating that the procedures followed in the present study had validity.

When comparing the correlations from the present study after they have been broken down by sex and experimental condition, it is evident that the correlations for some of these items vary considerably from column to column. As predicted, a more complex pattern of correlations is revealed when other conditions are taken into account. For example, on the variable, unfaithful (i.e., I was unfaithful to my boyfriend or girlfriend) it appears that how an opposite-sex person would feel about this behavior has a greater impact on how an individual would feel about themselves if they carried out this behavior than does how a same-sex

person would feel about this behavior. Thus, it would appear that this variable is cueing a mate-value sociometer. Conversely, for the variable, watered plants (i.e., I took care of a friend's houseplants while she was out of town) for both males and females, how a person of the same sex would perceive this behavior is highly correlated with how they would feel about themselves, while how a person of the opposite sex would perceive it is not. This would seem to suggest this variable possibly serves as a cue for a coalitional sociometer.

A similarly complex pattern of correlations can be observed for some of the new variables created specifically for this study in order to cue a mate-value sociometer and coalitional sociometer. For the variable stable history (i.e., I had a history of close, intimate relationships) how males believe the opposite sex would feel about this is highly correlated with how they would feel about themselves. For females, in contrast, this is not the case (Buss, 1992). It appears that this variable is cueing a sex-differentiated mate-value sociometer. For other variables such as share doughnuts (i.e., I brought in doughnuts to share with an early morning class), how an individual of the same sex would react seems important in determining how he or she would feel about that behavior for both men and women. This indicates that such a behavior may be cueing a friendship-related sociometer. Only men however, seem to feel that how a member of the opposite sex would feel would determine how they would feel about themselves. Perhaps this is because bringing in doughnuts is a behavior that indicates generosity: an important behavior for a male to have from a female perspective because it shows a willingness to share resources, but not necessarily an important behavior for a female to have from a male perspective.

To test the hypothesis that the correlations differed as a function of sex and experimental condition, I computed a general linear

model for each of the 26 items. As in Leary et al. (1995) the assumption in this study was that other people's perceptions of an individual influence that individual's self-esteem rather than vice-versa. Therefore, one of each of the 26 items on the self-evaluation item was used as the dependent variable in each of the analyses. In each model, the corresponding others'-evaluation item was included as an independent variable. The other independent variables included in each general linear model were sex of subject, experimental condition, the sex x condition interaction, and the interaction of the others'-evaluation item with each of these.

The tests of interest were the sex x other interaction, the experimental condition x other interaction, and the sex x experimental condition x other interaction, because they each test a hypothesis about how the relationship between responses on the self-evaluation item and the others'-evaluation item are moderated by sex and experimental condition. The sex x other interaction tested the degree to which there is a sex difference in the relationship between the self-evaluation and others'-evaluation measures. The sex x experimental condition interaction tested the degree to which the experimental condition influenced the relationship between the self-evaluation and others'-evaluation items. Finally, the sex x experimental condition x other interaction tested whether there was a sex x experimental condition interaction in the relationship between the self-evaluation and others'-evaluation items.

As seen in Table 1 and Table 2, for several variables, the sex x other interaction indicated that the other-self correlation was significantly greater among men than among women: stable history, $F(1, 131) = 5.33$; $p < .05$; raised money, $F(1, 134) = 4.82$; $p < .05$; crucial to win, $F(1, 134) = 3.93$; $p = .05$; and hold liquor, $F(1, 134) = 5.13$; p

< .05. There were no variables in which the self-other correlation was significantly greater among women than among men.

It was predicted that there would be sex differences on some items, specifically those designed to cue for mate-value self-esteem. The findings indicate that males' self-feelings about having a history of stable, intimate relationships are highly correlated with how they believe others perceive this trait. These findings support this prediction. Females tend to value males who are interested in committing to a relationship (Buss, 1992).

It is also interesting to note that all of the significant sex differences come out in favor of men having higher correlations. This appears to support the hypothesis that Leary et al. were mistaken in assuming that the sociometer functions the same for both sexes. It appears that males' self-feelings are more strongly influenced by how they think others view their behavior than are women's self-feelings. Such a finding could be consistent with an evolutionary hypothesis about the reasons for self-esteem in that ancestral males would have competed more amongst themselves for status and, ultimately, access to mates. This raises serious questions as to the efficacy of the Leary et al. (1995) interpretation of the sociometer as a mechanism for measuring some kind of generic social exclusion. If this is indeed the case, it is not clear why it would function to a greater extent in men than in women.

The sex x other interaction tested the hypothesis that the correlations between the self-evaluation items and the others'-evaluation items would differ as a result of whether participants were in the same-sex or opposite-sex condition. For several variables the same-sex experimental condition was found to have higher correlations than the opposite-sex condition: donated kidney, $F(1, 134) = 13.276$; $p <$

.05); <u>wealthy family</u>, $F(1, 134) = 3.77$; $p = .05$; and <u>poor evaluation</u>, $F(1, 134) = 5.54$; $p < .05$.

In contrast, individuals in the opposite-sex experimental condition were found to have higher correlations than individuals in the same-sex experimental condition for the <u>hold liquor</u> variable, $F(1, 134) = 6.35$; $p < .05$.

Given the previously stated predictions about the importance of a mate-value sociometer, it is unclear why there were not more correlations in which individuals in the opposite-sex condition were found to have higher correlations than individuals in the same-sex experimental condition. It is not immediately apparent how the ability to hold one's liquor would increase mate value, especially compared to other variables where specific predictions were made, such as <u>previous sex</u> and <u>unfaithful</u>. Similarly, it is unclear why certain variables showed higher correlations in the same-sex condition than in the opposite-sex condition. The four variables that did so do not seem to share any common conceptual unity.

The sex x experimental condition x other interaction tested the hypothesis that there was a sex x condition interaction in the size of the self-other relationship. This three-way interaction was significant for only one variable. There appears to be a large condition effect for females for the <u>share doughnuts</u> variable, with females in the same-sex condition having a much higher correlation than females in the opposite-sex condition but there was not a condition effect for males, $F(1, 134) = 6.39$; $p < .05$.

Although many results for specific items did not conform to prediction, the large number of sex and experimental condition effects in general is consistent with the argument that the generic sociometer model hypothesized by Leary et al. (1995) is too domain-general. These

findings do not provide strong support for the hypothesis that there is a specialized mate-value sociometer that monitors the environment for cues to rejection. However, given that there appear to be differences across sex and experimental condition, it seems unlikely that social exclusion affects individuals' self-esteem in the same way regardless of who the rejecting person is.

<div align="center">Study 2</div>

Leary et al. (1995) noted that the correlational nature of their first and second studies leaves open alternative explanations other than that perceived exclusion leads to a decrease in self-esteem. Specifically, they noted people who evaluate themselves positively may simply assume that others will like and accept them, while those with lower self-esteem may be primed to perceive others' behaviors as rejecting. Leary et al. did their third and fourth studies in order to directly examine the causal effects of exclusion self-esteem by experimentally manipulating social exclusion. My first study is open to the same criticisms as the Leary et al. (1995) first and second studies. Therefore, in Study 2, I modified the Leary et al. Study 4 in order to manipulate experimentally inclusion and exclusion.

Study 2 largely followed the Leary et al. (1995) Study 4, but with some meaningful differences. In their study, Leary et al. had participants complete a generic measure of self-esteem several weeks earlier. The experimental session involved deception. Participants were instructed to introduce themselves to a second anonymous participant via a five-minute monologue over an intercom. In reality there was no other individual; the intercom into which participants spoke did not transmit any information. After their introduction, the participants were assigned to one of three conditions. A third of the participants received negative feedback, ostensibly completed by the person who had

listened to their monologue; a third received positive feedback, again ostensibly completed by their anonymous partner; and a third received no feedback at all. Participants then completed the same twelve-item generic self-esteem measure they had completed previously. Leary et al. found that participants in the positive feedback and no feedback conditions had more positive self-feelings than participants who received negative feedback.

In my study, I revised the Leary et al. (1995) study to differentiate between the types of individuals whom participants believed were accepting or rejecting them. All participants in Leary et al.'s study were told they were introducing themselves to an opposite-sex participant. Leary et al. gave no rationale for why individuals were told they would be speaking to an opposite-sex individual. As mentioned earlier, the impact that rejection has on self-esteem should depend on who an individual believes has rejected him or her. In my study, therefore, half of the participants believed they were describing themselves to an anonymous participant of the opposite sex, while the other half believed they were describing themselves to an anonymous participant of the same sex.

Participants completed the same generic measure of self-esteem during mass-testing used in Leary et al. (1995). In the experimental session, participants introduced themselves to an anonymous partner. Half of the participants believed they were speaking to a member of the same sex, while half believed they were speaking to a member of the opposite sex. Participants then received accepting or rejecting feedback about their introduction, ostensibly completed by the other anonymous participant: Half received positive feedback and half received negative feedback. The no-feedback category was eliminated from this study because Leary et al. found that there was no

significant difference between the self-esteem ratings of individuals who received no feedback and individuals who received positive feedback.

As mentioned earlier, individuals who were currently involved in a serious dating relationship should differ from individuals who are not currently dating in the extent to which rejection by a member of the opposite sex will affect their self-perceived mate-value. Individuals who are in a relationship have their significant other as an obvious cue as to their own mate-value. Individuals who were not in a relationship do not have such a cue and may in fact be actively seeking a mate. Therefore, individuals who are dating are less likely to be sensitive to rejection by an opposite-sex individual, as compared to individuals who are not dating. Leary et al. (1995) make no prediction about single versus dating individuals being differently affected by rejection. Conversely, the results that I am predicting for cues to the mate-value sociometer should be stronger in individuals who are currently not in a committed relationship as compared with those who are, because individuals who are not in a relationship should be more sensitive to rejection by opposite-sex individuals. Thus, the study was designed so that approximately half of the participants were involved in committed dating relationships and the other half were not.

After receiving feedback, participants rated themselves on the generic self-esteem measure they had completed in pretesting. Participants also completed a set of secondary measures at this time. These included two questionnaires designed specifically to assess mate-value self-esteem and coalitional self-esteem (Williams & Kirkpatrick, 1998). They also completed Rosenberg's (1965) global self-esteem measure. Finally, participants completed the same 12-item scales used in Leary et al. indicating the degree to which the other participant's

evaluations were accurate, and how positively or negatively the other participant had evaluated them.

In this study, I hypothesized that an individual's self-feelings would be moderated by (a) the type of feedback they receive, (b) the sex of the individual to whom they believe they are speaking, and (c) their current dating status. In line with the Leary et al. (1995) findings, I hypothesized that individuals who received rejecting feedback would have their self-esteem lowered when compared to individuals who received positive feedback. These findings would replicate the Leary et al. results.

My hypothesis differed from theirs, however, in some important respects. These differences are the result of hypotheses made based on the existence of a mate-value sociometer. I expected that participants who received rejecting feedback from opposite-sex individuals should have a greater reduction in self-feelings than individuals who received negative feedback from same-sex individuals, because rejection by a member of the opposite sex would have presented an adaptive problem for our ancestors. This rejection should act as a cue to a mate-value sociometer. Furthermore, of those receiving rejecting, opposite-sex feedback, I predicted that individuals who were not currently in a romantic relationship would have their self-esteem lowered more than those individuals who were in a committed relationship. This is because individual who are not romantically attached should be more sensitive to rejection by a potential mate than individuals who are romantically attached.

In Study 1, I predicted sex differences in participants' responses because males and females faced different adaptive problems, so their mate-value sociometers should be sensitive to different types of rejection. However, in Study 2 I made no prediction about sex

influencing participants' self-feelings in the face of social exclusion. Because rejection by a mate would have represented an adaptive problem for ancestral males and females, both sexes should have evolved mate-value sociometers that would lead to a decrease of self-esteem after rejection by a potential mate. Rather than include equal numbers of males and females in the study, I chose to hold sex constant by using all female participants. I chose to use females rather than males because there were a higher percentage of females in the introductory psychology research participation pool.

Method

Participants. One hundred and thirty-six female undergraduates served as participants to fulfill part of their introductory psychology research participation requirement.

Pretesting. As part of a mass testing questionnaire administered early in the semester to all psychology students required to participate in psychological research, participants rated themselves on the same 12-item measure of generic self-esteem used in Leary et al. (1995). This measure contained 12 evaluatively-laden adjectives: cheerful, absent-minded, honest, clear thinking, deceitful, friendly, forgetful, dependable, arrogant, intelligent, prejudiced, and irresponsible. Ratings were done on a 12-point scale with five equally-spaced scale labels (not at all, slightly, moderately, very, and extremely). As in Leary et al. (1995), these ratings were used as a pretest measure of self-feelings.

Experimental session. Participants signed up to participate in the experiment, which was entitled "Explorations in Social Relations." All research pool participants completed a mass-testing questionnaire early 'in the semester which included an item asking respondents to indicate whether they were currently involved in a heterosexual dating

relationship. Participants could reply <u>yes</u> or <u>no</u>. Responses indicated that approximately half of the participants in the research participant pool were in dating relationships.

Participants arrived for the experimental session at 15-minute intervals, so that no participant saw any other participant before the session. Participants were escorted to the lab where the experiment would take place. They were told they would be taking part in an experiment that was concerned with how people form impressions of others. All instructions were read from a script to ensure that all participants received the same information. Participants then completed a consent form and a biographical information sheet containing innocuous demographic questions (see Appendix C). They were then told they would be asked to introduce themselves to an anonymous participant via microphone, and that the other participant would be introducing himself or herself later. Participants were then given a completed biographical information sheet that was identical to the one they had just completed, ostensibly completed by the person to whom they would be speaking. This completed sheet also contained innocuous information designed to convince the participant that they would be speaking to an age-mate of similar background (see Appendix D). The sheets differed only in terms of the sex of the individual: Half of the participants were given sheets ostensibly completed by males (i.e., opposite-sex), half were given sheets ostensibly completed by females (same-sex). All other information on the male and female sheets were identical.

Participants then spoke into a microphone for five minutes about topics drawn from a standard list of six items per Leary et al. (1995; see Appendix E). These topics were intended to be moderately self-disclosing so that the participant would disclose enough information for the other person, presumably to make an assessment of her as an

individual (e.g., Describe some aspects of yourself that you like most and least).

After the five-minute presentation, subjects received feedback forms ostensibly completed by the other party (see Appendix F). The positive and negative feedback sheets in this study were identical to the respective feedback sheets used by Leary et al. (1995). These feedback forms were designed to indicate that the other person either liked, accepted and wanted to interact with the participant (positive feedback), or did not like, accept, or want to interact with the participant (negative feedback). The feedback sheets contained a eight of positive statements that connoted inclusion (e.g., I would enjoy continuing a conversation with Subject A; Subject A would probably fit in with my friends). In response to each statement, the other participant had ostensibly marked "yes," "no," or "unsure." The individuals in the positive feedback condition received a feedback sheet that contained primarily "yes" responses with a few "unsure" responses; the negative feedback individuals received a sheet with mostly "no" responses with a few "unsure" responses.

After reading the feedback sheets, participants were asked to complete an instrument containing several questionnaires (see Appendix G). This instrument contained the same 12-item generic self-esteem measure participants had completed approximately ten weeks earlier in mass-testing. Participants also completed Williams & Kirkpatrick's (1998) measures of mate-value and coalitional self-esteem, as well as Rosenberg's (1965) measure of global self-esteem. Finally, participants indicated the degree to which the other respondent's perceptions of them were accurate and, as a manipulation check, how positively or negatively the other respondent regarded them.

After completing this questionnaires, participants were fully debriefed, with all deceptions explained in detail. As a second manipulation check, participants were asked after they had been debriefed, how much they had believed the feedback they received actually came from a second, anonymous individual (1 = not at all, 5 = extremely). This was to identify any subjects that may not have been deceived by the feedback sheets and exclude them from the analysis.

Results and Discussion

Manipulation check. A $\underline{t}$-test comparing respondents ratings of the feedback they received revealed that individuals in the inclusion condition believed that the other subject had rated them significantly more positively ($\underline{M}$ = 9.014) than did individuals in the exclusion condition, $\underline{M}$ = 3.493; $\underline{t}$(135) = 24.04, $\underline{p}$ < .01.

Participants' responses to the self-measure of deception ranged from 3 to 5. Thus, all participants in the study considered themselves at least somewhat deceived. Based on this, no data were excluded from the analysis.

Construction of scales. Participants' responses on the 12-item generic self-esteem measure (hereafter referred to as the Leary Scale) were combined into a single generic self-esteem score. This was calculated by reverse scoring the negative items, then calculating the mean of all the items in each measure. If individuals did not reply to all items on a given measure, their score was the mean of those items to which they did reply. A higher score indicated more positive self-feelings. The items on Williams and Kirkpatrick (1998) mate-value and coalitional self-esteem were also combined in this manner so that each participant had a single mate-value self-esteem score and a single coalitional self-esteem score. Finally, a score was computed for each participant on the Rosenberg self-esteem scale in the same manner. Thus,

each participant had a generic self-esteem score, a coalitional self-esteem score, and a mate-value self-esteem score from both the mass-testing session and the experimental session. Rosenberg scores were available only from the experimental session.

Cronbach's alpha was calculated to measure the internal reliability of each of the three scales completed prior to the experimental session, and again for the four scales completed in the experimental session. Cronbach's alpha was .76 for the Leary self-esteem measure completed in mass testing, .79 for the mate-value measure completed in mass-testing, and .79 for the coalitional measure completed in mass-testing. In the experimental session, Cronbach's alpha was .71 for the Leary self-esteem measure, .68 for the mate-value measure, and .65 for the coalitional measure. Cronbach's alpha was .88 for the Rosenberg global self-esteem measure completed in the experimental session. Thus, each of the four scales have an acceptably high internal-consistency reliability.

Ellis (1997) argued that the primary function of self-esteem is to provide one with information about one's self-assessed mate-value. Based on this, I hypothesized that a measure designed to assess self-esteem as a unitary construct, such as the generic self-esteem measure included in Leary et al. (1995), would primarily be measuring mate-value self-esteem. Given this hypothesis, I predicted that the Leary scale would be more strongly correlated with mate-value self-esteem than with coalitional self-esteem. As can be seen in Table 4, this hypothesis was only partially supported. The Leary scale correlated poorly with the measure of mate-value self-esteem, contrary to earlier prediction. However, as predicted, the Rosenberg scale correlated strongly with it. Interestingly, the Leary scale correlated weakly with all the other measures of self-esteem, whereas the newly created measures of self-

esteem had higher correlations with each other. This raise questions about what exactly the Leary scale is measuring. Particularly problematic is its weak correlation with the Rosenberg scale, given that the latter is such a widely-used and recognized standard of self-esteem.

General linear models. Data were analyzed using three 2 (sex of other: same versus opposite) x 2 (type of feedback: including versus excluding) x 2 (dating status: single versus dating) factorial analyses of variance. Participants' mean scores on each of the four self-esteem measures were the dependent variables. A second set of analyses of variance used the same independent and dependent variables, but included participants' responses from the mass-testing questionnaire on whichever measure was being used as the dependent variable as a covariate in order to enhance power.

Leary self-esteem scale. Cell means for the analysis of variance are provided in Table 5. As expected, a significant main effect for type of feedback was found for the Leary self-esteem measure, with individuals in the inclusion condition having significantly higher self-esteem ($\underline{M}$ (unweighted mean of means) = 9.612) than individuals in the exclusion condition ($\underline{M}$ = 8.961; $\underline{F}$(1, 128) = 17.95, $\underline{p}$ < .01). These results replicated the findings of Leary et al. (1995), suggesting that the procedures followed in the present study were valid. No other main effects or interactions were found to be significant.

When mass-testing responses were included as a covariate, the sample size was reduced from 136 to 123 because 13 participants had not completed mass-testing questionnaires. Despite this reduction in sample size, including the covariate reduced the error term, thereby increasing the power of these tests. Cell means for the analysis of covariance are provided in Table 6. The regression test was highly significant ($\underline{F}$(1, 114) = 80.72; $\underline{p}$ < .01) indicating that the covariate was a good

predictor of the dependent variable. Again, a significant effect for type of feedback was found, with individuals in the inclusion condition having significantly higher self-esteem (average adjusted $\underline{M}$ = 9.598) than individuals in the exclusion condition ($\underline{M}$ = 9.167), $\underline{F}$(1, 114) = 4.11, $\underline{p}$ < .01. Furthermore, including the covariate made the sex-of-other condition by dating status interaction significant, $\underline{F}$(1, 114) = 2.26, $\underline{p}$ < .05.

The results of this interaction indicate that of those participants who were in a dating relationship, those who believed they were speaking to a female (i.e., same-sex person) had higher self-esteem than those who believed they were speaking to a male (i.e., opposite-sex person. This pattern was reversed in those participants who were not in a dating relationship; those who believed they were speaking to a male had higher self-esteem than those who believed they were speaking to a female. Initially this result is difficult to understand. The pattern of results is exactly as predicted for the positive-feedback condition: Among those who are single, self-esteem is boosted by positive feedback from an opposite-sex individual more than from a same-sex person. For those who already have partners, however, self-esteem is boosted more by feedback from a same-sex person than feedback from the opposite-sex person. However, I expected a three-way interaction in which this pattern would reverse for negative feedback. That is, the single participants who believed they were speaking to an opposite-sex individual were expected to display the highest self-esteem of all groups when the feedback was positive, but the lowest mean of all groups when the feedback was negative.

Apparently however, the effect had nothing to do with the feedback received. Instead, the effect may have had to do with the self-presentation task in which the participants were involved. It is

possible that when an individual engages in self-presentation toward an individual they are especially eager to impress, their self-esteem gets an unconscious boost. Such a boost of self-esteem would be adaptive because it should lead to more effective self-presentation and therefore a better chance of impressing someone.

From this perspective, the interaction makes sense. Participants who were not currently in a dating relationship would have been most interested in impressing a member of the opposite sex, who would be a potential date. Participants who were in a dating relationship would not need a date, and would therefore be more interested in self-presenting well to a same-sex individual who is a potential friend. Thus, the same effect should have been observed if participants had completed the generic self-esteem measure before receiving feedback.

Mate-value self-esteem. Cell means are provided in Table 7. A second analysis of variance was done using Williams and Kirkpatrick's (1998) mate-value self-esteem scale as the dependent variable. The results indicated that individuals who were currently in a committed dating relationship had significantly higher mate-value self-esteem ($\underline{M}$ = 3.224) than did individuals who were not currently in a committed dating relationship, $\underline{M}$ = 2.697; $\underline{F}(1, 129)$ = 29.68, $\underline{p}$ < .01. No other effects were significant.

The same analysis was redone including the participants' responses on the mate-value self-esteem measure from mass-testing. Cell means for the analysis of covariance are presented in Table 8. The regression test was highly significant ($\underline{F}(1, 114)$= 120.13, $\underline{P}$ < .05) indicating that the covariate was a good predictor of the dependent variable. The dating status variable was no longer significant, however. This is likely because there were pre-existing differences between individuals who were in dating relationships and those who were not in terms of mate-value

self-esteem. It makes sense that individuals who were in relationships would have higher mate-value self-esteem than those who were not. Thus, when these underlying differences were statistically controlled by introducing the covariate, the effect was no longer significant.

This finding is not surprising, in that individuals who are currently in a relationship should have more confidence in their ability to attract mates than individuals who are not currently in a relationship. This confidence should stem from the fact that they have a dating partner, a highly salient cue as to their mate-value. Individuals who are not in a relationship have no such cue, and therefore should, on average, have somewhat lower mate-value self-esteem.

Interestingly, using the mate-value item as the dependent variable failed to replicate the Leary et al. (1995) findings regarding the feedback variable. Again, this would support the hypothesis that there are different kinds of sociometers. Apparently the mate-value measure does not contain the same kind of rejection-sensitive cues as Leary et al.'s 12-item measure. It was predicted earlier that self-esteem is principally about mate-value and that measures of generic self-esteem are tacitly measuring mate-value. However, the predicted interaction between sex-of-other, dating status and type of feedback was not observed. These predictions were based on the assumption that that the generic self-esteem measure is mainly a reflection of mate-value. The results indicate that this is not the case. Given these results, I would have expected that if an interaction was found on any of the remaining dependent variables, it would have been on the measure specifically designed to assess mate-value self-esteem. This measure did not produce the predicted three-way interaction between sex-of-other, dating status and type of feedback. Furthermore, it did not produce the main effect for type of feedback, as was observed when the generic measure of self-

esteem was used as the dependent variable. These results are more consistent with the Leary et al. (1995) model of self-esteem than with the model of mate-value self-esteem that I proposed.

Coalitional self-esteem. Cell means are provided in Table 9. A third analysis of variance was done using Williams and Kirkpatrick's (1998) coalitional self-esteem scale as the dependent variable. The results indicated that there was a main effect for sex-of-other, with individuals in the opposite-sex condition having significantly higher coalitional self-esteem ($\underline{M}$ = 4.175) than individuals in the same-sex condition ($\underline{M}$ = 3.823), $\underline{F}$(1, 129)= 4.18, $\underline{p}$ < .01. Furthermore, individuals in the inclusion condition had significantly higher self-esteem ($\underline{M}$ = 4.126) than did individuals in the exclusion condition ($\underline{M}$ = 3.871), $\underline{F}$(1, 129) = 2.22, $\underline{p}$ < .05.

The same analysis was redone, this time including the participants' responses from the coalitional self-esteem measure from mass-testing as a covariate. Cell means for the analysis of covariance are presented in Table 10. The regression test was highly significant ($\underline{F}$ = 25.17, $\underline{P}$ < .01) indicating that the covariate was a good predictor of the dependent variable. Again, there was a main effect for sex of other; individuals who believed they were speaking to a member of the opposite sex had significantly higher coalitional self-esteem ($\underline{M}$ = 4.162) than did individuals who believed they were speaking to a member of the same sex ($\underline{M}$ = 3.827), $\underline{F}$(1, 115) = 3.44, $\underline{p}$ < .05. The main effect for inclusion versus exclusion was no longer significant when the covariate was introduced.

The main effect for the sex-of-other condition was present in both the analysis of variance and the analysis of covariance. This finding indicated that individuals in both conditions who believed they were speaking to an individual of the opposite sex had higher self-esteem

than individuals who believed they were speaking to a member of the same sex. This result is puzzling, given that coalitional self-esteem should primarily concern one's confidence in one's ability to form coalitions with individuals of the same sex. However, coalitional self-esteem was not the main focus of the study. Therefore, no explicit hypotheses were made about how sex-of-other would affect one's coalitional sociometer.

Rosenberg self-esteem scale. Finally, another analysis of variance was done, using Rosenberg's (1965) measure of self-esteem as a dependent variable. Cell means for this analysis of variance are provided in Table 11. Results indicated there was a main effect for sex-of-other, with individuals who believed they were speaking to a member of the opposite sex having higher self-esteem ($\underline{M}$ = 4.243) than individuals who believed they were speaking to a member of the same sex, $\underline{M}$ = 3.970; $\underline{F}$(1, 129) = 7.09, $\underline{p}$ < .01. Furthermore, there was a main effect for type of feedback, with individuals who received in~~cluding~~ positive feedback having higher self-esteem ($\underline{M}$ = 4.207) than individuals who received negative feedback ($\underline{M}$ = 4.006), $\underline{F}$(1, 129) = 3.81, $\underline{p}$ = .05.

The significant main effect in the analysis of variance for type of feedback replicated Leary et al.'s (1995) findings. However, this finding was no longer significant in the analysis of covariance, suggesting that it is unreliable. This result is puzzling. Given that participants were randomly assigned to a particular feedback condition, there is no reason to think there were pre-existing differences between the group that received including feedback and the group that received excluding feedback. This main effect should, therefore, have been strengthened due to the increased power of the analysis of covariance, rather than been reduced.

General Discussion

The purpose of the present studies was to provide support for the hypothesis that the generic sociometer posited by Leary et al. (1995) is too domain-general in the light of the domain-specific posited by evolutionary psychologists (e.g., Tooby & Cosmides, 1992). I predicted that the effects of exclusion on an individual's self-feelings would vary as a function of variables such as who was being excluded and by whom they were being excluded. In Study 1, there were several significant differences in correlations as a function of sex and experimental condition. Interestingly, of those correlations that did vary as a function of sex, all correlations were higher for men than for women. Study 2 also showed that certain effects for the generic self-esteem measure, as well as the mate-value and coalitional self-esteem measures, were moderated by other variables, such as the type of feedback participants received and their current dating status.

It is also important to note that when the data from the variables in Study 1 that were taken from Leary et al. (1995) were analyzed across sex and experimental condition, most of the average correlations were similar to those found by Leary et al. Furthermore, the main effect for type of feedback in Study 2 replicated the basic Leary et al. finding. These results are important because they indicate that the measures used in the present study were valid. They are also important because they lend support to the Leary et al. hypotheses about self-esteem being rooted in social interaction.

The overall findings did not, however, support the predictions as neatly as hypothesized. In Study 1, for example, I predicted that there would be several sex x condition interactions in the correlations between the self-evaluation and others'-evaluation measures, especially for factors that seemed, on the surface, to be about mate-value (e.g., I

was voted best looking in my class; I had a lot of previous sex partners). In Study 2, I predicted that participants' responses would reveal a complex interaction between (a) the type of feedback they received, (b) the sex of the individual with whom they believed they were speaking, and (c) their current dating status. Unfortunately, this interaction was not significant in either the analysis of variance or the analysis of covariance for any of the dependent variables.

Furthermore, it is important to note that in many ways, the results of Study 1 and Study 2 are more consistent with the sociometer hypothesis advanced by Leary et al. (1995) than with my own. Both of these studies obtained results that closely replicated the findings from Leary et al. For example, the correlations obtained when the averaging the correlations between the others-evaluation measure and the self-evaluation across sex and sex-of-other revealed the same correlations obtained by Leary et al. In study 2, both the generic self-esteem measure and the Rosenberg self-esteem measure supported the Leary et al. findings that social exclusion leads to a reduction in self-esteem. The complex interaction that I predicted based on the mate-value sociometer hypothesis was not observed using any of the dependent variables.

The sex differences found in correlations in Study 1 are consistent with the hypothesis that males are, for some variables, more sensitive to the evaluations of others than are females. In ancestral times, females would, on average, would have been more assured of mating opportunities than males. Provided she was willing to lower her standards in terms of the acceptable mate-value for her partner, a female could always have found a mate, thus being assured of offspring. Males in the EEA would have had no such assurance. Male reproductive success would have been, and continues to be, highly dependent on female choice. Thus, rejection by the opposite sex could pose more serious a

threat to males than females. A psychological mechanism designed to give an individual feedback about his or her mate-value, per Wright (1994) and Ellis (1997) would therefore be more crucial to a male's reproductive success than to a female's. It is possible that this could explain the findings that males are somewhat more sensitive to rejection as compared to females.

Self-esteem is a phenomenon that has been extensively studied by a number of psychologists (e.g., Coopersmith, 1967; Jonas & Berglas, 1978; Zigler & Glick, 1988). However, most of the research to date studying self-esteem has focused on the role of self-esteem in other psychological phenomenon, such as depression and anxiety (Rehm, 1988), in-group/out-group perceptions (Crocker et al., 1987) and social comparison (Morse & Gergen, 1970). Other research has focused on describing self-esteem, or attempting to identify the factors that influence it (e.g., Rosenberg, (1965; Beck, 1967). Generally then, researchers seem to have taken self-esteem as a given. Few psychologists have begun to explore why a phenomenon such as self-esteem exists at all.

The line of research begun by Leary et al. (1995) is unique in this respect. Leary et al hypothesized that self esteem serves as a sociometer that (a) monitors the social environment for cues indicating rejection or exclusion and (b) alerts the individual via negative affective reactions when such cues are detected. Leary et al. argued that a psychological mechanism such as a sociometer would serve an adaptive function. They argued that during ancestral times, individuals who were generally accepted and lived as part of a collective would have had greater reproductive fitness over those individuals who were rejected and lived in solitude, because individuals living in a collective would have had additional access to protection and mates.

Therefore, those individuals who were motivated to avoid rejection by others would have been selected for over those who were not. The Leary et al. study provided evidence supporting the sociometer hypothesis. Using questionnaires and direct experimental manipulation, Leary et al. showed that social exclusion has the effect of lowering self-feelings.

Leary et al. (1995) correctly argued that self-esteem is rooted in social interaction. However, evolutionary theory predicts a more complex pattern of behaviors than Leary et al. Evolutionary psychologists argue that the mind has developed to solve very specific adaptive problems (e.g., Tooby & Cosmides, 1992). Therefore, psychological mechanisms should be domain-specific and sensitive to highly specific cues in the environment. Rejection by different individuals poses different adaptive problems (Kirkpatrick, 1997). Given the theory of domain-specificity, the psychological mechanism posted by Leary et al. is too domain general.

The goal of my of research was to provide empirical evidence that the Leary et al. (1995) model is to domain general. My own studies largely followed those of Leary et al. However, I hypothesized that rejection by an individual who was a potential mate would lead to greater negative affect than rejection by a same-sex individual. Therefore, I altered the Leary et al. studies to test my domain-specific hypotheses by changing who would be doing the rejecting.

The results of both studies generally replicated the findings from the two Leary et al. (1995) studies. Unfortunately, the findings did not support the prediction that there is a specific mate-value sociometer. Generally, exclusion or rejection by an opposite-sex individual did not lead to a greater reduction of self-esteem than exclusion by a same-sex individual. The complex pattern of results did indicate, however, that there may be more complexity to the sociometer than posited by Leary et

al. In both Study 1 and Study 2, there were cases in which rejection by different individuals had different effects. While these results did not support the hypothesis that there is a specific mate-value sociometer, it remains possible that a sociometer does more than monitor cues from other people, irrespective of who those others are. Such a prediction is consistent with evolutionary predictions about the domain-specific nature of the mind. The rule of domain specificity must apply to the sociometer posited by Leary et al. because they argue that the sociometer evolved to solve problems faced by humans over the course of evolution.

Future directions. Further research could focus on the sex differences found in Study 1, specifically testing the hypothesis that men should be more sensitive to opposite-sex rejection than women. Such a study would be similar to Study 1 in that correlations would be calculated between a self-evaluation and others'-evaluation measure. However, new variables would be included specifically designed to serve as cues to male mate-value, per Buss (1988, 1992). Such variables would include items regarding resource acquisition (e.g., I drive an expensive car; I'm generous with my money) as well as social status (e.g., I come from a well respected family; I was voted president of the student body at my college).

Given this observation about differences in males and female's sensitivity to rejection, it appears in retrospect that it may have been inappropriate to include only females in Study 2. A future study, designed after Study 2, could include gender as a variable. In such a study, one would predict that single men receiving positive, opposite-sex feedback would have the highest self-esteem of all the cells, while single men receiving negative, opposite-sex feedback would have the lowest self-esteem.

Future research could also explore the interesting sex of other x dating status interaction found in the analysis of covariance using the generic self-esteem measure as the dependent variable guided by the self-presentation hypothesis that individuals receive a temporary boost of self-esteem when speaking to individuals they want to impress. This could be done by eliminating the feedback manipulation from Study 2, and instead measuring self-esteem immediately after participants have completed their five minute monologue introducing themselves to their anonymous partner. The self-presentation hypothesis would predict the same pattern of means observed in the present study. Specifically, it would predict that individuals who are in dating relationships and who self-present to an same-sex individual should have a temporary boost of self-esteem that individuals who are in dating relationships and who present to individuals in the opposite-sex condition will not. This pattern of means should disappear or reverse itself for those individuals who are not currently in dating relationships.

Potential modifications could also be made of the remaining three studies from Leary et al. (1995) to test the Leary et al. generic sociometer against a domain-specific sociometer such as a mate-value sociometer. In the third Leary et al. study, for example, participants were told that they would be part of a five-person group who would be completing a task. In this group, three members would work together to solve the problem, while two would work alone. Participants were made to feel either included (told they would work with the group) or excluded (told they would work alone). Furthermore, participants were told either that their inclusion or exclusion was made at random, or that it was determined on the preferences of the others in the study. Leary et al. found that respondents in the exclusion condition who thought they had

been excluded because of the group's preferences had the lowest generic self-esteem.

This study could be modified to test hypotheses about the existence of a domain-specific mate-value sociometer. Participants could be told that the rest of the individuals in their group are either opposite-sex or same-sex individuals. If humans have an evolved mate-value sociometer, one might predict that individuals who received rejecting feedback from opposite-sex individuals would have their self-esteem lowered more than individuals who received rejecting feedback from same-sex individuals. Given the hypothesis that men may be more sensitive to cues of rejection or acceptance by opposite-sex individuals, such a study could use an all-male sample. Alternatively, sex could be included as another independent variable in order to test the prediction that males have more sensitive mate-value sociometers.

The fifth Leary et al. (1995) study might also lend itself to modifications designed to test explicitly test the hypothesis that generic tests of self-esteem are implicitly assessing mate value. In Study 5, Leary et al. asked participants to complete a measure of the extent to which they generally feel included versus excluded (e.g., I often feel like an outsider at social gatherings). Participants also completed Rosenberg's (1965) and McFarland and Ross' (1982) self-esteem scales. Leary et al. found that participants' exclusionary status was negatively correlated with both of the measures of self-esteem. In other words, individuals who felt generally excluded by others had lower generic self-esteem.

In order to modify this study to test for the existence of a mate-value sociometer, one could devise a scale that is designed to measure the extent to which one feels typically included or excluded by potential mates (e.g., I can usually get a date with whomever I want; I

consider myself to be a "catch"). Half of the participants in the study would complete the general exclusion measure, whereas half would complete the mate-exclusion measure. The both groups would complete the Rosenberg (1965) and McFarland and Ross (1982) scales. If generic self-esteem tacitly measures mate-value, self-esteem should correlate more strongly with the mate-exclusion measure than the Leary exclusion measure.

Future research could also be designed to eliminate some potential problems in the methodologies of Study 1 and Study 2. For example, in Study 1 the self-evaluation variables were constructed by averaging four responses in order to create a more reliable measure, while the others'-evaluation variables were single-item responses, per Leary et al. (1995). The others'-evaluation variables could be measured using four-item scales, just as the self-evaluations were, to increase reliability of measurement. Furthermore, additional behavior variables could be included on the self- and others'-evaluation questionnaires. Improved reliability might then increase the likelihood of finding sex and sex-of-other main effects and interactions.

It is also worth noting that the rejection condition in Study 2 was not so much rejection as indifference. The method of rejection exactly followed Leary et al (1995). After their five-minute introduction, participants received a feedback sheet that contained ratings on a number of dimensions that connoted inclusion or exclusion. For example, one question asked whether Subject B would like to continue a conversation with the participant. In response to each question, the other participant had ostensibly marked <u>yes</u>, <u>no</u> or <u>unsure</u>. Individuals in the positive feedback condition received feedback sheets with predominantly <u>yes</u> responses marked. Individuals in the negative feedback condition received feedback sheets with mostly <u>unsure</u> responses marked.

Leary et al. noted, "We felt that uncertain and ambivalent responses would connote sufficient rejection for the purposes of the study" (p. 526). It could be argued therefore, that the manipulation was relatively weak. Perhaps it would be more accurate to say that the negative feedback condition was actually an ambivalent feedback condition, because individuals were given responses that connoted indifference rather than exclusion. Although this manipulation was strong enough to produce an effect when participants were being rejected by a generalized other in the Leary et al. study, it is possible that in order for some of the other hypothesized effects to emerge, the rejecting feedback should be more negative.

In conclusion, an evolutionary approach to psychology has the potential to enhance our understanding of self-esteem (Leary et al., 1995; Kirkpatrick, 1997). The research done by Leary et al. into the adaptive function of negative self-feelings indicates that self-esteem functions to alert individuals as to potential exclusion or rejection. The present study has shown some initial findings in support of the idea that how rejected an individual feels is sometimes a function of by whom they are being rejected. Research guided by an evolutionary perspective has been valuable in several other areas of psychology, shedding light on the adaptive function of jealousy (e.g., Buss, 1992), psychological mechanisms for language acquisition (e.g., Pinker & Bloom, 1992), and psychological mechanisms for social exchange (e.g., Cosmides, 1989). Continued research into the adaptive function of self-esteem will greatly improve the psychological understanding of this much-studied phenomenon.

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Table 1

Study 1: Self-Other Correlations for Leary et al. Items (1995)

Variable	Male		Female	
	Same[a]	Opposite[b]	Same[c]	Opposite[d]
Watered plants	.45*	.20	.38*	.11
Honor society	.20	.37*	.45**	.34*
Best-looking	.24	.42*	.11	.22
Raised money	.37*	.26	.06	-.12
Saved child	.46**	.22	.22	.03
Donated kidney	.55**	.03	.39*	.10
Gave blood	.40*	.34*	.30	.10
Cheated on exam	.45*	.40*	.20	.44**
Dropped out	.11	.14	.21	.06
Unfaithful	.33	.46**	.00	.31*
Lost temper	-.04	.33	.24	.24
Poor evaluation	.08	.26	-.39*	.19
Sneezed	.21	.27	.25	.24

[a]n = 31-32. [b]n = 32-34. [c]n = 34. [d]n = 41-42.

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

Table 2

Study 1: Self-Other Correlations for New Items

Variable	Male Same[a]	Opposite[b]	Female Same[c]	Opposite[d]
Previous sex	.55**	.40*	.21	.31*
Stable history	.42*	.56*	.11	.18
Bench press	.43*	.18	.41*	.15
Aggressive	.53**	.57**	.60**	.43**
Good grade	.35*	.40*	.08	.47**
Crucial to win	.49**	.41*	.01	.18
Hold liquor	.66**	.71**	.10	.57**
Likely to succeed	.56*	.32	.44**	.45**
Wealthy family	.42*	.21	.37*	.31*
Fashionable	.36*	.21	.43*	.44*
Good listener	.22	.16	.30	.24
Shared Doughnuts	.38*	.54**	.57**	.04
Junky car	.54**	.36*	.35*	.37*

[a]n = 31-32. [b]n = 32-34. [c]n = 34. [d]n = 41-42.

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

Table 3

Study 1: Comparison of Correlations from Leary at al. (1995) and

Present study

Variable	Leary et al.	Present study[a]	Z
Watered plants	.21	.28	−0.58
Honor society	.34	.31	0.25
Best-looking	.33	.26	0.65
Raised money	.47	.16	2.99*
Saved child	.26	.24	0.15
Donated kidney	.33	.26	0.61
Gave blood	.25	.35	−0.89
Cheated on exam	.42	.35	0.71
Dropped out	.27	.12	1.30
Unfaithful	.34	.29	0.44
Lost temper	.19	.16	0.27
Poor evaluation	.36	.03	2.92*
Sneezed	.46	.12	3.17*

[a]Values are means of correlations averaged across four groups.

*$p < .01$.

Table 4

Study 2: Correlations among Four Measures of Self-Esteem

Measure	1	2	3	4
1. Generic	--	.20**	.15	.31**
2. Mate-value		--	.39**	.51**
3. Coalitional			--	.58**
4. Global				--

**p < .01.

Table 5

Study 2: Means from Leary Scale ANOVA

Condition	M	SD	N
Opposite sex			
Inclusion			
Dating	9.438	1.09	16
Single	9.847	0.93	18
Exclusion			
Dating	8.951	0.67	17
Single	8.996	0.88	20
Same Sex			
Inclusion			
Dating	9.810	0.64	14
Single	9.671	0.49	19
Exclusion			
Dating	9.156	0.64	16
Single	8.740	0.68	16

Table 6

Study 2: Means from Leary Scale ANCOVA

Condition	M	SD	N	Adj. M[a]
Opposite sex				
Inclusion				
Dating	9.383	1.11	15	9.369
Single	9.847	0.93	18	9.681
Exclusion				
Dating	9.067	0.62	15	9.106
Single	9.118	0.74	17	9.231
Same Sex				
Inclusion				
Dating	9.810	0.64	14	9.660
Single	9.682	0.52	16	9.481
Exclusion				
Dating	9.224	0.66	13	9.402
Single	8.729	0.71	15	8.928

[a]Adjusted mean after covariate statistically controlled.

Table 7

Study 2: Means from Mate-Value Self-Esteem ANOVA

Condition	$\underline{M}$	$\underline{SD}$	$\underline{N}$
Opposite sex			
Inclusion			
Dating	3.355	0.81	16
Single	2.819	0.72	18
Exclusion			
Dating	3.213	0.46	17
Single	2.744	0.52	21
Same Sex			
Inclusion			
Dating	3.281	0.69	14
Single	2.763	0.41	19
Exclusion			
Dating	3.047	0.59	16
Single	2.460	0.78	16

Table 8

Study 2: Means from Mate-Value Self-Esteem ANCOVA

Condition	M	SD	N	Adj. M[a]
Opposite sex				
Inclusion				
Dating	3.254	0.73	15	2.938
Single	2.819	0.72	18	2.967
Exclusion				
Dating	3.175	0.44	15	3.033
Single	2.722	0.69	14	2.900
Same Sex				
Inclusion				
Dating	3.281	0.69	14	2.965
Single	2.650	0.50	15	2.848
Exclusion				
Dating	3.029	0.60	13	2.958
Single	2.127	0.73	15	2.948

[a]Adjusted mean after covariate statistically controlled.

Table 9

Study 2: Means from Coalitional Self-Esteem ANOVA

Condition	M	SD	N
Opposite sex			
Inclusion			
Dating	4.273	1.19	16
Single	4.319	0.55	18
Exclusion			
Dating	4.162	0.42	17
Single	3.943	0.46	21
Same Sex			
Inclusion			
Dating	3.946	0.28	14
Single	3.967	0.36	19
Exclusion			
Dating	3.706	0.62	16
Single	3.671	0.65	16

Table 10

Study 2: Means from Coalitional Self-Esteem ANCOVA

Condition	M	SD	N	Adj. M[a]
Opposite sex				
Inclusion				
Dating	4.250	1.23	15	4.268
Single	4.319	0.55	18	4.243
Exclusion				
Dating	4.158	0.42	15	4.148
Single	3.989	0.48	18	3.990
Same Sex				
Inclusion				
Dating	3.839	0.57	14	3.937
Single	3.992	0.36	16	3.888
Exclusion				
Dating	3.696	0.53	13	3.661
Single	3.674	0.79	15	3.820

[a]Adjusted mean after covariate statistically controlled.

Table 11

Study 2: Means from Coalitional Self-Esteem ANOVA

Condition	$\underline{M}$	$\underline{SD}$	$\underline{N}$
Opposite sex			
Inclusion			
Dating	4.292	0.47	16
Single	4.400	0.42	18
Exclusion			
Dating	4.171	0.39	17
Single	4.110	0.56	21
Same Sex			
Inclusion			
Dating	4.050	0.56	14
Single	4.084	0.53	19
Exclusion			
Dating	4.013	0.72	16
Single	3.731	0.97	16

Appendix A

Imagine you have just met *a person of the opposite sex who you would be interested in dating*. Below are descriptions of many different behaviors. Please indicate how you think this person would react to each behavior if he or she knew this was something *you* had done. Circle the number that best corresponds to how he or she would react. Please use the following scale:

-3	**He/She would definitely reject or avoid me**
-2	**He/She would probably reject or avoid me**
-1	**He/She would possibly reject or avoid me**
0	**He/She would not care about this**
1	**He/She would possibly accept me**
2	**He/She would probably accept me**
3	**He/She would definitely accept me**

If I volunteered to donate blood...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I cheated on a final exam in a course...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I dropped out of college...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I was voted "best-looking" in my class...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I was unfaithful to my boyfriend or girlfriend...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I lost my temper and yelled at someone...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I donated one of my kidneys to a dying person...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

If I received a negative evaluation on my work performance from my boss...

REJECT –3........-2........-1........0.......1........2.......3 ACCEPT

Appendix A (continued)

If I took care of a friend's houseplants while she was out of town ...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I accidentally sneezed on someone standing in front of me in a checkout line...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I was accepted in to an honor society...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If, as president of a campus organization, I was responsible for raising $15,000 to buy food and Christmas toys for abandoned children...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I received a good grade on a group project without having done my fair share of the work...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I saved a drowning child who had fallen into a pool...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I was crucial to my school team in winning an important game...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I could hold my liquor better than anyone I knew...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I was voted "most likely to succeed" in high school...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I succeed in selling a junky, used car for twice what it was worth...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I came from a very wealthy family...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I were always fashionably dressed...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I had had a lot of previous sex partners...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I had a history of close, stable, intimate relationships...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I could bench-press 200 lbs...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I was very aggressive about getting what I want...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I was a good listener...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

If I brought in doughnuts to share with an early morning class...

REJECT –3........-2........-1........0........1........2........3 ACCEPT

Appendix A (continued)

Imagine you have just met *__a person of the same sex with whom you would be interested in being friends__*. Below are descriptions of many different behaviors. Please indicate how you think this person would react to each behavior if he or she knew this was something *you* had done. Circle the number that best corresponds to how he or she would react. Please use the following scale:

-3	**He/She would definitely reject or avoid me**
-2	**He/She would probably reject or avoid me**
-1	**He/She would possibly reject or avoid me**
0	**He/She would not care about this**
1	**He/She would possibly accept me**
2	**He/She would probably accept me**
3	**He/She would definitely accept me**

If I cheated on a final exam in a course...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I dropped out of college...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I was unfaithful to my boyfriend or girlfriend...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I lost my temper and yelled at someone...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I received a negative evaluation on my work performance from my boss...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I accidentally sneezed on someone standing in front of me in a checkout line...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I took care of a friend's houseplants while she was out of town ...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

If I volunteered to donate blood...

REJECT –3........-2........-1.......0.......1........2.......3 ACCEPT

Appendix A (continued)

If I was accepted in to an honor society...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I was voted "best-looking" in my class...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If, as president of a campus organization, I was responsible for raising $15,000 to buy food and Christmas toys for abandoned children...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I saved a drowning child who had fallen into a pool...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I donated one of my kidneys to a dying person...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I received a good grade on a group project without having done my fair share of the work...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I was crucial to my school team in winning an important game...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I could hold my liquor better than anyone I knew...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I was voted "most likely to succeed" in high school...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I came from a very wealthy family...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

If I were always fashionably dressed...

REJECT –3.......-2.......-1.......0.......1.......2.......3 ACCEPT

Appendix A (continued)

If I had had a lot of previous sex partners...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I had a history of close, stable, intimate relationships...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I could bench-press 200 lbs...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I was very aggressive about getting what I want...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I was a good listener...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I brought in doughnuts to share with an early morning class...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

If I succeed in selling a junky, used car for twice what it was worth...

REJECT –3........-2........-1........0........1.........2........3 ACCEPT

Appendix B

Below are descriptions of different behaviors. Please indicate by circling the appropriate number how *you would feel about yourself* if you performed each activity.

I tooKcare of a friend's houseplants while she was out of town.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I was accepted in to an honor society.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I was voted "best looking" in my class.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I have had a lot of previous sex partners

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I have a history of close, stable, intimate relationships.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I can bench press 200 lbs.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

Appendix B (continued)

I am very aggressive about getting what I want.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

As president of a campus organization I was responsible for raising $15,000 to buy food and Christmas toys for abandoned children.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I saved a drowning child who had fallen into a pool.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I donated one of my kidneys to a dying person.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I volunteered to donate blood.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I received a good grade on a group project without having done my fair share of the work.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

Appendix B (continued)

I was crucial to my school team winning an important game.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I could hold my liquor better than anyone I knew.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I was voted "most likely to succeed" in high school.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I come from a very wealthy family.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I am always fashionably dressed.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I am a good listener.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

Appendix B (continued)

I brought in donuts to share with an early morning class.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I sold a junky used car for twice what it was worth.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I cheated on a final exam in a course.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I dropped out of college.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I was unfaithful to my boyfriend or girlfriend.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

I lost my temper and yelled at someone.

```
good     1......2......3......4......5......6......7  bad
proud    1......2......3......4......5......6......7  ashamed
valuable 1......2......3......4......5......6......7  worthless
happy    1......2......3......4......5......6......7  dejected
```

Appendix B (continued)

I received a negative evaluation on my work performance from my boss.

good   1.......2.......3.......4.......5.......6.......7 bad
proud 1.......2.......3.......4.......5.......6.......7 ashamed
valuable 1.......2.......3.......4.......5.......6.......7 worthless
happy 1.......2.......3.......4.......5.......6.......7 dejected

I accidentally sneezed on someone standing in front of me in a checkout line.
good   1.......2.......3.......4.......5.......6.......7 bad
proud 1.......2.......3.......4.......5.......6.......7 ashamed
valuable 1.......2.......3.......4.......5.......6.......7 worthless
happy 1.......2.......3.......4.......5.......6.......7 dejected

Appendix C

BIOGRAPHICAL INFORMATION – Subject A

Age: _____   Sex: _____

Religious affiliation: _____

Occupation: _____

Marital Status: _____

Do you have Children? _____ If so, how many? _____

In what socio-economic bracket would you say you were raised?
    Upper   Upper-middle   Middle   Lower-middle   Lower

In what socio-economic bracket would you say you live now?
    Upper   Upper-middle   Middle   Lower-middle   Lower

Father's age now: _____

Mother's age now: _____

Current ages of brother(s), if any: _____ _____ _____ _____ _____

Current ages of sister(s), if any: _____ _____ _____ _____ _____

Father's occupation when you were a child (up to age 8):

Mother's occupation when you were a child (up to age 8):

Which of the following best describes your *current* status in terms of "dating" or "going out with" a romantic partner? (please check only one)

    Seeing one person exclusively _____ If so, how long? _____ months
    Seeing more than one person _____
    Not seeing anyone, and not currently looking _____
    Not seeing anyone, but looking _____

At what age would you prefer to marry? _____
How many children would you ideally like to have? _____

Appendix D

BIOGRAPHICAL INFORMATION – Subject B (Opposite-Sex)

Age: _21_   Sex: _Male_

Religious affiliation: _Protestant_

Occupation: _Student_

Marital Status: _Single_

Do you have Children? _No_   If so, how many? _0_

In what socio-economic bracket would you say you were raised?
   Upper   Upper-middle   (Middle)   Lower-middle   Lower

In what socio-economic bracket would you say you live now?
   Upper   Upper-middle   (Middle)   Lower-middle   Lower

Father's age now: _54_

Mother's age now: _50_

Current ages of brother(s), if any: _23_ ____ ____ ____ ____

Current ages of sister(s), if any: _27_ ____ ____ ____ ____

Father's occupation when you were a child (up to age 8): _Manager_

Mother's occupation when you were a child (up to age 8): _Housewife_

Which of the following best describes your *current* status in terms of "dating" or "going out with" a romantic partner? (please check only one)

   Seeing one person exclusively _____ If so, how long? _____ months
   Seeing more than one person _____
   Not seeing anyone, and not currently looking _____
   Not seeing anyone, but looking _✓_

At what age would you prefer to marry? _25-27_
How many children would you ideally like to have? _2_

Appendix D (continued)

BIOGRAPHICAL INFORMATION – Subject B (Same-Sex)

Age: _21_   Sex: _Female_

Religious affiliation: _protestant_

Occupation: _student_

Marital Status: _single_

Do you have Children? _no_ If so, how many? _0_

In what socio-economic bracket would you say you were raised?
   Upper   Upper-middle   (Middle)   Lower-middle   Lower

In what socio-economic bracket would you say you live now?
   Upper   Upper-middle   (Middle)   Lower-middle   Lower

Father's age now: _54_

Mother's age now: _50_

Current ages of brother(s), if any: _23_ ____ ____ ____ ____

Current ages of sister(s), if any: _27_ ____ ____ ____ ____

Father's occupation when you were a child (up to age 8): _manager_

Mother's occupation when you were a child (up to age 8): _housewife_

Which of the following best describes your *current* status in terms of "dating" or "going out with" a romantic partner? (please check only one)

   Seeing one person exclusively _____ If so, how long? _____ months
   Seeing more than one person _____
   Not seeing anyone, and not currently looking _____
   Not seeing anyone, but looking _✓_

At what age would you prefer to marry? _25-27_
How many children would you ideally like to have? _2_

Appendix E

Standard List of Discussion Topics (Opposite-Sex)

During this part of the study, you will interact with a subject of the opposite sex (Subject B) by talking into a microphone to him. The purpose is to provide subject B with enough personal information about you to be able to answer questions about you. You may be shown Subject B's responses. To prevent factors other then the content of your discussion influencing subject B's impression of you, you will speak to Subject B through a microphone for about five minutes. Please choose one or more of the following topics and talk about it for at least a few minutes. If you run out of things to say about the first topic, switch to a new topic and continue talking. It may be helpful to pretend you interacting face-to-face with another person. Speak clearly, and the researcher will tell you when your time is up.

1. Discuss aspects about yourself that you like the best and that you like the least.

2. What features do you most like and dislike about your mother and father?

3. What do you feel most proud of in your past and what do you feel most ashamed of?

4. In the past one or two years, describe some changes or realizations about yourself that have been positive and negative.

5. Discuss a recent interpersonal conflict, how you handled it, and whether or not you were satisfied with the outcome.

6. What qualities in other people do you appreciate and what qualities annoy you?

Appendix E (continued)

Standard List of Discussion Topics (Same-Sex)

During this part of the study, you will interact with a subject of the same sex (Subject B) by talking into a microphone to her. The purpose is to provide Subject B with enough personal information about you to be able to answer questions about you. You may be shown Subject B's responses. To prevent factors other then the content of your discussion influencing subject B's impression of you, you will speak to Subject B through a microphone for about five minutes. Please choose one or more of the following topics and talk about it for at least a few minutes. If you run out of things to say about the first topic, switch to a new topic and continue talking. It may be helpful to pretend you are interacting face-to-face with this person. Speak clearly, and the researcher will tell you when your time is up.

1. Discuss aspects about yourself that you like the best and that you like the least.

2. What features do you most like and dislike about your mother and father?

3. What do you feel most proud of in your past and what do you feel most ashamed of?

4. In the past one or two years, describe some changes or realizations about yourself that have been positive and negative.

5. Discuss a recent interpersonal conflict, how you handled it, and whether or not you were satisfied with the outcome.

6. What qualities in other people do you appreciate and what qualities annoy you?

Appendix F

Opposite-Sex Inclusion Category

Based on the five minute dialog that you heard from Subject A, please indicate your reactions or impressions of Subject A by placing an "X" on the line that most closely represents your immediate response to the following questions or statements.

1. I would enjoy continuing a conversation with Subject A.
   YES _X_   UNSURE _____   NO _____

2. Subject A would probably "fit in" with most of my friends.
   YES _X_   UNSURE _____   NO _____

3. Subject A holds attitudes that are similar to mine and my friends.
   YES _____   UNSURE _X_   NO _____

4. I would consider going on a lunch date with Subject A.
   YES _____   UNSURE _X_   NO _____

5. I would feel comfortable introducing Subject A to my friends.
   YES _X_   UNSURE _____   NO _____

6. If I were not available to date this person, I would consider trying to set up a date with one of my good friends.
   YES _X_   UNSURE _____   NO _____

7. Subject A seems to be the type of person I would enjoy working with.
   YES _____   UNSURE _X_   NO _____

8. I really like Subject A based on what I know so far.
   YES _X_   UNSURE _____   NO _____

Appendix F (continued)

Opposite-Sex Exclusion Category

Based on the five minute dialog that you heard from Subject A, please indicate your reactions or impressions of Subject A by placing an "X" on the line that most closely represents your immediate response to the following questions or statements.

1. I would enjoy continuing a conversation with Subject A.
     YES _____   UNSURE _X_   NO _____

2. Subject A would probably "fit in" with most of my friends.
     YES _____   UNSURE _____   NO _X_

3. Subject A holds attitudes that are similar to mine and my friends.
     YES _____   UNSURE _X_   NO _____

4. I would consider going on a lunch date with Subject A.
     YES _____   UNSURE _____   NO _X_

5. I would feel comfortable introducing Subject A to my friends.
     YES _____   UNSURE _X_   NO _____

6. If I were not available to date this person, I would consider trying to set up a date with one of my good friends.
     YES _____   UNSURE _X_   NO _____

7. Subject A seems to be the type of person I would enjoy working with.
     YES _____   UNSURE _____   NO _X_

8. I really like Subject A based on what I know so far.
     YES _____   UNSURE _X_   NO _____

Appendix F (continued)

Same-Sex Inclusion Category

Based on the five minute dialog that you heard from Subject A, please indicate your reactions or impressions of Subject A by placing an "X" on the line that most closely represents your immediate response to the following questions or statements.

1. I would enjoy continuing a conversation with Subject A.
   YES __X__   UNSURE _____   NO _____

2. Subject A would probably "fit in" with most of my friends.
   YES __X__   UNSURE _____   NO _____

3. Subject A holds attitudes that are similar to mine and my friends.
   YES _____   UNSURE __X__   NO _____

4. I would consider having lunch with Subject A.
   YES _____   UNSURE __X__   NO _____

5. I would feel comfortable introducing Subject A to my friends.
   YES __X__   UNSURE _____   NO _____

6. I would consider trying to set up a date with Subject A and one of my good friends.
   YES __X__   UNSURE _____   NO _____

7. Subject A seems to be the type of person I would enjoy working with.
   YES _____   UNSURE __X__   NO _____

8. I really like Subject A based on what I know so far.
   YES __X__   UNSURE _____   NO _____

Appendix F (continued)

Same-Sex Exclusion Category

Based on the five minute dialog that you heard from Subject A, please indicate your reactions or impressions of Subject A by placing an "X" on the line that most closely represents your immediate response to the following questions or statements.

1. I would enjoy continuing a conversation with Subject A.
   YES _____   UNSURE _X_   NO _____

2. Subject A would probably "fit in" with most of my friends.
   YES _____   UNSURE _____   NO _X_

3. Subject A holds attitudes that are similar to mine and my friends.
   YES _____   UNSURE _X_   NO _____

4. I would consider having lunch with Subject A.
   YES _____   UNSURE _____   NO _X_

5. I would feel comfortable introducing Subject A to my friends.
   YES _____   UNSURE _X_   NO _____

6. I would consider trying to set up a date with Subject A and one of my good friends.
   YES _____   UNSURE _X_   NO _____

7. Subject A seems to be the type of person I would enjoy working with.
   YES _____   UNSURE _____   NO _X_

8. I really like Subject A based on what I know so far.
   YES _____   UNSURE _X_   NO _____

Appendix G

Below are a series of adjectives shown in **bold print**. For each of these adjectives, please *circle* the number that best describes you.

CHEERFUL

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

ABSENT-MINDED

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

HONEST

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

CLEAR THINKING

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

DECEITFUL

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

FRIENDLY

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

FORGETFUL

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

DEPENDABLE

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

ARROGANT

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

INTELLIGENT

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

PREJUDICED

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

IRRESPONSIBLE

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

Appendix G (continued)

Listed below are a number of statements concerning personal attitudes and characteristics. Please read each statement and consider the extent to which you <u>TYPICALLY OR GENERALLY</u> agree or disagree with it. All responses will be kept confidential, so please answer as honestly as possible. Please circle one number for each item, where 1 = strongly disagree, 2 = disagree, 3 = neither, 4 = agree, 5 = strongly agree.

	< disagree agree >
I sometimes wish I were more physically attractive.	1.....2.....3.....4.....5
My partners on group projects believe I have much to offer.	1.....2.....3.....4.....5
I have rarely worried about a boyfriend/girlfriend dumping me for someone else.	1.....2.....3.....4.....5
If I could find a fraternity or sorority that I wanted to be part of, I doubt I could get in.	1.....2.....3.....4.....5
Members of the opposite sex seem to like me.	1.....2.....3.....4.....5
I enjoy being involved in clubs, sports teams, or other organizations.	1.....2.....3.....4.....5
I get very nervous when I ask someone of the opposite sex to go out with me.	1.....2.....3.....4.....5
I often feel like it is me against the world.	1.....2.....3.....4.....5
I feel as if no one of the opposite sex is "out of my league."	1.....2.....3.....4.....5
When people I know do things as a group, I get invited to come along.	1.....2.....3.....4.....5
I sometimes worry that, if someday I choose to get married, I won't be able to find the right person.	1.....2.....3.....4.....5
I often feel kind of "left out."	1.....2.....3.....4.....5
I have a girlfriend/boyfriend that made my friends envious.	1.....2.....3.....4.....5
When I go somewhere new, it doesn't take me long to develop a close-knit circle of friends.	1.....2.....3.....4.....5
It surprises me when someone of the opposite sex showed interest in me.	1.....2.....3.....4.....5
I don't really feel very much part of things here at college.	1.....2.....3.....4.....5

Appendix G (continued)

Listed below are a number of statements concerning personal attitudes and characteristics. Please read each statement and consider the extent to which you TYPICALLY OR GENERALLY agree or disagree with it. Please circle one number for each time, where *1 = strongly disagree, 2 = disagree, 3 = neither, 4 = agree, 5 = strongly agree.*

<< **disagree   agree** >>

I feel that I am a person of equal worth, at least on an equal plane with others.	1.....2.....3....4....5
I feel like a person who has a number of good qualities.	1.....2.....3....4....5
All in all, I am inclined to feel like a failure.	1.....2.....3....4....5
I feel as if I am able to do things as well as most people.	1.....2.....3....4....5
I feel as if I do not have much to be proud of.	1.....2.....3....4....5
I take a positive attitude towards myself.	1.....2.....3....4....5
On the whole, I am satisfied with myself.	1.....2.....3....4....5
I wish that I cold have more respect for myself.	1.....2.....3....4....5
I certainly feel useless at times.	1.....2.....3....4....5
At times I think I am no good at all.	1.....2.....3....4....5

On the scale below, please circle the corresponding number to indicate the degree to which the other person's ratings are an accurate refection of you.

1	2	3	4	5	6	7	8	9	10	11	12
not at all		slightly			moderately			very			extremely

On the scale below, please circle the corresponding number to indicate how positively or negatively the person rated you.

1	2	3	4	5	6	7	8	9	10	11	12
extremely positive											extremely negative

VITA

Jeffrey Edward Glenn

Born in Denver, Colorado on October 28, 1973. He graduated from Harrison High School in Farmington Hills, Michigan in June 1991. He graduated from The University of Michigan in Ann Arbor, Michigan with a BA in Psychology in May 1995. He entered the MA program at The College of William & Mary in Williamsburg, Virginia, in August 1996 and graduated in May 1998. He was a 1998 recipient of a Rotary International Ambassadorial Scholarship to study at Ruprecht-Karls Universität in Heidelberg, Germany.