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Loneliness and Self-Esteem at Different Levels of the Self

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A handwritten signature in black ink, appearing to read "John M. Ernst", written over a horizontal line.

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### Abstract

Loneliness is proposed to have three dimensions: isolation, connectedness, and belongingness (Hawkley, et al., 1999). In an extension of the work by Hawkley and colleagues (1999), these levels are hypothesized to be a function of three unique aspects of self: personal, relational, and collective. Brewer (1996) proposed that self-esteem is experienced differently at each level of self. Personal self-esteem is how a person feels about himself or herself based on his or her individual traits and characteristics. Relational self-esteem is based on whether a person believes that he or she exhibits appropriate behavior in a one-on-one relationship. Collective self-esteem is how one evaluates his or her participation in a group and how others evaluate the group as well. Given different levels of self-esteem and prior research showing a negative correlation between loneliness and self-esteem, the hypothesis that there is a stronger relationship between loneliness and self-esteem within each level of self relative to between levels was tested. Dimensions of loneliness and self-esteem were examined by having male and female undergraduates (ages 18-21) complete the Loneliness Dimension Scale, the Collective Self-Esteem Scale, the Rosenberg Self-Esteem Scale, and a new measure of relational self-esteem. Correlations were then calculated to determine the relationship between loneliness and self-esteem at each level: personal, relational, and collective. Correlations were analyzed for significance. Results show trends supporting the hypotheses for the personal, relational, and collective levels and significant differences were found for the relational and collective levels.

### Loneliness and Self-Esteem at Different Levels of the Self

If you have ever experienced a period of loneliness in your life, you may already know that these feelings are often accompanied by feelings of low self-esteem. Although loneliness and self-esteem are individual psychological constructs, both are very important aspects of individuals' lives. Loneliness may be described as a negative affect state and "reflects an individual's subjective perception of deficiencies in his or her network of social relationships" (Russell, Cutrona, Rose, and Yurko, 1984). Self-esteem may be defined as feelings of self-worth and self-respect (Rosenberg, 1965). Loneliness has been linked to physical illness (Lynch, 1976), alcoholism (Bell, 1956), and suicide (Wenz, 1977). Along the same lines, people with high self-esteem have been found to have fewer ulcers, to experience fewer sleepless nights, to conform less to peer pressure, and to be less likely to use drugs (Brockner & Hulton, 1978). Also, self-esteem has been found to be a better predictor of satisfaction with one's life than objective characteristics like income or age (Diener, 1984). Both loneliness and low self-esteem have been found to be related to the psychological states of depression and hopelessness (Crandall, 1973). Perhaps not surprisingly, previous research has shown that loneliness and self-esteem are related (Davis, et al. 1992); specifically, loneliness is negatively correlated with self-esteem.

The previous studies that have linked loneliness and self-esteem have investigated them at only one level of self--the personal self. Based on Tajfel's Social Identity theory (Tajfel, 1982), Brewer (1996) described three levels of the self: personal, relational, and collective. Personal self identity is based on specific attributes and traits, such as academic ability and athleticism. Relational self identity based on one-on-one intimate

relationships with others, such as identifying oneself as a boyfriend or girlfriend.

Collective self identity consists of a person's membership in a social group and the value that the person places on that group. For example, the collective self could be derived from ethnicity, religion, or gender. McWhirter (1997) has suggested that we need to examine loneliness and self-esteem based on such a multi-dimensional construct of self because a uni-dimensional construct cannot fully address all aspects of loneliness. I attempted to extend prior research by examining the relationship between loneliness and self-esteem, not only at the personal level, but also the relational and collective levels. That is, loneliness and self-esteem are hypothesized to be independently related within each level of self (personal, relational, and collective). To investigate this, I intend to examine the interrelationships of loneliness and self-esteem at each level of identity, hypothesizing that loneliness has three different levels that are related to three different levels of self-esteem.

### Loneliness

Loneliness affects millions of Americans, either acutely or chronically (Ernst & Cacioppo, 1999). Since the development of the UCLA Loneliness Scale (1980), research on loneliness has expanded greatly (Ernst & Cacioppo, 1999). Most studies have examined correlations between loneliness and a wide variety of social, emotional, and structural variables. Lonely individuals have been found to express pessimistic views (Davis et al., 1992) and to be low in positive affect (Mehrabian & Stefl, 1995). Lonely individuals are more likely to be shy (Kamath & Kanekar, 1993) and are less satisfied with life than other individuals (Riggio, Watring, & Throckmorton, 1993). Lonely people

have fewer friends, make fewer close friends, see themselves as different from their friends, and are less likely to have a romantic partner than other people (Bell, 1993).

For example, one study by Anderson and Martin (1995) examined lonely individuals' daily encounters with classmates. Researchers found that lonely students exhibited poorer social skills in interactions with classmates than other students and were also less responsive to classmates in discussions. Another study by Nurmi, Toivonen, Salmela, and Eronen (1996) found that lonely individuals were perceived as less popular according to other classmates. Studies such as these suggest that lonely individuals may have difficulties in forming relationships, even when contact with others is frequent (Anderson and Martin, 1995). A third study (Vitkus & Horowitz, 1987) looked at how lonely individuals have the ability to adopt both a listening role and a confiding role. Both lonely and non-lonely individuals showed approximately the same level of social abilities in each role. Lonely individuals, however, rated themselves as having poorer social skills than non-lonely individuals (Vitkus & Horowitz, 1987). This study suggests that lonely individuals' difficulties may not lie in their ability to form relationships, but rather in their confidence in their abilities to form relationships or possibly in their self-esteem.

### Self-Esteem

According to Baumeister (1999), self-esteem can be defined as "the positivity of the person's evaluation of the self." In the past two to three decades, the American public has placed more and more importance on self-esteem. For example, the California task Force designed their school curriculum around building self-esteem in their students. Indeed, self-esteem has been examined in relation to a variety of psychological variables.

For example, people who are low in self-esteem are at risk for depression and anxiety (Higgins, 1987). Individuals who feel good about themselves are less likely to use drugs and report higher feelings of happiness (Brockner & Hulton, 1978). Hans Strupp (1982, pp.64-65), a psychotherapy researcher reported, "Unhappiness, frustration and despair (:) basic to these difficulties are impairments in self-acceptance and self-esteem." Although self-esteem has become a household term and high self-esteem is generally seen as desirable, there are still many questions as to its importance in a person's life and how it should be studied.

One would think that feelings such as unhappiness, frustration and despair would affect a person's interactions with other people, and studies have supported these ideas. In a correlational study, Wills (1981) found that when individuals feel down about themselves, they feel down about others also. In a related experiment, Beauregard and Dunning (1999) tested how a person's self-esteem affects the individual's treatment of others. To temporarily lower an individual's domain specific self-esteem, subjects were told that they had just performed badly on an intelligence test. Then the researchers observed the subjects' reactions and found that those whose self-esteem had been damaged were more likely to belittle others than those who had supposedly done well on the intelligence test.

Other studies have shown that people with inflated self-esteem are more likely to be aggressive and violent when their self-esteem has been damaged (Kernis, Granneman, & Barclay, 1989). According to Blaine and Crocker (1993), people with high self-esteem are not defensive under normal conditions. When they are confronted with a threat to their ego, however, they become defensive and may respond dramatically, possibly

violently (Blaine and Crocker, 1993). One study by Baumeister, Heatherton, and Tice (1993) asked participants to bet money on their performance of a task. Under neutral conditions, people with high self-esteem did well and placed appropriate bets. When the people were confronted with ego threats, however, they tended to make larger bets and lose their money. Baumeister, Heatherton and Tice (1993) concluded that an ego threat undermines a person's self-knowledge, producing self-destructive responses. This data shows that threatening a person's self-esteem can have detrimental effects not only to the person but also to the individuals with whom the person interacts.

Although there is a great deal of research on self-esteem, researchers still debate how to study self-esteem. For example, is self-esteem best described as a global construct or as having specific domains? Global self-esteem is theorized to be a general feeling of self-worth based on broad issues of competence and ability, while domain specific self-esteem is feelings about a certain situation or ability (Baumeister, 1999). For example, Jeff may think he paints well and swims poorly, while Beth thinks she paints poorly and swims well. It would be hard to predict their feelings about swim team tryouts based on their global self-esteem. Past research has mainly used global self-esteem measurements; however, future research may emphasize awareness of domain specific self-appraisals (Baumeister, 1999). One possible implication for research in domain specific self-esteem are the domains of Brewer's multi-dimensional model of self: personal, relational, and collective.

### Levels of the Self

Researchers such as Brewer (1996) and Luhtanen and Crocker (1992) are now investigating the social aspect of the self by considering how a person defines himself or



herself in relation to others and to social groups. According to Brewer, “connectedness and belongingness are not merely affiliations or alliances between the self and others but entail fundamental differences in the way the self is construed” (Brewer, 1996, p. 83). Brewer based many of her ideas on Tajfel’s social identity theory. According to Tajfel’s social identity theory (Tajfel, 1982), there are two distinct aspects of the self: personal identity and social identity. Personal identity consists of specific attributes of the individual, such as competence, talent and sociability (Tajfel, 1982). Personal identity describes how people view themselves, while social identity refers to how they see the social groups to which they belong. (Luhtanen and Crocker, 1992). Although one aspect of collective identity may be how a person sees himself or herself in a group, Tajfel argues that social identity is based on the evaluation of one’s social group, not on one’s personal achievements or attributes within the group. It is based on one’s own evaluation of the group as well as how others evaluate the group (Tajfel & Turner, 1986). Social identity consists of “that part of an individual’s self-concept which derives from his knowledge of his membership of social group (or groups) together with the value and emotional significance attached to that membership” (Tajfel, 1982). According to Tajfel (1982), social identity could be a person’s ethnicity, his or her religion, or his or her feelings of belonging to one’s community. Social identity theory proposes that individuals want not only a personal identity but a social, or collective identity, as well.

Drawing on Tajfel’s theory and others research, Brewer extended Tajfel’s ideas to include three levels of self-definition: personal, relational, and collective. Her theories of personal and collective identities parallel Tajfel’s theory; however, she differentiates personal bonds of attachment from impersonal bonds derived from a common

identification (Brewer, 1996). The personal self is our common perception of the Western self; it is differentiated and individualistic (Brewer, 1996, p. 84) and consists of specific attributes of the individual. The relational self occurs at the interpersonal level, and it is “the self-concept derived from connections and role relationships with significant others” (Brewer, 1996). This self-concept is derived from the responses and satisfaction of the other person in the relationship and is motivated by the other’s benefits. (Brewer, 1996). The collective self, based on Tajfel’s social identity theory, consists of an identity stemming from membership in a larger social category such as ethnicity, religion, or gender.

#### Integration of Levels of Self with Loneliness and Self-Esteem

Are there levels of self in loneliness? Researchers of loneliness have theorized about different types of loneliness. For example, Weiss (1975) has proposed that there are two different types of loneliness: social loneliness and emotional loneliness. Emotional loneliness is described as a lack of an intimate attachment, while social loneliness is defined as lacking a membership in a desired group. People who have recently been divorced or widowed may experience emotional loneliness. Individuals who lack a social group of friends with common interests and activities, (e.g., people who have recently moved to a new city or job) may experience social loneliness. Here one can see that Weiss’s emotional loneliness may relate to a relational level of identity and social loneliness may relate to a collective level of identity.

Indeed, Weiss (1975) hypothesized that different types of relationships meet different needs of the individual. If these needs are not met, individuals will experience distress. These relational provisions include attachment, social integration, opportunities

for nurturance, reassurance of worth, reliable alliance, and guidance. According to Weiss, an absence in attachment gives rise to emotional loneliness, while an absence of social integration, or relationships in which a network of people share interests and concerns, leads to social loneliness. Weiss speculated that these different types of loneliness are exhibited differently. He hypothesized that emotional loneliness leads to feelings of isolation and anxiety while social loneliness leads to feelings of boredom, aimlessness and marginality (Weiss, 1975). Weiss argued that a deficiency in either emotional or social relationships will cause distress, but that the relationships cannot compensate each other and each deficiency requires its own remedy.

Empirical research has supported Weiss's ideas. Russell, Cutrona, Rose, and Yurko (1984) used the University of California at Los Angeles (UCLA) Loneliness Scale to examine differences in subjective experiences of social and emotional loneliness and to investigate whether people actually distinguish between the two. The study found that emotional loneliness and social loneliness are distinct experiences, although they do have a common core of experiences. Emotional loneliness was found to be correlated with a lack of attachment. For social loneliness, a lack of reassurance of worth was found to be a better predictor of social loneliness than a lack of social integration, and Russell and colleagues concluded that social loneliness is "apparently related to several different types of relational deficits that result from the lack of a social network" (Russell et al, 1984). There were some differences in Weiss's model of coping, also. According to Weiss' theoretical model, emotional loneliness was expected to be correlated with feelings of anxiety; however, social loneliness was more significantly related to reports of

anxiety. According to Russell and colleagues, social loneliness was found to be related to anxiety and depression, while emotional loneliness was related only to depression.

In an extension of Weiss's typology, Hawkley, Browne, Ernst, Burleson, and Cacioppo (1999) derived three different types of loneliness based on data from the R-UCLA Loneliness Scale. They found that the scale measures three distinct types of loneliness: isolation, connectedness, and belongingness. Isolation is hypothesized to be a feeling of isolation, not limited to a deficit in intimate others. Lack of connectedness is loneliness identified by the absence of a close friend or confidante, i.e. lacking a partner or best friend (Hawkley, et al., 1999). Lack of belongingness reflects deficits in a feeling of identification with and inclusion in a valued group (Hawkley, et al., 1999). Although these three levels were correlated with each other, a factor analysis indicated that the factors were separable. It follows that isolation may correspond to the personal level of self, connectedness to the relational level, and belongingness to the collective level. Based on UCLA Loneliness Scale, these researchers (Hemenover, Hawkley, Ernst, & Cacioppo) are developing and testing the Loneliness Dimension Scale (LDS), which is designed to more fully tap these three different types of loneliness.

Levels of identity in self-esteem. Research into the level of identities has also led to a different perspective on self-esteem. Since most theories of self-esteem have been based on the perceptions of personal self-worth and on self-evaluation of traits and talents, previous research on personal self-esteem offered a limited perspective. Brewer (1996) argued that self-esteem may not only be based on our perceptions of ourselves, but also on our evaluations of our one-on-one relationships and the groups to which we belong. Although personal, relational, and collective self-esteem are related because they

are all a part of person's overall sense of worth, both relational and collective self-esteem may have independent implications for psychological adjustment.

Brewer has hypothesized that self-esteem differs at each level of the self and can be measured individually (Brewer, 1996). She argues that personal self-esteem is how a person feels about himself or herself based on his or her individual traits and characteristics, like body size or musical ability. Relational self-esteem is based on whether a person believes that he or she exhibits appropriate behavior in the relationship, such as treating a friend well. Collective self-esteem is how one evaluates his or her participation in a group and how others evaluate the group as well, like how well a person feels he or she contributes to the group.

One study by Shoemaker (1980) examined domain specific self-esteem in children. A factor analysis of the Hare Self-Esteem Scale yielded three factors: home, peer, and school self-esteem. The school factor used statements like "I am usually proud of my report card." The home factor measured items such as "No one pays much attention to me at home." The peer factor included statements such as "I have at least as many friends as people my age." Although these factors are very specific domains of self-esteem, in light of Brewer's hypothesis, Shoemaker's "school factor" may correspond to an area of personal self-esteem; "home factor" may correspond to a relational level of self-esteem; and the "peer factor" may correspond to collective self-esteem.

Based on the idea that self-esteem can be measured at different levels of identity, Luhtanen and Crocker (1992) developed a collective self-esteem scale that attempts to assess an individual's level of collective self-esteem based on group membership such as race, gender, religion and socio-economic class. They designed their questionnaire to

measure general social identity, rather than developing one measure for gender, ethnicity, and so on. Just as an individual's personal self-worth may be based greatly on his academic abilities while another may base hers on her athletic abilities, the basis of collective self-esteem may differ across individuals. Some may derive their collective self-esteem largely from their ethnicity, while others may focus on their gender (Luhtanen & Crocker, 1992). The questionnaire also measures how a person feels about himself or herself in a group, although it is based on Tajfel's idea that social (or collective identity) stems from how a person feels about his or her group, the questionnaire also measures how a person feels about himself or herself in a group.

Loneliness, self-esteem, and levels of identity. Loneliness and self-esteem have been shown to be related at the personal level of self. Indeed, McWhirter (1997) recommended that treatment of either should include a focus on the other because they are very closely related. A study by Ginter and Dwinell (1994) examined the relationship of loneliness and self-esteem in a group of students enrolled in an academic assistance course, and they found that loneliness was negatively correlated with self-esteem. In a study by Davis, Hanson, Edson, and Ziegler, (1992), loneliness and pessimism were negatively related with self-esteem while optimism was positively related with self-esteem. Since Davis' research focuses on how a person's self-worth is derived from personal attributes, such as academic ability, it presents loneliness as a unidimensional construct. These correlations between loneliness and self-esteem at the personal level of identity lead to questions about whether loneliness and self-esteem are similarly related at the relational and collective levels of identity as well.

Although the levels of self are hypothesized to be separable dimensions, previous research does show that they are related to each other. Crocker, Luhtanen, Blaine, and Broadnax (1994) measured global self-esteem separately at the personal and collective levels. They found that self-esteem at the two levels are positively correlated. In a study by McWhirter (1997) examining global, intimate, and social loneliness, self-esteem predicted intimate as well as social loneliness. Both the studies by McWhirter (1997) and Crocker, Luhtanen, Blaine, and Broadnax (1994) may suggest an overlap between different levels of the self. Along the same lines, Hawkley, Browne, Ernst, Burleson, and Cacioppo (1999) found that although isolation, connectedness, and belongingness were separate types of loneliness, the three types of loneliness were related. These studies may suggest that isolation may be also strongly related to relational and collective self-esteem, as well as personal self-esteem.

The construal of self (personal, relational, and collective identity) is important to consider when looking at loneliness and self-esteem because both involve the way that a person perceives himself or herself. Although there is little research on the relationship between loneliness and self-esteem at different levels of the self, studies show that those who feel socially rejected have lower levels of self-esteem and feel inadequate (Leary, 1995), suggesting that social interactions may be related to self-esteem. One study by McWhirter (1997) found that personal self-esteem significantly predicts not only social loneliness but also emotional loneliness, which may show that there is overlap between the levels of identity. In light of this previous research, this study aims to answer two questions. First, if loneliness and self-esteem are related within one level (the personal level) are they related within the relational and collective levels as well?

Second, is there evidence to support the idea that separating loneliness into three types has useful meaning? To answer these questions, we proposed to examine loneliness and self-esteem at the personal, relational, and collective levels. Specifically, we gave participants the Rosenberg (personal) Self-Esteem Scale, the Collective Self-Esteem Scale, and a new measure of relational self-esteem along with a new measure of loneliness, the Loneliness Dimension Scale (LDS), which is based on the UCLA scale. The LDS is intended to tap the three levels of loneliness: personal, relational and collective. We then examined the relationship between these variables.

Hypothesis. We hypothesized that the relationship between self-esteem and loneliness would be stronger within the levels of self than between the levels. For example, the relationship between personal self-esteem and personal loneliness will be stronger than relationships between personal self-esteem and collective loneliness.

### Method

#### Participants

Participants were 36 male and 58 female students enrolled in a General Psychology course at Illinois Wesleyan University. The participants were between the ages of 18 and 21 years old. The students were given credit toward the Research Experience Program requirement in their General Psychology course for completing our questionnaire. Students were fully informed that they may withdraw at any time without penalty or loss of credit.



## Materials

Participants completed a demographic questionnaire and informed consent. A total of 10 questionnaires were given to students, some of which will be used for further research. The present study investigated 7 of these measures (see Appendix A). Five instruments were used to measure self-esteem. One instrument was used to measure loneliness, and one was used to measure social desirability.

The Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) is a widely used measure of a person's personal self-esteem and includes questions like, "I take a positive attitude toward myself." The participant is asked to rate themselves on a scale of 1-4, with (1) indicating "strongly disagree" and (4) indicating "strongly agree." Reliability appears to be good. For example, Silber and Tippent (1965) reported a test-retest correlation of .85 for 28 subjects after a 2 week interval. Fleming and Courtney (1984) reported a test-retest correlation of .82 for 259 male and female subjects with a 1-week interval.

The second measurement is the Relational Self-Esteem, which was developed for this study, was based on the Rosenberg Self-Esteem Scale (1965) and the Collective Self-Esteem Scale (Luhtanen and Crocker, 1992). It consists of twelve statements, such as "I am a giving person in my one-on-one relationships." The participant is asked to rate the statement according to a 7-point scale, with (1) being "strongly agree" and (7) being "strongly disagree." The scale is designed to measure self-esteem in one-on-one relationships. No reliability data is available yet.

The third measure is the Regard sub-section of the Barrett Lennard Relationship Inventory (Barrett-Lennard, 1962), which was used in the present study as a measure of

relational self-esteem. Schumm, Jurich, and Bollman (1980) did a factor analysis and determined that these items measured a participant's feelings of regard in a relationship. Items include statements such as "My intimate finds me dull and uninteresting."

The Collective Self-Esteem Scale (CSE), the fourth measure, assesses collective, rather than personal, self-esteem. It is a sixteen item scale, with statements such as "I am a worthy member of the social groups I belong to." The participant is asked to indicate how they feel about the statement based on a (7) point scale, with (1) indicating "strongly disagree" and (7) indicating "strongly agree." It asks participants to think of a variety of social groups such as sex, race, religion, and ethnicity. It includes four subscales: Membership Self-Esteem, measuring participants' judgments of how worthy they are as members of their groups; Public Collective Self-Esteem, measuring participants' judgments of how positively other people view the social groups one belongs to, and Importance of Identity, measuring the importance of one's social group memberships to one's self-concept. Luhtanen and Crocker (1992) report subscale alphas in the .70s and .80s.

The second measure of collective self-esteem was the Texas Social Behavior Inventory (Helmreich, Stapp, and Ervin, 1974). It is intended to be a measure of an individual's feelings of self-worth or in social situations (or social competence). It includes two forms, each with sixteen items. The participant is asked to rate the statement from (a) to (e), with (a) being "not at all characteristic of me" and (e) being "very characteristic of me." There is no test-retest data. Alternate-form reliability of the total 32-item scale is .89 (Heimlich and Stapp, 1974).

To measure loneliness, the Loneliness Dimension Scale (LDS), was used. It draws from the Revised University of California at Los Angeles Loneliness Scale (R-UCLA) and has additional questions. The LDS scale consists of forty-five items and the participant is instructed to rate how frequently each statement applies to him or her. It includes items to measure isolation, connectedness, and belongingness. An example of an isolation item is, "I rarely feel left out." An example of a connectedness item is "There is someone to whom I can talk." An example of a belongingness item is "There is no group to which I feel I belong." The scale has four choices, which are never, rarely, sometimes or often. Although reliability for the LDS is not yet available, test-retest reliability for the UCLA-R has ranged from .62 to .73 (Robinson, Shaver, and Wrightman, 1991).

The last questionnaire was the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). It is designed to measure a person's need for approval, which in turn can be used to measure how much a participant's need for approval influences his or her answers to self-report. It consists of thirty-three statements, such as "I have almost never felt the urge to tell someone off" and participants must answer True/False to the statements. Crowne and Marlowe (1964) reported a test-retest correlation of .88 over one month. This measure was used to determine whether the participants' answers to the loneliness questionnaire were influenced by their need for approval. If they answer the questionnaire based on their need for approval, the loneliness measure may not be an accurate reflection of their feelings.

### Procedure

Upon arrival to the data collection area, participants were given informed consent. They also filled out a brief demographic form on their sex, age, year in school, ethnicity,

and involvement in social groups. After completing the demographics questionnaire, the questionnaires were administered in random order. After all the students were finished with the questionnaires, they were debriefed and thanked for their participation.

### Results

The main hypothesis was that the relationship between loneliness and self-esteem was stronger within level of identity than between levels of identity. Therefore, in addition to testing whether the individual correlations were significantly different from a correlation of zero, we also examined whether the relative strengths of correlations were significantly different from one another by following the test for difference between dependent correlations (Bruning & Kintz, 1977) (see Appendix B). For example, using a *t*-test, we compared the absolute value of the correlation between isolation and personal self-esteem to first, the absolute value of the correlation between connectedness and personal self-esteem and second, to the absolute value of the correlation between belongingness and personal self-esteem. Thus, our hypothesis would be supported if the *t*-tests indicated that the personal self-esteem/isolation correlation was stronger than both the personal self-esteem/belongingness and the personal self-esteem/connectedness correlations. The correlations and tests of differences can be seen in Table 1. For significant correlations, the direction of the relationships between isolation and all levels of self-esteem were always negative; whereas, the direction of the relationships between both connectedness and belongingness with self-esteem were always positive.

#### Correlations between Loneliness and Personal Self-Esteem

Using Cohen's (1988) conventions (*r* greater than .5 strong; *r* about .3 moderate; *r* about .1 weak), the correlation between personal self-esteem (RSE) and isolation was

strong; whereas, the correlations between personal self-esteem and both connectedness and belongingness were moderate. The test of differences indicated that the personal self-esteem/isolation correlation was significantly stronger than the personal self-esteem/belongingness correlation ( $t(91) = 1.7, p < .05$ , one-tailed) but not significantly stronger than the personal self-esteem/connectedness correlation ( $t(91) = 1.23, p < .05$ , one-tailed).

#### Correlations between Loneliness and Relational Self-Esteem

RESE. Analysis of the correlations of the loneliness factors and the RESE show that the Isolation/relational self-esteem correlation was the strongest correlation. Using Cohen's (1988) conventions the correlation of relational self-esteem/isolation would be considered strong, while the correlations of relational self-esteem/connectedness and relational self-esteem/belongingness would be considered moderate-strong. The test of difference indicated that the relational self-esteem/isolation correlation was not significantly stronger than the relational self-esteem/connectedness correlation ( $t(91) = .85, p < .05$ , one-tailed) or the relational self-esteem/belongingness correlation ( $t(91) = .67, p < .05$ , one-tailed).

BLRI. For the relational self-esteem measure, the BLRI, the correlation between connectedness and relational self-esteem was the strongest correlation. Based on Cohen's convention (1988), the correlation of relational self-esteem/connectedness is strong; whereas both the relational self-esteem/isolation correlation and the relational self-esteem/belongingness were weak-moderate. The test of differences showed that the relational self-esteem/connectedness correlation was significantly different than both the

relational self-esteem/isolation correlation ( $t(91) = 3.5, p < .05$ , one-tailed) and the relational self-esteem/belongingness correlation ( $t(91) = 3.37, p < .05$ , one-tailed).

### Correlations between Loneliness and Collective Self-Esteem

TSBI. The correlations between collective self-esteem (TSBI) and each level of loneliness were found to be moderate to strong. Although the collective self-esteem/belongingness correlation was the strongest correlation for this measure, it was not found to be statistically different than the collective self-esteem/connectedness correlation ( $t(91) = .06, p < .05$ , one-tailed) or the collective self-esteem/isolation correlation ( $t(91) = .17, p < .05$ , one-tailed).

CSE. Each subscale of the CSE was computed separately. The first, Identity, measured how important the social group was to the participant's identity. The correlation between Identity/isolation was moderate (1988). The correlation for Identity/connectedness was weak and the correlation for Identity/belongingness was strong. The test of differences showed that the Identity/belongingness correlation was not significantly stronger than the Identity/isolation correlation ( $t(91) = 1.4, p < .05$ , one-tailed) but was significantly stronger than the Identity/connectedness correlation ( $t(91) = 2.3, p < .05$ , one-tailed).

The second subscale of the CSE was Membership, which measured how well the participant felt he or she contributed to the group. The Membership/isolation correlation was moderate-strong. The Membership/connectedness correlation was moderate to strong. The Membership/belongingness correlation was strong. The test of differences indicated that the Membership/belongingness correlation was significantly stronger than

the Membership/isolation correlation ( $t(91) = 2.09, p < .05$ , one-tailed) and the Membership/connectedness correlation ( $t(91) = .2.7, p < .05$ , one-tailed).

The third subscale was Private, which measured how much the participant respected and liked his social group. The correlation between Private/isolation was moderate-strong. The Private/connectedness correlation was also moderate-strong. The Private and belongingness correlation was strong. The test of differences showed that the Private/belongingness correlation was significantly stronger than the Private/isolation correlation ( $t(91) = 2.9, p < .05$ , one-tailed) and the Private/connectedness correlation ( $t(91) = 2.52, p < .05$ , one-tailed).

The fourth subscale was the Public subscale, which measured how well others viewed the participant's group. All the correlations between the levels of loneliness (isolation, connectedness, belongingness) and the Public subscale were all moderate to strong correlations. Although the Public/belongingness correlation was the strongest, the test of differences did not show that it was significantly different than the Public/isolation correlation ( $t(91) = .65, p < .05$ , one-tailed) and the Public/connectedness correlation ( $t(91) = .91, p < .05$ , one-tailed).

#### Correlations between Loneliness and Social Desirability

The correlations of each level of loneliness with the Marlowe-Crowne Social Desirability Scale was also examined to test whether the participants' reports were influenced by the stigmas attached to loneliness. These correlations were  $r = .191$  for isolation,  $r = -.113$  for connectedness, and  $r = -.144$  for belongingness. None of these correlations were significant, or different than zero.

### Correlations between levels of loneliness

The correlations between each level of loneliness were also examined. The correlation between isolation and connectedness was  $r = -.646$ . The correlation between isolation and belongingness was  $r = -.717$ . The correlation between connectedness and belongingness was  $r = .590$ . Although the correlations were considered strong, they were not strong enough to be considered the same construct. To be considered the same construct, they must have at least a .8 correlation.

### Discussion

The results provided tentative support for the hypothesis. At the personal level, isolation was more highly correlated with personal self-esteem than both connectedness and belongingness, at an absolute level, but not a statistical level. At the relational level, there was not a difference in the correlations between the RESE and isolation, connectedness, and belongingness. This may be an insufficient measure since it was developed based on the RSE and has not previously been tested. One potential reason is that, as a “homegrown” measure of relational self-esteem, the RESE has yet to be validated. The pattern of correlations, however, for the BLRI, did support the hypothesis that the correlations would be stronger within the levels than between the levels. There were significant results for the correlations between the BLRI and connectedness. The BLRI was included as a relational self-esteem measure and it was intended to measure how well a person felt they were meeting the expectations of their intimate by measuring the participants’ judgement of their intimate’s regard. Since this measure had a higher correlation with the loneliness connectedness factor, one possible implication of this result is it suggests that the way a person feels they are treated in a relationship may



affect how lonely they feel with respect to that intimate. This may indicate that relational self-esteem consists of more than one aspect. For example, relational self-esteem may be influenced by how a person feels they are acting in the relationship, as well as how they are being treated in the relationship. This finding would be consistent with the research on collective self-esteem, which has been theorized to have four aspects: identity, membership, public, and private (Luhtanen and Crocker, 1992).

For the collective level of self, the CSE correlations also supported the hypothesis for all but one subscale of the CSE (public CSE). For the Membership subscale, the correlations with isolation were also relatively high. In addition, it is interesting to note that this is similar to previous research done by Luhtanen and Crocker (1992). In their initial study on the CSE, they found that personal aspects of identity correlated with the Membership subsection, suggesting that the Membership measures a relatively individualistic aspect of collective identity.

For the TSBI, our other measure of collective self-esteem, there was little difference for the different levels of loneliness, which does not support the hypothesis. The TSBI is reported to be a measure of social self-esteem (Helmreich, Stapp, & Ervin, 1974), but not a direct measure of collective self-esteem, which may explain the difference in results. Although social self-esteem measures how a person feels around numerous individuals, i.e. a party, it does not measure how an individual feels about themselves within a specific group, i.e. a campus organization.

Finally, one question one might have is whether isolation is not simply an item factor. The results of the Marlowe-Crowne Social Desirability measure support the idea that isolation is not simply an item factor. That is, one reason for the isolation factor may

be due to the items being negatively worded while the items for the other two factors are positively worded. It may be easier for a participant to admit to a lack of belongingness than a feeling of isolation. Therefore, perhaps participants differed on isolation relative to the other two factors because they were unwilling to answer negatively worded items due to social desirability. Isolation, however, was not correlated highly with the Marlowe-Crowne Scale suggesting that social desirability does not explain the factor.

This study does provide support that isolation, connectedness, and belongingness are separate constructs. Although the items were strongly correlated to each other, they were not correlated strongly enough to be considered the same construct. In most of the measures, isolation, connectedness, and belongingness produced significantly different correlations with the levels of self-esteem, which also supports the idea that they are separable constructs. The fact that the relationships were stronger within the levels of self (personal, relational, collective) rather than between the levels, offers support that loneliness involves three different dimensions. Furthermore, these dimensions seem to be related to different levels of self. Although all of the results are not significant, they do show a trend supporting a link between loneliness and self-esteem at each level of the self. Not only does this support the idea that loneliness includes three levels, but it also supports the idea that our self-esteem includes three levels and is experienced differently for each.

Although this research is preliminary, it does provide practical implications. One example may be in college students. First year students go through many changes that may include loneliness. If loneliness is experienced differently at each level, students may need different approaches to alleviate loneliness. For example, a student may feel

connected to his or her roommate, but feel a lack of belongingness. An R.A. may be able to help a student more successfully if he or she is aware of different aspects of loneliness.

To fully understand the relationships between loneliness and self-esteem at different levels of the self and their practical implications, more research is needed. Although isolation has been found to be a different experience, it is not clear how it differs from connectedness and belongingness. Research into this question would be very helpful in defining the aspects of loneliness. For example, is isolation a reflection of distance from a significant other or social group? Also, implications for this study include further research into the measurement of relational self-esteem. Our measure may have not been accurate, and an accurate measure would be very helpful in defining these levels of self-esteem. The implications from the Barrett-Lennard show that loneliness may be strongly influenced by how a person's intimate regards them. This may be an aspect of relational self-esteem that needs to be developed further.

The results underscore the complexity of the experiences of loneliness and self-esteem. Overall, the study has contributed to our knowledge and theory of loneliness, self-esteem, and self-identity. The results show that loneliness and self-esteem are related not only at the personal level, but at each level of the self. They also suggest that both loneliness and self-esteem are multi-dimensional and that it may be useful to measure them this way, when looking at these human experiences. Developing multi-dimensional constructs may help us better understand these experiences and the relationships between the two. This study has furthered the evidence supporting three dimensions of loneliness and provided more evidence supporting three related, yet separable identities of the self, each with different experiences of self-esteem.

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## Author's Note

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I would like to thank my parents and family for being so supportive and encouraging, and to my friends for listening to me talk about my ever-changing research on loneliness and self-esteem, and to Steve, for keeping me from being lonely during my many hours in the lab, and to John H. for saving my paper when I thought all was lost.

Table 1

Correlations for Loneliness and Self-Esteem at Each Level of the Self

<u>Measures of Self-Esteem</u>	<u>Level of Loneliness</u>		
	<u>Isolation</u>	<u>Connectedness</u>	<u>Belongingness</u>
<u>Personal Self-Esteem</u>			
RSE	-.508** <sub>a</sub>	.415** <sub>a</sub>	.392** <sub>b</sub>
<u>Relational Self-Esteem</u>			
RESE	-.539** <sub>a</sub>	.477** <sub>a</sub>	.407** <sub>a</sub>
BLRI	-.258** <sub>b</sub>	.520** <sub>a</sub>	.266* <sub>c</sub>
<u>Collective Self-Esteem</u>			
TSBI	-.424** <sub>a</sub>	.431** <sub>a</sub>	.436** <sub>a</sub>
CSE-Identity	-.302** <sub>a</sub>	.196 <sub>b</sub>	.400** <sub>a</sub>
CSE-Membership	-.499** <sub>b</sub>	.427** <sub>c</sub>	.627** <sub>a</sub>
CSE-Private	-.457** <sub>b</sub>	.448** <sub>c</sub>	.632** <sub>a</sub>
CSE-Public	-.416** <sub>a</sub>	.385** <sub>a</sub>	.461** <sub>a</sub>
<u>Levels of Loneliness</u>			
Isolation	--	-.646**	-.717**
Connectedness	--	--	.590**
Belongingness	--	--	--

Note. Correlations in the same row that do not share subscripts differ from A at  $p > .05$  in the t-test for dependent correlations.  $n = 94$  for all correlations

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

## Demographics

1. How old are you?
2. What is your sex? (M for male, F for female)
3. What is your year in school?
4. What is your ethnicity? (Please circle one that applies)
  - a. Caucasian
  - b. African-American
  - c. Asian-American
  - d. Pacific Islander
  - e. Latino
  - f. Asian
  - g. Native American
  - h. International Student
  - i. Other
5. Circle what social groups you belong to on campus.
  - a. volunteer organization
  - b. church group
  - c. academic club
  - d. fraternity or sorority
  - e. musical group
  - f. varsity sports team
6. Are you currently involved in a romantic relationship? (Yes/No)

If so, how long?

## Debriefing

Thank you very much for your help! This study examined social and emotional lives of students. Its focus was on different types of loneliness and how they relate to different types of self-esteem. We hypothesize that people can have different feelings of self-esteem. For example, a person can evaluate themselves on the basis of their own abilities and traits (personal self-esteem), how they relate to a significant person in their life (relational self-esteem), or how they contribute to groups they belong to (collective self-esteem).

We also hypothesize that people can be lonely for three different reasons. They may feel lonely because they feel isolated from others (personal), they may feel lonely because they feel a lack of connection with a significant other (relational), or they may feel lonely because they don't feel like they belong to a group of people (collective). We hypothesized that the different types of self-esteem were each related to a corresponding type of loneliness.

This research is valuable because it will help us better understand both loneliness and self-esteem. Loneliness and low self-esteem are terrible feelings that afflict millions of Americans. It is our hope that further research will help us explore how to prevent it and alleviate it.

If you have questions in the future, please contact John Ernst, Ph.D. at (309) 556-3907. In addition if you would like to discuss any negative feelings that this may have brought up please contact Dr. Ernst or contact the counseling services (their services are free) at Illinois Wesleyan University (309) 556-3052.

If you are interested in this study and would like further information, the following is a recommended reading used in this study:

Ernst, J.M. and Cacioppo, J.T. (1999). "Lonely Hearts: Psychological perspectives of loneliness." *Applied and Preventive Psychology*, 8, 1-22.

Thanks again for your participation! Your help is of great service as we explore how different types of self-esteem relate to different types of loneliness.

## Informed Consent

We are requesting that you participate in a research study being conducted by Kiley L. Bednar, an undergraduate psychology student here at Illinois Wesleyan University under the supervision of Dr. John M. Ernst. The purpose of this project is to better understand what students think about themselves and their interactions with others. In order to do this we are going to ask you some questions about your emotions and social relationships. You will receive course credit towards your General Psychology Research Experience Program.

You will be completing a total of 10 surveys and a brief demographics questionnaire (questions about your age, year in school, etc.), which will take approximately 60 minutes. The questions we ask you are about your social and emotional life. You may find some of the questions to be personal or they may ask you about feelings that you are not comfortable with. You are free to withdraw from the session at any time and are free to answer or to not answer any of the questions. There will be no penalty or loss of credit for withdrawing or for omission of answers.

The specific information that you provide will be strictly confidential. Your questionnaires will be identified by a random numbered code and your name will not appear on any of the questionnaires. Your responses will be classified and stored by a participant ID number only. All information will be held under lock and key. The answers to the questions you provide will be used by the members of the research team to better understand the social and emotional lives of students. Summaries of information you and others participating in the study provide may appear in research publications about psychology.

If you have any questions regarding this project, please feel free to contact Kiley Bednar at (309) 821-0669 or the supervising faculty member, Dr. John M. Ernst at (309) 556- 3907. If you have any concerns regarding this project, please feel free to contact Dr. Doran French, a member of IWU's independent review board for ethics in experimentation, at (309) 556-3662.

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I have read the above information pertaining to the social and emotional lives of students.

\_\_\_\_ I agree to participate in this research. I understand that I may stop participation at any time or to not answer any of the questions without penalty.

\_\_\_\_ I do not agree to participate in this research.

---

Participant Signature

---

Date

---

Interviewer Signature

---

Date

# LDS

Indicate how often you feel the way described in each of the following statements. Fill in one circle for each.

Never      Rarely      Sometimes      Often

- |   |   |
|---|---|
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 1. There is no one person that shares my ideas.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 2. I have companionship.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 3. I am very different than the people around me.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 4. I am unhappy being so withdrawn.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 5. There is someone on whom I can rely.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 6. People are often around but still I feel alone.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 7. I often talk about my problems with others.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 8. I rarely feel left out.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 9. There is someone to whom I can talk.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 10. There are individuals who would stick by me no matter what.                                 |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 11. I feel in tune with the people around me.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 12. I am no longer close to anyone.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 13. There is no group that I want to belong to.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 14. I feel like I am a central member of an important group with which I have frequent contact. |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 15. There is no one who knows me very well.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 16. I feel like I don't belong.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 17. No group accepts me for who I am.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 18. I have a lot in common with the people around me.   |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 19. I feel isolated from others.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 20. I don't belong to any group of friends that does things together.                           |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 21. There is no one person that shares my goals.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 22. I rarely feel alone in life.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 23. No peers accept me for who I am.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 24. There is no social group that shares my ideas.  |
| <input type="radio"/> — <input type="radio"/> — <input type="radio"/> — <input type="radio"/> | 25. There is no social group that shares my values.   |

Never	Rarely	Sometimes	Often	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26. There is someone who really understands me.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27. There is no social group that shares my emotions.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28. No one truly understands me how I feel about things.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29. There is no one person that share my emotions.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30. There is no social group that shares my goals.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31. There is no one to whom I feel connected.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32. There is someone to whom I can turn.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33. There is no one with whom I can trust all my secrets.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34. There are no groups of people who seem to like me.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35. There is no person I date or might date who is like me.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36. There is no one that I want to have as a friend.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37. There is no one person that shares my values.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38. I have a best friend with whom I feel I can interact frequently.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	39. On weekends, I often have numerous group activities to attend.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40. There is no group to which I feel I belong.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	41. I don't know anyone who would loan me money.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42. There is someone with whom I share leisure activities.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43. There is no one to have fun with.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44. There is no one with whom I can share a good laugh.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	45. There is someone close to me who gives me compliments.



LDS--Val

Please indicate your responses to the items below by filling in one circle for each.

- |                       |                       |                       |                       |                       |                       |                       |  |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| not at all            |                       |                       |                       |                       |                       | very                  |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 1. Do you feel lonely?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| seldom                |                       |                       |                       |                       |                       | often                 |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 2. How often do you feel lonely?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| not at all            |                       |                       |                       |                       |                       | very                  |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 3. Do you feel isolated from others?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| seldom                |                       |                       |                       |                       |                       | often                 |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 4. How often do you feel isolated from others?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| not at all            |                       |                       |                       |                       |                       | very                  |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 5. Do you feel connected to anyone?  |
|                       |                       |                       |                       |                       |                       |                       |  |
| seldom                |                       |                       |                       |                       |                       | often                 |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 6. How often do you feel connected to someone?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| not at all            |                       |                       |                       |                       |                       | very                  |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 7. Do you feel a sense of belonging?   |
|                       |                       |                       |                       |                       |                       |                       |  |
| seldom                |                       |                       |                       |                       |                       | often                 |  |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 8. How often do you feel a sense of belonging?   |
|                       |                       |                       |                       |                       |                       |                       |  |
|                       |                       |                       |                       |                       | Y                     | N                     |  |
|                       |                       |                       |                       |                       | <input type="radio"/> | <input type="radio"/> | 9. Do you belong to any groups?  |
|                       |                       |                       |                       |                       |                       |                       |  |
|                       |                       |                       |                       |                       | Y                     | N                     |  |
|                       |                       |                       |                       |                       | <input type="radio"/> | <input type="radio"/> | 10. Do you have a close friend or confidante?  |
|                       |                       |                       |                       |                       |                       |                       |  |
|                       |                       |                       |                       |                       | Y                     | N                     |  |
|                       |                       |                       |                       |                       | <input type="radio"/> | <input type="radio"/> | 11. Since the beginning of the school year, have you joined any new groups like marching band, a fraternity, a sorority, or choir? |
|                       |                       |                       |                       |                       |                       |                       |  |
|                       |                       |                       |                       |                       | Y                     | N                     |  |
|                       |                       |                       |                       |                       | <input type="radio"/> | <input type="radio"/> | 12. Since the beginning of the school year, have you made any new close friends?   |

## MCSDS

Listed below are a number of statements concerning personal attitudes and traits.  
Read each item and decide whether the statement is true or false as it pertains to you.

- |   |   |  |
|---|---|--|
| T | F | 1. Before voting I thoroughly investigate the qualifications of all the candidates.                                  |
| T | F | 2. I never hesitate to go out of my way to help someone in trouble.  |
| T | F | 3. It is sometimes hard for me to go on with my work if I am not encouraged.   |
| T | F | 4. I have never intensely disliked anyone.   |
| T | F | 5. On occasion I have had doubts about my ability to succeed in life.  |
| T | F | 6. I sometimes feel resentful when I don't get my way.   |
| T | F | 7. I am always careful about my manner of dress.   |
| T | F | 8. My table manners at home are as good as when I eat out in a restaurant.   |
| T | F | 9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.                    |
| T | F | 10. On a few occasions, I have given up doing something because I thought too little of my ability.                  |
| T | F | 11. I like to gossip at times.   |
| T | F | 12. There have been times when I felt like rebelling against people in authority even though I knew they were right. |
| T | F | 13. No matter who I'm talking to, I'm always a good listener.  |
| T | F | 14. I can remember "playing sick" to get out of something.   |
| T | F | 15. There have been some occasions when I took advantage of someone.   |
| T | F | 16. I'm always willing to admit it when I make a mistake.  |
| T | F | 17. I always try to practice what I preach.  |

- |   |   |   |
|---|---|---|
| T | F | 18. I don't find it particularly difficult to get along with loud-mouth obnoxious people. |
| T | F | 19. I sometimes try to get even, rather than forgive and forget.                          |
| T | F | 20. When I don't know something I don't at all mind admitting it.                         |
| T | F | 21. I am always courteous, even to people who are disagreeable.                           |
| T | F | 22. At times I have really insisted on having things my own way.                          |
| T | F | 23. There have been occasions when I felt like smashing things.                           |
| T | F | 24. I would never think of letting someone else be punished for my wrongdoings.           |
| T | F | 25. I never resent being asked to return a favor.   |
| T | F | 26. I have never been irked when people expressed ideas very different from my own.       |
| T | F | 27. I never make a long trip without checking the safety of my car.                       |
| T | F | 28. There have been times when I was quite jealous of the good fortune of others.         |
| T | F | 29. I have almost never felt the urge to tell someone off.                                |
| T | F | 30. I am sometimes irritated by people who ask favors of me.                              |
| T | F | 31. I have never felt that I was punished without cause.                                  |
| T | F | 32. I sometimes think when people have a misfortune they only got what they deserved.     |
| T | F | 33. I have never deliberately said something that hurt someone's feelings.                |
-

## CSE

Instructions: We are all members of different social groups or social categories. Some of such social groups or categories pertain to gender, race, religion, nationality, ethnicity, and socioeconomic class. We would like you to consider your memberships in those particular groups or categories, and respond to the following statements on the basis of how you feel about those groups and your memberships in them. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale:

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Strongly agree

- \_\_\_ 1. I am a worthy member of the social groups I belong to.
  - \_\_\_ 2. I often regret that I belong to some of the social groups I do.
  - \_\_\_ 3. Overall, my social groups are considered good by others.
  - \_\_\_ 4. Overall, my group memberships have very little to do with how I feel about myself.
  - \_\_\_ 5. I feel I don't have much to offer to the social I belong to.
  - \_\_\_ 6. In general, I'm glad to be a member of the social groups I belong to.
  - \_\_\_ 7. Most people consider my social groups, on the average, to be more ineffective than other social groups.
  - \_\_\_ 8. The social groups I belong to are an important reflection of who I am.
  - \_\_\_ 9. I am a cooperative participant in the social groups I belong to.
  - \_\_\_ 10. Overall, I often feel that the social groups of which I am a member are not worthwhile.
  - \_\_\_ 11. In general, others respect the social groups that I am a member of.
  - \_\_\_ 12. The social groups I belong to are unimportant to my sense of what kind of person I am.
  - \_\_\_ 13. I often feel I'm a useless member of my social groups.
  - \_\_\_ 14. I feel good about my social groups I belong to.
  - \_\_\_ 15. In general, others think that the social groups I am a member of are unworthy.
  - \_\_\_ 16. In general, belonging to social groups is an important part of my self-image.
-

## BLRI

Below are listed a variety of ways that one person could feel or behave in relation to another person. Please consider each statement with respect to whether you think it is true or not true in a present close relationship, such as a best friend, significant other, or relative. Mark each statement in the left margin according to how strongly you feel it is true or not true:

+ 1: I feel that it is probably true, or more true than untrue.

+ 2: I feel it is true.

+ 3: I strongly feel that it is true.

-1: I feel that it is probably untrue, or more untrue than true.

-2: I feel it is not true.

-3: I strongly feel that it is not true.

\_\_\_ 1. My intimate respects me as a person.

\_\_\_ 2. My intimate feels a true liking for me.

\_\_\_ 3. My intimate finds me rather dull and uninteresting.

\_\_\_ 4. My intimate cares for me.

\_\_\_ 5. My intimate is friendly and warm with me.

\_\_\_ 6. My intimate feels a deep affection for me.

## RESE

Instructions: People have many one-on-one relationships. For example you may be a best friend to someone, a boyfriend or girlfriend to someone, or a close confidant of a sibling or parent.

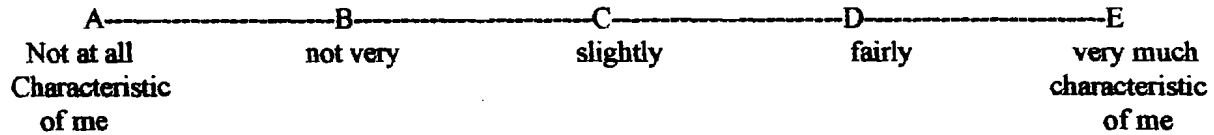
Think about those **intimates** with whom you share one-on-one relationships, and respond to the following questions on the basis of how you feel about being in those relationships. There are no right or wrong answers to any of these statements; we would like to have your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale:

1-----	2-----	3-----	4-----	5-----	6-----	7-----
Strongly disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Strongly agree

- \_\_\_\_ 1. I am a worthy companion in my one-on-one relationships.
- \_\_\_\_ 2. I don't have much to offer to my intimates.
- \_\_\_\_ 3. I am a giving person in my one-on-one relationships.
- \_\_\_\_ 4. I often feel I am useless in my one-on-one relationships.
- \_\_\_\_ 5. I feel that I have a number of good qualities to offer to my intimates.
- \_\_\_\_ 6. All in all, I am inclined to feel that I fail those with whom I share a one-on-one relationship.
- \_\_\_\_ 7. I am as good at one-on-one relationships as other people.
- \_\_\_\_ 8. I feel I don't make my intimates proud.
- \_\_\_\_ 9. I feel good about how I treat my intimates.
- \_\_\_\_ 10. On the whole, I am satisfied with how I relate to my intimates.
- \_\_\_\_ 11. I wish I could have more respect for who I am in my one-on-one relationships.
- \_\_\_\_ 12. At times I think I am no good at all to my intimates.

## TSBI-A

**Instructions:** In answering this set of questions, think about how well each statement describes you. Then answer based on the following scale:



- \_\_\_ 1. I am not likely to speak to people until they speak to me.
  - \_\_\_ 2. I would describe myself as self-confident.
  - \_\_\_ 3. I feel confident of my appearance.
  - \_\_\_ 4. I am a good mixer.
  - \_\_\_ 5. When in a group of people, I have trouble thinking of the right things to say.
  - \_\_\_ 6. When in a group of people, I usually do what the others want rather than make suggestions.
  - \_\_\_ 7. When I am in disagreement with other people, my opinion usually prevails.
  - \_\_\_ 8. I would describe myself as one who attempts to master situations.
  - \_\_\_ 9. Other people look up to me.
  - \_\_\_ 10. I enjoy social gatherings just to be with people.
  - \_\_\_ 11. I make a point of looking other people in the eye.
  - \_\_\_ 12. I cannot seem to get others to notice me.
  - \_\_\_ 13. I would rather not have very much responsibility for other people.
  - \_\_\_ 14. I feel comfortable being approached by someone in a position of authority.
  - \_\_\_ 15. I would describe myself as indecisive.
1. I have no doubts about my social competence.

## RSE-SS

In answering this set of questions, think about how well each statement describes you. Please indicate to what extent you agree that each statement describes you by filling in the appropriate circle.

1 = Strongly disagree

2 = Disagree

3 = Agree

4 = Strongly agree

Strongly  
disagree

Strongly  
agree

- | 1 | 2 | 3 | 4 |  |
|---|---|---|---|--|
| 0 | 0 | 0 | 0 | 1. I feel that I am a person of worth, at least on an equal basis with others. |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 2. I feel that I have a number of good qualities.                              |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 3. All in all, I am inclined to feel that I am a failure.                      |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 4. I am able to do things as well as most other people.                        |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 5. I feel I do not have much to be proud of.                                   |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 6. I take a positive attitude toward myself.                                   |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 7. On the whole, I am satisfied with myself.                                   |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 8. I wish I could have more respect for myself.                                |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 9. I certainly feel useless.   |
|   |   |   |   |  |
| 1 | 2 | 3 | 4 |  |
| 0 | 0 | 0 | 0 | 10. At times I think I am no good at all.                                      |



## Appendix B

**Step 7.** Add the result of Step 4 to the result of Step 6.

$$.0286 + .0143 = .0429$$

Then take the square root of the sum.

$$\sqrt{.0429} = .207$$

**Step 8.** Divide the result of Step 2 by the result of Step 7. This yields a *z* statistic.

$$z = \frac{.452}{.207} = 2.18$$

A *z* larger than 1.96 is significant at the .05 level using a two-tailed test (see Appendix A). A significant *z* tells us that the two correlation values are very likely really different.

## SECTION 4.14

### Test for Difference Between Dependent Correlations

The following procedure is used to determine the significance of the difference between experimentally dependent correlations—i.e., correlations based on data taken from the same group of people.

#### EXAMPLE

Suppose it is known that the correlation between grades in a statistics course and overall grade point average (GPA) for sixty-three students is  $+.70$ . Suppose it is also known that the correlation between grades in an introductory psychology course and overall GPA for those same sixty-three students is  $+.40$ . If you wish to test for the significance of the difference between these two correlations, you must first be aware of the fact that they are related or dependent. Then, you must find the remaining correlation between statistics grades and introductory-psychology grades for the sixty-three students. Suppose that correlation is  $+.30$ .

**Step 1.** You have the following three correlations:

$$\begin{aligned}\text{Statistics grade with GPA} &= +.70 \\ \text{Introductory psychology grade with GPA} &= +.40 \\ \text{Statistics grade with psychology grade} &= +.30\end{aligned}$$

Compute the difference between the two correlations of interest (in this example, the first two).

$$.70 - .40 = .30$$

**Step 2.** Subtract 3 from the number of individuals involved in the correlations (63 in this example). (*Note:* The number 3 is always used.)

$$63 - 3 = 60$$

**Step 3.** Add 1 to the third correlation in Step 1—i.e., the correlation that you are not presently interested in (+.30 in this example). (*Note:* The number 1 is always used.)

$$.30 + 1 = 1.30$$

**Step 4.** Multiply the result of Step 2 by the result of Step 3.

$$60 \times 1.30 = 78$$

Then, take the square root of the product.

$$\sqrt{78} = 8.832$$

**Step 5.** Multiply the result of Step 1 by the result of Step 4.

$$.30 \times 8.832 = 2.65$$

**Step 6.** Square each of the three correlation values from Step 1, and add the squares.

$$.70^2 + .40^2 + .30^2 = .49 + .16 + .09 = .74$$

**Step 7.** Multiply the three correlation values from Step 1.

$$.70 \times .40 \times .30 = .084$$

**Step 8.** Multiply the result of Step 7 by 2, and then add 1 to the product. (*Note:* The numbers 2 and 1 are always used.)

$$(2 \times .084) + 1 = .168 + 1 = 1.168$$

**Step 9.** Subtract the result of Step 6 from the result of Step 8.

$$1.168 - .74 = .428$$

**Step 10.** Multiply the result of Step 9 by 2.

$$2 \times .428 = .856$$

Then, take the square root of the product.

$$\sqrt{.856} = .925$$

*Step 11.* Divide the result of Step 5 by the result of Step 10. This yields a  $t$  statistic.

$$t = \frac{2.65}{.925} = 2.86$$

The appropriate degrees of freedom are given as the result of Step 2, i.e., 60. A  $t$  larger than 2.00, with 60  $df$ , is significant at the .05 level using a two-tailed test (see Appendix B). A significant  $t$  tells us that the two correlation values are very likely really different.

d

a