

The Relationship of Connectedness and Control

A Senior Project submitted by

Lydia B. Denial

Apt. 123

728 East Ellis Street

Jefferson City, TN

(508) 265 5204

a BA student in Psychology

April 29, 2009

Project Advisor: Laura Wadlington

© Lydia B. Denial

Introduction

Humans are social creatures by nature, and thus, many of our characteristics are shaped by our social network. Our social network defines and strengthens our identity and behavior. Self control is one aspect thought to be affected by our social relations. Role models, best friends, significant others, and family all contribute to our daily lives. The purpose of our study is to explore if and how connectedness affects our ability to control ourselves.

This study will address two specific types of connectedness: social connectedness and spiritual connectedness. Social connectedness is an internal sense of belonging and having a close relationship with the social world. The concept can be distinguished from social attachment or social dependency as there is no specific need for attention. For the purposes of this study, connectedness will be defined as an independent individual's strong interpersonal relationship with another person or group in which both people experience trust, self-disclosure, security, dedication, and understanding.

Spiritual connectedness is the relationship between an individual and a higher power. This is not the same as *religiosity* which is the beliefs, rituals, and practices of an institutional nature. Rather, *spirituality* is an aspect of personality, and is more concerned with one's personal relationship with a power such as the universe or God. Spirituality includes a wide range of beliefs, including structured religious practices and basic personal beliefs about daily living (Culliford, 2002). Thus, spiritual connectedness is the connection between a person and his or her spiritual beliefs.

Three aspects of control will be assessed in this study: locus of control, emotional regulation, and self-control (impulsiveness). Locus of control defines whether an individual believes his/her experiences are guided by fate and luck, or by his/her personal decisions and efforts (McCabe, Goehring, Yeh, Lau, 2008). Emotional regulation, the ability to control one's feelings and emotions, is an aspect of the new, hotly debated concept of "emotional intelligence" (Forgas, 2001). Much of the new research about emotions, has more to do with understanding, relating to, and expressing emotions than controlling the way you feel or your expression of emotions. Self control or impulsivity is a topic that is used widely among different disciplines and specialties. In summary, an individual's locus of control, emotional regulation, and impulsivity impacts his or her daily activities from diet, to school work, to peer and family relationships.

Research of the correlations between connectedness and psychological well being began in the 1990s. In the past fifteen years, researchers have studied the correlation between connectedness and anxiety, depression, family dynamics, and relationship/marriage problems (Lee and Robbins, 1998). Some research has explored the relationship of family connectedness and parental control with adolescent risk takers (Kirby, 2001). Studies dealing with peer pressure and adolescent risk takers suggest that connectedness with peers may be a factor, but there has not been specific research studying the effect of one's connectedness on their psychological control. Lastly, Cohen (2004) studied the effect of stress on one's health, and the importance of social support.

The purpose of this study is to explore if and how connectedness affects our ability to control ourselves. Furthermore, the purpose is to assess the relationship between the

connectedness variables (social connectedness and spiritual connectedness) and the self-control variables (locus of control, emotional regulation, and impulsiveness). I predict the following: 1) A positive relationship between social connectedness and emotional regulation, 2) Participation in team sports will positively relate to social connectedness and emotional regulation, 3) There will be a difference between people who desire and/or experience interpersonal connections and those who do not.

Review of Literature

Social Connectedness

People with high social connectedness typically feel close to other people, easily identify with others, perceive others as friendly and approachable, and commonly participate in social groups and activities. In contrast, people with low connectedness experience feelings of loneliness, anxiety, jealousy, anger, depression, and low self-esteem. They tend to feel like “outsiders,” feel misunderstood by others, are detached from society, and have difficulty relating to the social world. While these types of people are typically able to develop relationships with groups, they often lack a deep connection within themselves and with others (Lee, Draper & Lee, 2001). Connectedness is an important aspect of life. The ability to, and action of, connecting with others gives people a “social lens” with which to perceive their world, and a support system to aid them when needed.

Types of Social Relationships and Effect on Health

Research indicates that social relationships affect health. Feelings of isolation and loneliness, support we receive from others, and the quality and quantity of social interactions are identified as predictors of health and well-being (Cohen, 2004). Sheldon Cohen (2004) uncovered an interaction between social relationships and health. She discussed three different types of social relationships: social support, social integration, and negative interaction. Social support benefits an individual’s ability to cope with stress and has several components. Instrumental support is material aid given to a person in need (for example, helping someone clean their house before a party). Informational support is advice or guidance intended to aid

the individual in coping with a problem or situation. Lastly, emotional support “involves the expression of empathy, caring, reassurance, and trust and provides opportunities for emotional expression and venting” (2004). Each form of support is important to an individual’s daily life. Social support is most beneficial when the individual feels strongly connected to the person(s) who are aiding them. A mutual feeling of trust, acceptance, and understanding must be present so the person can relate to others around them.

Several studies show a relationship between social support and the health of an individual. One example is the relationship between social support and overweight teens. In a study done in 2003, Eisenberg, Neumark-Sztainer, and Story (Fulkerson, Strauss, Neumark-Sztainer, Story & Boutelle, 2007) reported that “teasing about body weight was associated with body dissatisfaction, low self-esteem, depressive symptoms, and suicidal thoughts in teens, even after controlling for body weight.” This *lack* of social support from peers can have a negative psychological effect on overweight teens. The study suggests that acceptance, understanding, and support from peers are essential to a teen’s physical and psychological development. The relationship between family connectedness and overweight teenagers is also studied. Results indicated that teens that were teased about their weight by family had a higher rate of depressed mood, lower self esteem, and lower body satisfaction. In addition, maternal encouragement to diet was also associated with depressed mood. These factors affect a teen’s feeling of acceptance, love, and understanding (2007).

Social integration is another type of social relationship. It has two components: behavioral (engagement in social activities), and cognitive (an understanding of one’s social role). Emile Durkheim (Durkheim, 1997), a French sociologist, wrote about the relationship

between suicide rates and an individual's place in society. He believes society exists within an individual, rather than an individual existing within society. To resist suicide, a person must be "socialized." Two criteria must be met for this process to occur: 1) the person's selfish or "animalistic" behaviors must be regulated (also called "moral regulation"), and 2) part of the person's personality must be directed towards social ends (i.e. he or she must have some level of social integration). From these two criteria came Durkheim's terms "regulation" and "integration" respectively. Too much or too little regulation or integration is the cause of different types of suicides. In addition, he believes that social "norms" are a protective factor. He defined four types of suicide: fatalistic (too much moral regulation), anomic (too little moral regulation), altruistic (too much integration), and egoistic (too little integration). An example of high social integration (altruistic), where the individual is viewed as less important than society as a whole, is when individuals are expected to kill themselves on behalf of the rest of the society (Hynes, 1975). Durkheim believes there is no single *cause* for a suicide, but that extreme moral regulation or extreme social integration can put a person at risk for suicide.

Durkheim also believes religion may contribute to his ideas. For example, in a 1933 study by Dublin and Bunzel, Protestants (more individualistic) were said to have a higher suicide rate than Catholics (more integrated) (Alpert, 1961, p. 98, and Giddens, 1971, p. 83). To Durkheim, religion is "the expression of *self-creation*, the autonomous development, of human society" (Giddens, 1971, p. 110). Social integration is important to religion because it is the collective effervescence (perceived energy formed by a gathering of people) that gives awareness of the divine, as well as its separateness, and superiority to, one's everyday life (p.

110). In sum, social integration helps us define our place and role in society and our perception of this leads to many of our behaviors and beliefs.

Social integration can also have a positive effect on physical and emotional health (Cohen, 2004). A California study by Berkman and Syme (1979) examined the relationship between social integration and physical health. Findings suggested that over a nine year period of time, healthy adults who were socially integrated (married, had close friends, belonged to religious and social groups) were more likely to be alive at the end of the nine years than their less socially integrated (but otherwise healthy) counterparts.

Stress Buffering and Main Effects

Social integration and social support contribute to our health in two main ways: stress-buffering and “main effects” (Cohen, 2004). “Stress buffering” results from connecting with other people and thus developing a support system. Stress can be particularly dangerous to the body because it is subconsciously perceived as danger. Physiological changes occurring from stress include increased heart rate, breathing rate, perspirations, a slowing of digestion, and the long term effect of fatigue (Peralta, 2005). These reflect humans’ natural “flight or fight” response to dangerous situations. For example, these physiological changes would occur in a person who was being chased by a rabid dog or threatened by a criminal. Unfortunately, the silence of stress leaves us unaware our body is reacting in defense to danger. Medical problems that may occur as a result of stress are digestive disorders, headaches, depression, suicide, stroke, heart attack, allergies, and a depressed immune system (2005). In addition,

women with low connectedness are more likely to perceive life as anxiety provoking (i.e. dangerous or threatening) (Lee & Robbins, 1998).

Anxiety disorders such as generalized anxiety disorder, phobias, panic disorder, obsessive-compulsive disorder, and post-traumatic stress disorder, can all develop from extreme stress (Peralta, 2005). Stress also promotes behavioral coping responses such as smoking, drinking alcohol, drug use, and sleep loss. These chronic, addictive, unhealthy behaviors often continue once the original stress has eased. Cohen (2004) found that the most important aspect of social support helping to buffer stress is one's perception that others will provide aid and support for him or her in a time of need. People will feel more controlled and better able to cope with their situation, lowering the body's perceived endangerment. Emotional support appears to be the most effective and versatile form of social support. Strong, positive social support can increase healthy habits and activities such as exercise, nutrition, and proper health care. Additionally, interaction with others often helps motivate people to address their health needs (Cohen, 2004).

The "main-effect" model is the second way social support and integration contributes to our health. This model suggests that people are taught about social norms, boundaries, and about different social roles. This will benefit people even if they are not currently under stress. Additionally, it will strengthen an individual's ability to cope with stress. Individuals gain a greater understanding of themselves and their role in society, as well as giving them confidence, stability, security, and a sense of self-worth. A social connectedness study (Lee & Robbins, 1998) found that women with high connectedness reported higher levels of social identity in highly cohesive groups, and continued to seek out relationships even once their need

for belonging had been satisfied. In contrast, women with low levels of connectedness, whose need to belong had not yet been satisfied, shied away from the opportunity to develop connections (1998).

Family Connectedness: The main-effect model and resiliency theory

The “main-effect” model also applies to family connectedness and overweight teenagers. Families who ate meals together on a regular schedule in a positive environment were inversely associated with depressive symptoms and unhealthy weight-control behaviors. This routine encourages teenagers to eat healthy foods in appropriate proportions and have a better attitude towards eating. In addition, Dr. Dianne Neumark-Sztainer and colleagues from the University of Minnesota in Minneapolis found that “adolescent girls who ate five or more meals each week with their families were approximately one third less likely to engage in extreme weight control behaviors, such as making themselves vomit, taking diet pills and abusing diuretics or laxatives than girls who ate less frequently with their families” (Family meals may lower girls' eating disorder risk, 2008).

Family connectedness is also thought to reduce the risk taking behavior of teenagers. A study (Markham, Tortolero, Escobar-Chaves, Parcel, Harrist & Addy, 2003) of teenagers at an alternative high school indicates that family connectedness has an effect on the teenagers' sexual risk taking. The alternative high school functions to serve students who are at a risk of not graduating from public schools. Poor academic performance and school attendance, disruptive behavior, substance abuse, pregnancy, or contact with the juvenile justice system are common reasons a student may be admitted to this type of school. There are also common

trends in the students' backgrounds: living in a dysfunctional family and lack of positive parental support/role model or a lack of family connectedness. Dysfunctional families include single parents and parents who give their children too much responsibility. Unsupportive parents may have substance abuse problems or have been incarcerated. Students participating in the study who perceived a higher level of family connectedness were less likely to engage in sexual risk taking behaviors than their less connected counterparts.

The resiliency theory benefits individuals by giving them personal, family, and community (and others) resilience. Resiliency is the presence of protective factors which enable individuals to cope with life stressors (VanBreda, 2001, p. 3). "A key requirement of resilience is the presence of both risks and promoting factors that either help bring about a positive outcome or reduce or avoid a negative outcome" (Fergus & Zimmerman, 2005). Due to this, positive family factors such as strong role models, family connectedness, and support will have a positive influence on teens (2005). The main effect model and resiliency theory can help explain why weak parental role models have a particularly poor impact on teenagers. The main effect model helps teach people about social norms, boundaries, and roles in order to make them stronger people. With poor or absent role models, teenagers are at risk of learning bad proper family and social skills or none at all. Additionally, teenagers may mirror the poor behaviors of their parents in an attempt to establish a connection with them. Lastly, without strong, positive parental role models, teens won't receive the support necessary to be buffered from stress.

Despite all of the benefits of social support and integration, one must consider possible negative effects of social networks. Conflicts between friends and family, stress transmission,

and feelings of loss and loneliness can occur in social situations, and can be destructive to our health (Cohen, 2004). Being socially integrated paradoxically puts one at risk for being socially *isolated*, which in itself can be a stressor. However, in most cases these incidents can prove to be learning experiences that will later strengthen our ability to communicate and connect with society around us, and will overall benefit our physical (as well as mental) health.

Coping with Stress

Ability to cope with stressful events is important for maintenance of both physical and psychological health (Folkman, Lazarus, Gruen, & DeLongis, 1986). Coping buffers the side-effects of stress and allows people to deal with situations in a positive, constructive way.

Folkman et al. (1986) explored personality characteristics associated with coping. Personality characteristics associated with coping are: mastery (the extent to which one believes they control the fate of their life rather than it being fatalistically determined), interpersonal trust, values and commitments, and religious beliefs. These characteristics aid people in uncontrollable stressful situations.

“Coping refers to the person’s cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person’s resources” (Folkman et al., 1986). Dealing with stressful problems (problem-focused coping) and regulating emotion (emotion-focused coping) are the two major techniques of coping. Examples of emotion-focused forms of coping include self-controlling, distancing, seeking social support, escape-avoidance, accepting responsibility, and positive reappraisal (1986).

Folkman, Lazarus, Gruen, & DeLongis (1986) discovered a negative interaction between how someone perceives (appraisal) and copes with stress, and their somatic health status. The more stressful an event was for an individual, the more coping required, and the less healthy they ended up being. Conversely, an individual's level of mastery correlates positively with his or her health status. Both mastery and interpersonal trust decrease the appearance of psychological symptoms of stress. Lastly, if an individual experiences stress because of concern for a loved one, this was negatively correlated with psychological symptoms. Folkman et al. (1986) suggest this is because "people who are more other-centered than self-centered are less alienated and healthier psychologically" (p. 578).

A negative form of coping that may occur from experiencing repeated uncontrollable stressful events is learned helplessness. Learned helplessness is a lack of response to dangerous or uncomfortable situations after failing to escape the situation numerous times. The study of learned helplessness began with Ivan Pavlov and his research of transmarginal inhibition (TMI). TMI is the body's natural response of shutting down when exposed to overwhelming stress or pain. When Pavlov passed away, Carl Jung continued the research showing that introverted people experienced TMI much faster than extroverted people due to their increased sensitivity to their surroundings. Dr. Martin E.P. Seligman also continued Pavlov's work and was the first to establish the "learned helplessness theory" using dogs. Seligman writes "Dogs given an escapable shock in a Pavlovian harness later seem to "give up" and passively accept traumatic shock in shuttlebox escape/avoidance training" (Seligman, Maier & Geer, 1968, p. 1). In humans, this response will restrict a person from engaging in their natural protective flight or fight instinct. Studies (Folkman et al., 1986) show that people who

are faced with many uncontrollable stressful situations develop a sense of helplessness, and will eventually experience demoralization and depression. Personality characteristics (such as mastery, interpersonal trust, values, etc.) associated with coping could aid the person in overcoming feelings of helplessness.

Spiritual Connectedness

Spiritual connectedness is defined as the connection (as described in social connection) with one's spirituality. This concept is not the same as *religiosity* which is the beliefs, rituals, and practices of an institutional nature. Rather, *spirituality* is an aspect of personality, and is more concerned with one's personal relationship with a higher power, such as the universe or god(s). People with high spirituality are able to recognize the existence of a larger context for meaning. Alcoholics Anonymous (Piedmont, 2004) and others (Morrison, Hoffmann, DeHart, Estroff, King, 2001) claim they interact with people who have a different view of spirituality. Morrison et al. (2001) report that a majority of adolescents entering treatment for substance abuse have "negative spirituality." Having a negative and destructive view of their life, these people often reject spiritual concepts and religious figures. In the most extreme expression of negative spirituality, people seek "glorification of evil through gruesome oral, written, musical, and artistic themes" (p. 231). Negative spirituality creates feelings of insecurity, defensiveness, and low self-esteem (Piedmont, 2004). People may also obsess with death, doom, and destruction (Morrison et al., 2001). Personality characteristics may contribute to having negative spirituality (Piedmont, 2004). For example, Alcoholics Anonymous says that alcoholics tend to have the character flaw "narcissism." Narcissistic people are self-absorbed, and are

thus unable to develop social or spiritual connectedness because they have difficulty recognizing meaning in relationships with others (2004).

Spiritual Connectedness and Substance Abuse Rehabilitation

Piedmont (2004) researched the effects of spiritual transcendence on the rehabilitation of substance abusers. Using the Spiritual Transcendence Scale he found that test scores changed for each individual throughout treatment, suggesting the importance of spiritual transcendence in their recovery. He believes spirituality has a large impact on how people create a sense of meaning and unity in their lives, despite the ups and downs they may naturally endure. He says, "Committing to this larger vision [spirituality] allows individuals to find personal stability and coherence, even during times of fluidity and disjuncture" (p. 219). This may aid recovering individuals cope with stress and resist negative feelings. Experiencing a strong sense of failure is also common in substance abusers. Overcoming this can be a struggle and as a result, they "create for themselves a very limited and constricted world" (p. 220). Difficulty in overcoming failure indicates an individual's loss of control, and manifests as the attempt to over-control his or her life. Piedmont concluded that increasing a person's spiritual transcendence (including a sense of universality) could provide insight and an open door for how to live an emotionally fulfilling life with a greater sense of control.

Expressing emotion in Interpersonal Relationships

“Labouvie-Vief’s developmental theory of cognitive-emotional complexity suggests that with increasing maturity, individuals integrate cognition and emotion” (Coats & Blanchard-Fields, 2008, p.40). There are three components of cognitive-emotional complexity. First is the recognition of how emotion and cognition work together. Second is the ability to differentiate between self-chosen emotional standards and societal standards. Third is the ability to see situations from an emotional universal standpoint.

Despite Labouvie-Vief’s theory that maturity leads to an integration of cognition and emotion, research (Coats & Blanchard-Fields, 2008, p.40) suggests that older adults have a lower cognitive-emotional complex than their younger counterparts. This may indicate a link between interpersonal connections and personal emotional regulation. The methods an individual uses to express his or her emotions may change as a result of this link. For example, older adults tend to engage in passive expression of emotion rather than active expression of emotion.

Avoiding and denying situations are passive expressions of emotion. It is less constructive than addressing interpersonal problems; however, it does offer some benefits. By passively dealing with emotions, older adults reduce possible relationship strains that could be caused by yelling or expressing discontent (active expression). Coats & Blanchard-Fields (2008) believes older adults “down regulate” their negative emotions to maintain their relationships because older adults value their interpersonal relationships more than their emotional feelings. Active expression of emotion includes yelling, crying, and “express and seek” (expressing emotion and seeking help or support). This is a more constructive method of addressing

interpersonal conflicts however; expressing anger is associated with low relationship satisfaction (p. 40).

Personality traits: Neuroticism

Stress and social connection are thought to have an impact on personality traits, and in the extreme, personality disorders (Paddock, 2009, Hellmuth & McNulty, 2008). The Five Factor Model is a descriptive model of personality. First introduced in 1933 by L. L. Thurstone, it includes five personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism. Neuroticism is one personality trait that influences social connectedness, stress, and control (emotional stability). It is sometimes referred to as “emotional stability” because of one’s tendency to experience negative emotions easily. Individuals scoring high on neuroticism are more likely to experience feelings of anxiety, anger, guilt, and clinical depression (Matthews & Deary, 1998). In addition they are likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult, because of their poor response to environmental stress (Goleman, 1997). A reactive sympathetic nervous system and increased sensitivity to environmental stimulus is (Eysenk & Eysenk, 1985) a reason for this reaction. Lastly, people scoring high on neuroticism may have trouble controlling urges and delaying gratification (Goleman, 1997). Possible outcomes of this trait would be feelings such as learned helplessness and impulsivity.

Neuroticism has been linked with poor health conditions in elderly people (Paddock, 2009). Paddock (2009) cites a study done in Sweden by Dr. Hui-Xin Wang revealing that the personality factors of extraversion and neuroticism both have an influence on one’s risk for

dementia. People with low neuroticism and high extraversion are at the lowest risk for dementia. Additionally, people with an active social life are at lower risk, although having high extraversion alone (or low neuroticism alone) was not shown to lower the risk for dementia. Emotionally instability and negative, nervous behavior (common to neurotic people) can also contribute to the results. “Wang said that previous studies had shown that ‘chronic distress can affect parts of the brain, such as the hippocampus, possibly leading to dementia,’ so this might partly explain the biological mechanism behind the link with low neuroticism” (Paddock, 2009).

Intimate Partner Violence

Hellmuth & McNulty (2008) have researched the role of neuroticism in intimate partner violence (IPV). There are several reasons to expect greater levels of neuroticism to be positively correlated with IPV (p. 167). Neuroticism is strongly linked with various negative relationship outcomes such as relationship dissatisfaction, sexual dissatisfaction and divorce. Low levels of empathy, high levels of anxiety, and the inability to regulate negative emotions may all contribute to neurotic individuals engaging in IPV.

A lack of problem solving skills and helplessness may also be characteristics of individuals who score high on neuroticism. “According to Bogard (1988), one of the most common reasons the batterers give for being violent towards their partners is that they feel they have no other way to handle conflicts that arise in the relationship” (Hellmuth & McNulty, 2008, p. 167). Hellmuth & McNulty (2008) cited several authors have also found defects in problem-solving skills to be a predictor of aggression. Results of the study (Hellmuth &

McNulty, 2008) done with 169 newlywed couples (p. 168) showed a significant three-way interaction between neuroticism, problem-solving behavior, and stress predicting IPV perpetration by both husbands and wives (p. 173).

Overall, neuroticism was most strongly associated with IPV when stress was high and problem-solving skills were poor. However, individuals with high neuroticism and stress, and strong, positive problem-solving skills were shown to predict lower levels of IPV. This study (2008) suggests that poor emotional regulation, lack of empathy, anxiety, poor problem solving skills, and stress can all have a detrimental effect on the health of interpersonal relationships such as marriage.

Effects of Personality Traits on Marriage

Communication, stress, and problem solving all have an effect on marriage (Cleaver, 1987). Marriage enrichment programs focus mainly on the enhancement of communication and problem solving skills. In addition, showing empathy, warmth, and genuineness is an important part of having a successful marriage. Empathy aids in understanding emotions, and unconditional positive regard is essential for trust and encouraging honest, open communication. Finally, stress has shown (Hellmuth & McNulty, 2008, Cleaver, 1987) to have a negative effect on marriages, and it is possible that the ability to negotiate and bargain can assist families in coping when needed. In conclusion, strong coping and problem solving skills are important in maintaining healthy interpersonal relationships, especially when certain (for example, neuroticism) personality traits are present.

Summary

In summary, connectedness is important to a person's physical and psychological health; it is beneficial because it can aid in the ability to buffer stress. Stress buffering may occur as a result of social support, social integration, the "main-effect" model, or resilience. Without connectedness, and thus without strong stress buffering, an individual's control of him or herself may decline. A loss of control may manifest as increased impulsivity or a decrease in emotional regulation. Some possible results are poor interpersonal relationships, marriage conflicts, intimate partner violence, or personality traits such as neuroticism. Low connectedness may be the root of an individual's loss of control, and therefore, may be an indirect factor in the presence of the problems stated above. In light of this, I predict the following: 1) A positive relationship between social connectedness and emotional regulation, 2) Participation in team sports will positively relate to social connectedness and emotional regulation, 3) There will be a difference between people who desire and/or experience interpersonal connections and those who do not.

Two independent variables will be examined closely in the study: experienced connectedness and desired connectedness. A participant's desired and experienced connectedness will be evaluated through self-report questions on two dimensions of how much he or she wants to connect with others and how much of a connection he or she actually feels. Based on his or her responses, each participant will be considered as simply being "high" or "low" on each. The result is a 2 X 2 cross-classification with four possible categories created from these two independent variables. A person could score low on both variables (Low-Low) or high on both variables (High-High). In both of these groups, the person would be receiving

the same amount of connection they desire. Alternatively, a person could score low on one variable and high on the other (High-Low or Low-High). Such people would be mismatched in the sense that they had more or less connection than they desire. As we consider a match versus mismatched hypothesis, another underlying possibility must be tested. Is social connection better to experience regardless of one's desire for it? Or does it only matter if you get what you desire from others? This would indicate both the Low-Low and High-High people are better off than the mismatched individuals. Furthermore, could a person with less connection overall (Low Desire-Low Experience) be as satisfied as a person with more connection overall (High Desire-High experience)? Such exploratory hypothesizing will require an analysis of variance to test all possibilities.

With a 2 X 2 ANOVA comes two possible outcomes: 1) main effects, and 2) an interaction effect. In one main effect possibility, experiencing more connectedness would be better for a person, regardless of their desired level of connectedness. In the other main effect possibility, desiring connectedness would lead to more or less satisfaction (on various dependent variables), regardless of the amount of connection they have experienced with others.

It is also possible that experiencing the same amount of connectedness one desires is more important than simply having a high level of experienced or desired connectedness. If one must take into account both a person's desire for and experience of social connectedness, then an interaction effect will be revealed. A further exploration will be to see if High-High individuals will be more fulfilled than Low-Low individuals. If they are equal, then it is not the amount of connectedness but rather the balance of desire to experience.

The dependent variables tested will be: emotional regulation, need to belong, prayer fulfillment, seriousness of relationship, length of most serious relationship, and impulsivity. For instance, if it is simply being more connected that makes a significant difference, then I predict that such individuals will regulate their emotions more, feel a higher need to belong and will feel more fulfillment through prayers. They will also rate their relationships as more serious and long-lasting. Finally, I predict they would appear less impulsive. All other combinations mentioned above will be explored along these six criteria.

Method

Participants and Procedures

This study examined the relationship between connectedness and control. The sample was 49 students from a small, private college in East Tennessee (29 females, 19 males, and one unidentified student). Students completed a questionnaire packet in exchange for research credit or extra credit for a class. The questionnaire packet included demographic information, the Need to Belong scale (Leary, Kelly, Cottrell, & Schreindorfer, emailed document), the Aspires Spiritual Transcendence Scale (Piedmont, 2004), the Work Locus of Control Scale (Spector, 1988), the Revised Social Connectedness Scale (Lee & Robbins, 1998), the Barratt Impulsiveness Scale (Patton et al., 1995), and the Emotion-Regulation Skills Questionnaire (Berking, personal communication, October, 2008).

Instruments

Revised Social Connectedness Scale (see Appendix D). The Revised Social Connectedness Scale measures social connectedness (Lee & Robbins, 1998). This scale measures the degree of interpersonal closeness that is experienced between an individual and his or her social network, as well as the degree of difficulty in maintaining this sense of closeness. The scale has 20 items, using a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores indicate a strong connection between the individual and their social network. This scale has high internal item reliability with an alpha coefficient of .92, it also has “substantial validity” (1998).

Spiritual Transcendence Scale (see Appendix B). The Aspires Spiritual Transcendence Scale measures spiritual connectedness. Developed by Ralph L. Piedmont, it has 9 items on the short form (used in this study), and uses a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale asks questions such as, “Although individual people may be difficult, I feel an emotional bond with all of humanity,” and “In the quiet of my prayers and/or meditations, I find a sense of wholeness.” The scoring of this scale is broken into three subgroups: Prayer Fulfillment, Universality, and Connectedness. “Individuals who score high on prayer fulfillment tend to find a personal sense of emotional satisfaction, strength, and support in their efforts to connect with some larger reality” (Piedmont, 2004). Universality is the belief that all of life is interconnected, and scoring low on the scale indicates a personal preference to rely on oneself. Connectedness describes the amount of connection people feel to others preceding themselves, those who they are presently around, strangers, and those who are to come after them (for example, grandchildren). Piedmont (2004) describes people who score high on connectedness as being similar to a wheel with spokes, with the spokes representing relationships they have with different people. Combining scores for the subgroups yielded an overall spiritual transcendence score for each individual.

Work Locus of Control Scale (see Appendix C). Paul E. Spector developed the Work Locus of Control Scale. It contains 16 items, and uses a 6-point Likert-type scale ranging from 1 (*disagree very much*) to 6 (*agree very much*). The total score may range from 16 to 96, with higher scores representing an external locus of control. Internal consistency (coefficient alpha) ranges from .80 to .85 in the English language. A test-retest reliability of .57 for a year was cited by Spector (2004).

Barratt Impulsiveness Scale (see Appendix E). The Barratt Impulsiveness Scale (BIS-11) measures impulsiveness (behavioral control). Patton et al. developed this 30 item questionnaire in 1995. It uses a 4-point Likert scale ranging from 1 (*rarely/never*) to 4 (*almost always/always*). This scale asks questions such as “I am self controlled,” “I plan tasks carefully,” and “I have ‘racing’ thoughts.” Higher scores indicate higher impulsive tendencies. Alpha coefficients for the total BIS score are “within acceptable limits for use in applied studies” (Patton, Stanford & Barratt, 1995).

Emotion-Regulation Skills Questionnaire (see Appendix F). The Emotion-Regulation Skills Questionnaire (ERSQ) consists of 27 items and assesses one’s ability to regulate and understand their emotions. It uses a 5-point Likert-type scale ranging from 0 (*not at all*) to 4 (*almost always*). It asks questions such as “I was able to accept my negative feelings,” “I was able to experience my feelings consciously,” and “I knew that I was able to influence my feelings,” all preceded by the statement “In the last week....” Total scores are obtained by adding together all items. Scores can range from 0 to 108. Higher scores indicate a better ability to regulate and understand one’s emotions. Berking, Wupperman, Orth, Meier, and Caspar (2008) cite that the German version of the ERSQ has an alpha coefficient and 2-week retest reliability of .90 and .75, respectively. The English version of the questionnaire is currently being validated.

The Need to Belong Scale (see Appendix A). The Need to Belong scale consists of 10 items, and uses a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*extremely*). It asks questions such as “I do not like being alone,” and “I want other people to accept me.” Scores can range from 10 to 50. Leary et al. cites that the Need to Belong Scale possesses acceptable inter-item reliability (Leary et al., personal communication).

Results

The purpose of this study is to explore if and how connectedness affects our ability to control ourselves. Furthermore, the purpose is to assess the relationship between the connectedness variables (social connectedness and spiritual connectedness) and the self-control variables (locus of control, emotional regulation, and impulsiveness). There were three hypotheses. First, social connectedness and emotional regulation would correlate positively. Second, participation in team sports would correlate with social connectedness, and thus with emotional regulation. And third, people who desire interpersonal connections would differ from those who did not.

Three types of analyses were performed with the data. First, Pearson correlations between selected variables helped assess which connectedness variables correlated with which “control” variables. Second, an analysis of variance (ANOVA) was performed on the following dependent variables: emotional regulation, prayer fulfillment, seriousness of relationship, length of most serious relationship, need to belong, social connectedness, number of parents and siblings grew up with, number of boyfriends/girlfriends, and impulsivity. Experienced connection and desired connection were the independent variables of the ANOVA. Third, Duncan post hoc tests were run to test the distinction of groups in the ANOVA.

Thirteen variables reported significant Pearson correlations. In addition, several main effects and interaction effects were revealed, with the most significant finding being an interaction effect on need to belong. Lastly, a 2 x 2 of experienced connection and desired connection (the independent variables of the ANOVA) created four distinct groups. These groups showed differences in regards to several variables.

Pearson Correlations

Thirteen variables that reported significant correlations: need to belong, spiritual transcendence, prayer fulfillment, impulsivity, team sports, social connectedness, desired connection, emotional regulation, locus of control, connectedness (as a subscale of spiritual transcendence), length of most serious relationship, seriousness of most serious relationship, and emotional connection.

Need to Belong. Need to belong measured a participant's need to belong to a social network or group. Need to belong did not correlate significantly with desired emotional connection or social connectedness. Desired emotional connection was a self reported score reflecting the participant's desire for an interpersonal connection. This is important because it shows that those who have high need to belong scores actually have a *need* to belong, rather than simply a desire or natural tendency to belong. It correlated with prayer fulfillment ($r=.261$, $p < .038$) (see Table 2) which measures the extent to which one achieves emotional satisfaction and strength from connecting with a higher power. It also showed a trend ($p < .076$) with impulsivity (see Table 2).

Table 1: Pearson Correlations: *Need to Belong, Desired Connection, Connectedness (subscale)*

	Social Connectedness	Connectedness (subscale)	Need to Belong	Experienced Connection	Desired Connection
Social Connectedness	1	-.10	.09	.12	.30*
Connectedness (subscale)	-.1	1	-.28*	-.03	-.03
Need to Belong	.09	-.28*	1	.01	.17
Experienced Connection	.12	-.03	.01	1	-.05
Desired Connection	.3*	-.03	.17	-.05	1

*. Correlation is significant at the 0.05 level (1-tailed).

Table 2: Pearson Correlations of variables: *Need to Belong and Prayer Fulfillment*

	Need to Belong	Desired Connection	Prayer Fulfillment	Impulsivity
Need to Belong	1	.17	.26*	.21
Desired Connection	.17	1	.05	.05
Prayer Fulfillment	.26*	.05	1	-.06
Impulsivity	.21	.05	-.06	1

*. Correlation is significant at the 0.05 level (1-tailed)

Length of most serious relationship, experienced connection, and seriousness of most serious relationship. Experienced connection correlated with seriousness of most serious relationship ($r=.85, p <.000$), and length of most serious relationship ($r=.39, p <.02$). In addition, seriousness of most serious relationship correlated with length of most serious relationship ($r=.41, p <.005$). Seriousness of relationship was a self reported rating of 0 (*not serious*) to 5 (*S/he could have been/is "the one"*), and length of most serious relationship was a self-reported number that was later converted to a number of months. Experienced connection was a self-reported rating of how connected the participant felt to their most serious romantic partner (scale from 0 (*no connection*) to 5 (*very connected*)). These correlations support the notion that "experienced connection" truly does measure the participant's experienced connection. It is expected that those who have been in the longest and/or most serious relationships, would also be the people who have a high experienced connection. (See Table 3).

Table 3: Pearson Correlations of variables: *Length of most serious relationship, experienced connection, and Seriousness of most serious relationship*

	Seriousness of most serious relationship	Length of most serious relationship	Experienced connection	Typical emotional connection	Need to Belong
Seriousness of most serious relationship	1	.41**	.85**	.22	.07
Length of most serious relationship	.41**	1	.39*	.25	1.12
Experienced connection	.85**	.39*	1	.19	.01
Typical emotional connection	.22	.25	.19	1	.12
Need to Belong	.07	-.12	.01	.12	1

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

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

Impulsivity. Impulsivity measured the participants' natural tendency to behave impulsively. Gender (males) showed a slight positive trend with impulsivity ($p < .06$).

Spiritual Transcendence, Prayer Fulfillment and Team Sports. Self reporting whether or not the participant played a team sport measured team sports. It correlated significantly with spiritual transcendence ($r = .25, p < .05$), and prayer fulfillment ($r = .26, p < .04$) (see Table 4).

Spiritual transcendence measured one's ability to connect and have faith in a higher power.

Prayer fulfillment is a subscale of the Spiritual Transcendence scale. It thus makes sense that

Spiritual Transcendence and Prayer Fulfillment would be positively correlated ($r = .65, p < .000$) (see Table 4).

Social Connectedness. Social connectedness measured the degree to which participants were connected with their peers. It also correlated with prayer fulfillment ($r = .468, p < .001$) (see Table 4). Not surprisingly, social connectedness also correlated with team sports ($r = .41, p < .002$) (see Table 4), and frequency of spiritual activity ($r = .32, p < .01$) (see Table 5). This is most

likely because of the group tendencies of team sports and spiritual activities, as well as positive social behaviors that are learned with being part of a team. Additionally, social connectedness correlated with the number of groups a participant feels connected to others ($r=.4, p <.002$) (see Table 5). Number of groups a participant feels connected to others was measured by the participants circling “None,” “Some,” “Most,” or “All” when asked “In how many of your sports, hobbies, groups, etc., do you feel connected to other people?” Understandably, social connectedness was correlated with desired connection ($r=.29, p <.02$) (see Table 1). As predicted, social connectedness and emotional regulation were also correlated positively ($r=.53, p <.000$) (see Table 5). Emotional regulation measures the ability of the participant to control and understand their emotions. This is the main, and most significant, correlation between connectedness and control.

Table 4: Pearson Correlations of variables: *Team Sports, Spiritual Transcendence, Prayer Fulfillment, Desired Connection, and Social Connectedness*

	Team Sports	Desired Connection	Spiritual Transcendence	Prayer Fulfillment	Social Connectedness
Team Sports	1	.23	.25*	.26*	.41**
Desired Connection	.23	1	-.05	.05	.29*
Spiritual Transcendence	.25*	-.05	1	.65**	.22
Prayer Fulfillment	.26*	.05	.65**	1	.47**
Social Connectedness	.41**	.29*	.23	.47*	1

*. Correlation is significant at the 0.05 level (1-tailed)

**. Correlation is significant at the 0.01 level (1-tailed)

Table 5: Pearson Correlations of variables: *Social Connectedness, Frequency of Spiritual Activity, Number of groups feel connected to others.*

	Emotional Regulation	Social Connectedness	Connectedness (subscale)	Frequency of Spiritual Activity	Number of groups feel connected to others
Emotional Regulation	1	.53**	-.18	.22	.07
Social Connectedness	.53	1	-.10	.32*	.4**
Connectedness (subscale)	-.18	-.10	1	.00	.04
Frequency of Spiritual Activity	.22	.32*	.00	1	.06
Number of groups feel connected to others	.07	.4**	.04	.06	1

*. Correlation is significant at the 0.05 level (1-tailed)

**. Correlation is significant at the 0.01 level (1-tailed)

Locus of Control. Findings reported an inverse correlation ($r = -.33, p < .01$) between locus of control (higher scores indicate an external locus of control) and emotional regulation. A higher locus of control score represents an external locus of control. This means that the more one believes their life is controlled by an outside force (anything other than themselves), the lower their ability to regulate their emotions.

“Connectedness.” Surprisingly, both social connectedness and emotional regulation indicated a *negative* trend (not statistically significant) with a subscale from spiritual transcendence, labeled “connectedness.” Connectedness (the subscale) describes the amount of connection people feel to others preceding themselves, those who they are presently around, strangers, and those who are to come after them. The fact that social connectedness was negatively associated with “connectedness” shows a difference between a person being connected to his or her peers and/or family (social connectedness) and a person being

connected to society on a higher level (“connectedness”). Also, connectedness was negatively correlated with need to belong ($r = -.283, p < .03$) (see Table 1).

Building the 2 X 2 Cross-tabulation

In scoring the questionnaires, responses to questions was divided into two groups: desired connectedness and experienced connectedness. A two way analysis of variance was done using two independent variables: experienced connection and desired connection. Experienced connection was a self-reported score in the demographic section of the questionnaire. Participants were asked to report on a scale of 0 (*no connection*) to 5 (*very connected*) the emotional connection they feel/felt with their most serious romantic partner (past or present). Desired connection used the same scale and asked the participant, “What is your *desired* emotional connectedness in a relationship (any relationship).”

A median split was done with experienced connection (see Table 6), splitting the group evenly with 24 participants in each group. All scores below 5 were considered “low experienced connection,” and all scores above 5 were considered “high experienced connection.” Likewise, a median split was done with desired connection (see Table 7), splitting the group as evenly as possible with a low group of 24 and a high group of 22 (two participants omitted answers lowering the N to 46). Once again, all scores below 5 were considered “low” and all scores above 5 were considered “high.” Four groups were created: Low Experienced Conn. X Low Desired Conn. (LowE/LowD), Low Experienced Conn. X High Desired Conn. (LowE/HighD), High Experienced Conn. X Low Desired Conn. (HighE/LowD), and High

Experienced Conn. X High Desired Conn. (HighE/HighD). Chi-square tests revealed a non-significant value of 1.39.

Table 6: Median split of Experienced Connection

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.7	2.1
	2	3	5.1	8.3
	3	6	10.2	20.8
	4	14	23.7	50.0
	5	24	40.7	100.0
	Total	48	81.4	100.0
	Missing System	11	18.6	
	Total	59	100.0	

Table 7: Median split of Desired Connection

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	1.7	2.1
	3	4	6.8	10.6
	4	19	32.2	51.1
	5	23	39.0	100.0
	Total	47	79.7	100.0
	Missing System	12	20.3	
	Total	59	100.0	

Table 8: Distribution of Participants across the ANOVA

	Desired Connection (D)	
	1 (low)	2 (high)
Experienced Connection (E)	1 (low)	10 participants
	2 (high)	13 participants
	1 (low)	14 participants
	2 (high)	9 participants

The ANOVA groups defined in terms of “satisfaction”

The four groups created for the ANOVA were defined in terms of connection satisfaction (see Table 9), how well their experienced connection matched their desired connection.

LowE/LowD participants and HighE/HighD participants were thought to be “satisfied” as their

experienced connection met their desired connection. Participants who were LowE/HighD were thought to be unsatisfied, as they claim to want more than what they have in terms of connection. HighE/LowD were also thought to be unsatisfied, because they experienced more connection than they desired. They reported more experienced connection than they wanted. Ultimately, interpersonal connectedness needs were not met in the unsatisfied groups.

Table 9: ANOVA groups defined in terms of satisfaction

		Desired Connection (D)	
		1 (low)	2 (high)
Experienced Connection (E)	1 (low)	Satisfied	Unsatisfied (have too little connection)
	2 (high)	Unsatisfied (have too much connection)	Satisfied

ANOVA Main Effects with Dependent Variables

Several main effects were found between independent variables desired connection or experienced connection, and the dependent variables of emotional regulation, prayer fulfillment, seriousness of relationship, and length of most serious relationship. A main effect occurs when only one independent variable of an ANOVA has a consistent effect on a dependent variable.

Non-findings. No main effect was shown with desired connection and dependent variable need to belong. This is significant because it shows that need to belong scores truly measured the participant's *need* to belong, and not just their desire to be a part of a group.

Desired connection, one of the two independent variables of the ANOVA, showed a significant main effect with the dependent variable social connectedness ($F(1, 41) = 5.41, p < .03$) (see Tables 10 & 10a). This shows that people, who want to be around others and form relationships, are more likely to be socially connected. There was also a non-significant main

effect ($F(1,40) = 2.94, p < .09$) with emotional regulation as a dependent variable. The two groups that reported a low desire for connection had a mean emotional regulation score of 69.54, whereas the two groups that reported a high desire for connection had a mean emotional regulation score of 77.65.

Table 10: *Desired Connection Main Effect of ANOVA*

Dependent Variable: Social Connectedness

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	832.1*	3	277.37	2.08	.12
Intercept	379133.75	1	379133.75	2847.44	.00
Experienced Emotion	191.11	1	191.11	1.44	.24
Desired Emotion	720.66	1	720.66	5.41	.03
Experienced Emotion*Desired Emotion	17.85	1	17.85	.13	.72

* R Squared = .13 (Adjusted R Squared = .07)

Table 10a: *Desired Connection Main Effect of ANOVA (continued)*

Dependent Variable: Social Connectedness

Estimated Marginal Means

			95% Confidence Interval	95% Confidence Interval
Desired Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	89.96	2.39	85.13	94.78
2	98.16	2.59	92.92	103.39

Experienced connection, the second independent variable of the ANOVA, had a main effect ($F(1,40) = 4.69, p < .04$) with prayer fulfillment (see Table 15b). The low experienced connection groups reported a mean of 11.63 on prayer fulfillment, whereas the high experienced connection groups reported a mean of 13.07. Findings indicate that participants, who have experienced a high connection with other people, are also more likely to establish a connection with a higher power through the action of prayer.

Furthermore, experienced emotion showed a main effect ($F(1,42) = 37.41, p < .000$) with “seriousness of relationship” (see Tables 11 & 11a). Seriousness of relationship was a self reported rating of 0 (*not serious*) to 5 (*S/he could have been/is “the one”*). A main effect ($F(1,40) = 5.8, p < .02$) also occurred with “length of most serious relationship” (see Tables 12 & 12a). Length of most serious relationship was a self reported number, converted to months, of how long the participant’s most serious relationship lasted. These two main effects support the notion that “experienced connection” truly does measure the participant’s experienced connection. It is expected that those who have been in the longest and/or most serious relationships, would also be the people who have a high experienced connection.

Table 11: *Experienced Connection Main Effect on ANOVA*

Dependent Variable: Seriousness of Relationship

Tests of Between Subjects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	44.59*	3	14.86	12.65	.000
Intercept	657.59	1	657.59	559.69	.000
Experienced Emotion	43.95	1	43.95	37.41	.000
Desired Emotion	.45	1	.45	.39	.54
Experienced Emotion*Desired Emotion	.12	1	.12	.09	.76

* R Squared = .48 (Adjusted R Squared = .44)

Table 11a: *Experienced Connection Main Effect on ANOVA (continued)*

Dependent Variable: Seriousness of Relationship

Estimated Marginal Means

			95% Confidence Interval	95% Confidence Interval
Experienced Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	2.85	.23	2.39	3.31
2	4.84	.23	4.37	5.31

Table 12: *Experienced Connection Main Effect on ANOVA*
 Dependent Variable: Length of Most Serious Relationship
 Tests of Between Subjects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	2759.65*	3	919.88	2.07	.12
Intercept	24930.15	1	24930.15	56.01	.00
Experienced Emotion	2579.45	1	2579.45	5.80	.02
Desired Emotion	76.56	1	76.56	.17	.68
Experienced Emotion*Desired Emotion	243.81	1	243.81	.55	.46

* R Squared = .13 (Adjusted R Squared = .07)

Table 12a: *Experienced Connection Main Effect on ANOVA (continued)*
 Dependent Variable: Length of Most Serious Relationship
 Estimated Marginal Means

			95% Confidence Interval	95% Confidence Interval
Experienced Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	16.60	4.57	7.36	25.85
2	32.35	4.68	22.90	41.80

ANOVA Interaction Effects with Dependent Variables

Interaction effects were found between the ANOVA independent variables and several dependent variables including impulsivity, prayer fulfillment, and need to belong. Interaction effects occur when two or more independent variables have an interactive influence on a dependent variable.

Non-effects. The four ANOVA groups did not correlate significantly with locus of control. Additionally, both the number of parents (see Table 13) and siblings the participant grew up with (see Table 13a) did not show any effects. Lastly, the number of boy/girlfriends the participant reported having as romantic partners since the age of 14 (see Table 13b) was also

not a factor. Thus we may now proceed to the ANOVA results without these variables concerning us as alternative explanations.

Table 13: *Non-effects of ANOVA*
 Dependent Variable: Number of Parents grew up with
 Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	.31*	3	.10	.69	.56
Intercept	154.37	1	154.37	1031.68	.00
Experienced Emotion	.12	1	.12	.83	.37
Desired Emotion	.12	1	.12	.83	.37
Experienced Emotion*Desired Emotion	.00	1	.00	.001	.97

* R squared = .05 (Adjusted R squared = -.02)

Table 13a
 Dependent Variable: Number of Siblings
 Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	5.02*	3	1.67	1.66	.19
Intercept	94.20	1	94.20	93.19	.001
Experienced Emotion	.94	1	.94	.93	.34
Desired Emotion	2.00	1	2.00	1.98	.17
Experienced Emotion*Desired Emotion	1.58	1	1.58	1.56	.22

* R Squared = .12 (Adjusted R Squared = .04)

Table 13b

Dependent Variable: Number of Boyfriends/Girlfriends since the age of 14 years

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	2.07*	3	.69	.99	.41
Intercept	143.42	1	143.42	206.51	.001
Experienced Emotion	.00	1	.00	.00	.96
Desired Emotion	1.57	1	1.57	2.26	.14
Experienced Emotion*Desired Emotion	.45	1	.45	.65	.43

* R Squared = .07 (Adjusted R Squared = .00)

Number of people connected to within groups. A trend was shown between the independent variables of the ANOVA and the number of people connected to within groups the participant belongs to (hobbies, clubs, sports, etc.). The number of people connected to within groups was self-reported by circling "None," "Some," "Most", or "All." This shows that the ANOVA groups were not significantly affected by the quantity of hobbies or groups where they felt connected with others. This interaction effect was not significant.

Impulsivity. The ANOVA independent variables had an interaction effect with the dependent variable of impulsivity ($F(1,41) = 5.07, p < .03$) (see Tables 14 & 14a). The satisfied groups (LowE/LowD and HighE/HighD) scored a mean of 63.30, whereas the unsatisfied groups (LowE/HighD and HighE/LowD) scored a mean of 70.40. HighE/HighD scored lowest on impulsivity at a mean of 61.00, and LowE/HighD scored highest at a mean of 71.08. The distinctness of these two groups was supported by a Duncan post hoc test. Results showed that participants, who are satisfied in terms of interpersonal connection, are less likely to engage in impulsive acts. High experienced connection and low experienced connection hold

the lowest and highest impulsivity scores respectively. This may indicate that experienced connection plays a role in impulsivity as well, however, no direct effects were found.

Table 14: *Interaction effect of ANOVA*

Dependent Variable: Impulsivity

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	608.13*	3	202.71	1.91	.14
Intercept	191503.26	1	191503.26	1800.76	.000
Experienced Emotion	95.23	1	95.23	.9	.35
Desired Emotion	28.07	1	28.07	.26	.61
Experienced Emotion*Desired Emotion	539.41	1	539.41	5.07	.03

* R Squared = .122 (Adjusted R Squared = .058)

Table 14a: *Interaction effect of ANOVA (continued)*

Dependent Variable: Impulsivity

Estimated Marginal Means

				95% Confidence Interval	95% Confidence Interval
Experienced Connection	Desired Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	1	65.6	3.26	59.01	72.19
	2	71.08	2.86	65.30	76.85
2	1	69.71	2.76	64.15	75.28
	2	61.00	3.65	53.64	68.36

Prayer Fulfillment. An interaction effect was present with prayer fulfillment ($F(1,40) = 4.26, p < .05$). Satisfied groups (LowE/LowE and HighE/HighE) scored a mean of 11.66 for prayer fulfillment, and unsatisfied groups (LowE/HighD and HighE/LowD) scored a mean of 13.03 for prayer fulfillment. More specifically, of the groups that reported a low desired connection, the low experienced connection group had the lowest prayer fulfillment score at 11.10, and the

group reporting a *high* experienced connection had the highest mean at 13.92. This indicates that experienced connection only has an effect when desired connection is low.

Table 15: *Interaction Effect of ANOVA, Main Effect for Experienced Connection*
 Dependent Variable: Prayer Fulfillment
 Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	45.57*	3	15.19	3.18	.03
Intercept	6569.35	1	6569.35	1375.32	.001
Experienced Emotion	22.41	1	22.41	4.69	.04
Desired Emotion	1.11	1	1.11	.23	.63
Experienced Emotion*Desired Emotion	20.34	1	20.34	4.26	.05

* R Squared = .19 (Adjusted R Squared = .13)

Table 15a: *Interaction Effect of ANOVA*
 Dependent Variable: Prayer Fulfillment
 Estimated Marginal Means: Interaction Effects of ANOVA

				95% Confidence Interval	95% Confidence Interval
Experienced Connection	Desired Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	1	11.10	.69	9.70	12.50
	2	12.15	.61	10.93	13.38
2	1	13.92	.63	12.64	15.19
	2	12.22	.73	10.75	13.70

Table 15b: *Main Effect for Experienced Connection*
 Dependent Variable: Prayer Fulfillment
 Estimated Marginal Means: Main Effect for Experienced Connection

			95% Confidence Interval	95% Confidence Interval
Experienced Connection	Mean	Standard Error	Lower Bound	Upper Bound
1	11.63	.46	10.70	12.56
2	13.07	.48	12.10	14.04

Need to Belong. The dependent variable need to belong showed the greatest interaction effect with the four groups created by the ANOVA (see Tables 16 & 16a, and Figure 1). The satisfied groups significantly predicted a low need to belong, and the unsatisfied groups significantly predicted a high need to belong ($F(1,42) = 11.62, p < .001$). The satisfied groups showed nearly identical mean scores for need to belong, with LowE/LowD scoring 28.80, and HighE/HighD scoring 28.70. Additionally, both unsatisfied groups (LowE/HighD and HighE/LowD) reported identical means of 34.50. This means that groups that have (or had) the level of connectedness they desire, have a low need to belong. However, people who have an unbalance between desired connection and experienced connection have a high need to belong. They have more connection than they want, or want more connection than what they have. These individual's needs are not being met, despite what they have in terms of experienced connection, thus, they continue to have a need to belong.

Table 16: *Interaction Effect of ANOVA*
 Dependent Variable: Need to Belong
 Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected Model	372.89*	3	124.30	3.88	.02
Intercept	44520.74	1	44520.74	1388.87	.001
Experienced Emotion	.08	1	.08	.00	.96
Desired Emotion	.03	1	.03	.00	.98
Experienced Emotion*Desired Emotion	372.52	1	372.52	11.62	.001

* R Squared = .22 (Adjusted R Squared = .16)

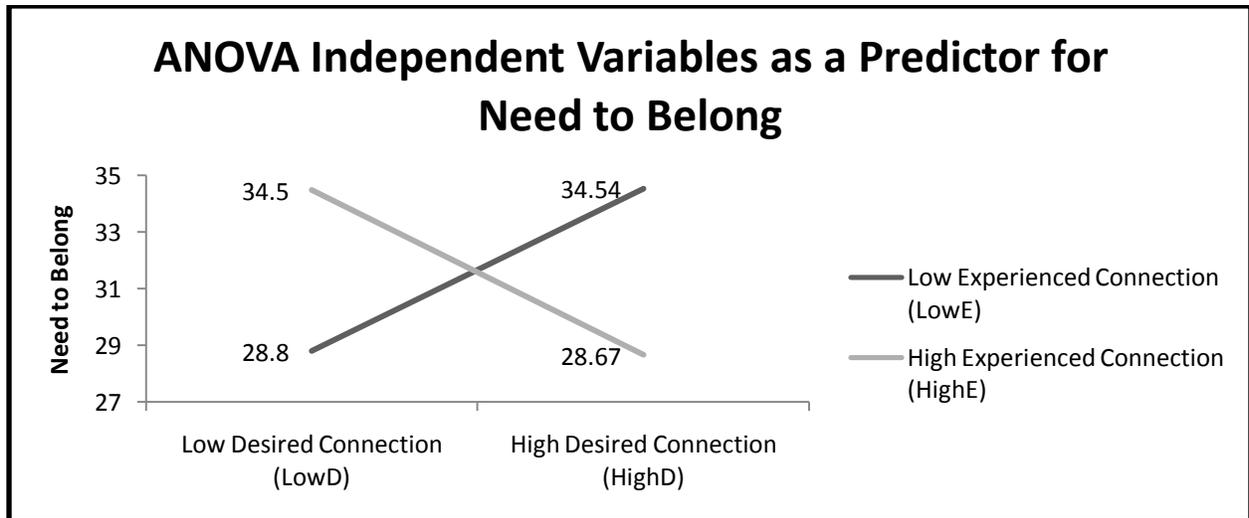
Table 16a: *Interaction Effect of ANOVA (continued)*

Dependent Variable: Need to Belong

Estimated Marginal Means

Experienced Connection	Desired Connection	Mean	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	28.80	1.79	25.19	32.41
	2	34.54	1.57	31.37	37.71
2	1	34.50	1.51	31.45	37.55
	2	28.67	1.89	24.86	32.48

Figure 1: *The interaction effect of ANOVA independent variables and Need to Belong as a dependent variable. The ANOVA independent variables (experienced connection and desired connection) are able to accurately predict Need to Belong.*



Discussion

The general purpose of this research was to examine how and why connectedness is valuable to us. A second, more specific purpose was to investigate the relationship between connectedness and control in an individual. Data supported the hypothesis that social connectedness and emotional regulation are positively correlated. Possible reasoning behind this is that a network of support gives people the perception that they are strong and in control. Cohen describes social support as being beneficial to an individual's ability to cope with stress (Cohen, 2004) because it provides emotional support. Through emotional support, people learn concepts such as empathy, trust, reassurance, and emotional expression. Therefore, social connectedness provides individuals with the opportunity to increase their emotional understanding. In return, the ability to understand and regulate your own emotions, as well as understand those of others, gives you a greater ability to socially connect. One contribution of social support was described by Cohen (2004) as "stress buffering." Research (Cohen, 2004) shows that the most important aspect of social support helping to buffer stress is one's perception that others will provide aid and support for him or her in a time of need. In sum, social connectedness is believed to be the strongest contributor of a person's self control because of its ability to buffer stress. Data also supported the hypotheses that team sports would relate to social connectedness and that there would be a difference between people who desire and/or experience interpersonal connections and those who do not.

Stress and Interpersonal Satisfaction

Stress is a likely component of the findings of this study. Unsatisfied groups (HighE/LowD and LowE/HighD group) may experience stress for two reasons: 1) their connectedness needs are not being met, leading to a weak social support system and a minimal stress buffer, and 2) the unbalance in their desired and experienced connectedness naturally creates stress. This stress, without the presence of a strong stress buffer, could then lead to a decrease in one's self-control. The direct correlation between the unsatisfied ANOVA groups and impulsivity supports this interpretation. The unsatisfied (stressed) groups reported higher scores of impulsivity. Additionally, the individual would have a high need for social support to buffer, and thus reduce, the stress experienced. The predicted high need for support is supported by the high need to belong scores found in the study's data.

In contrast, satisfied groups (LowE/LowD and HighE/HighD) are likely to experience low stress. These are people who have obtained the connection they desire, or perhaps just the connection they need. Their interpersonal connectedness is satisfied, and it can thus be assumed their social support system is adequate. A higher control of their behavior is indicated by a low impulsivity score. The result is a low need to belong, because their need for connection has been satisfied.

Desired Connection and Emotional Regulation

Desired connection showed a positive trend with emotional regulation. The possible reasons for this are two-fold. First, it is likely that people who do not desire connectedness will have low social connectedness. Since social connectedness correlates with emotional

regulation, people with low social connectedness are usually associated with low emotional regulation. Second, low emotional regulation is associated with an external locus of control. Perhaps people with an external locus of control rely on forces higher than themselves or other people for support, and therefore do not desire interpersonal connectedness.

It is possible that desired connection and emotional regulation did not report a statistically significant relationship, and rather just a trend, because there is a large (and possibly overlapping) range of “low” and “high” emotional regulation. Participants in the HighE/LowD and LowE/LowD groups (both low in desired connectedness) may experience different levels of low social connectedness, and therefore, different levels of low emotional regulation. The LowE/LowD group may be low in their actual level of social connectedness (as indicated), and also do not *want* to be connected. This would lead to such an individual being especially disconnected from others, and resulting in having the lowest emotional regulation. Such a pattern surfaced with a mean of 67 (as shown in the data). The HighE/LowD group does not desire connectedness, but because they *have felt/do* feel connected (past or present) they may be slightly more social connected than the LowE/LowD group. This existing connection (past or present) would give them a correspondingly higher emotional regulation score of 71. Overall, those who have a low desired connectedness report a mean emotional regulation score that is approximately 8 points lower than their high desiring counterparts and are therefore still considered as have both low emotion regulation and low social connectedness.

With that said, it is likely that people with a high desired connectedness are more likely to have high social connectedness because they want it. A trend with high emotional regulation is the result. Once again, it may only be a trend present because there are varying

degrees of high social connectedness, and therefore, varying degrees of high emotional regulation. The unsatisfied (high desiring, low experiencing) group has the desire, and possibly the ability, to connect with others. Perhaps they simply don't experience social connectedness with *enough* people, and are therefore unsatisfied. In this case, they still experience high connectedness; however it may not be as high as those who have their high desire satisfied. Furthermore, the unsatisfied people may have a lower "high" emotional regulation score. This would explain the varying degrees of high emotional regulation and therefore the lack of a significant correlation. Despite this, people with high desired connectedness reported a mean emotional regulation score of 77.65, approximately 8 points higher than their low desiring counterparts.

Desired Connection and Prayer Fulfillment

Desired connection had a complex relationship with prayer fulfillment. Findings showed that the ANOVA groups with a low desired connection (LowE/LowD and HighE/LowD) had both the highest (13.9) and the lowest (11.1) scores for prayer fulfillment. This means that regardless of their experienced interpersonal connections, having a low desire to connect with others causes them to report one of the extreme values (highest or lowest) on prayer fulfillment. What may lead to a group falling on the high or low side is their "satisfaction." This split may occur because of the person's desire to connect with others as opposed to a desire to connect with a higher power. The ANOVA groups with high desired connection (HighE/HighD and LowE/HighD) both showed the same average prayer fulfillment score of 12.2. This may be

because they have a high social connectedness score, essentially having interpersonal connections as a “back-up” to buffer stress, allowing praying to simply be a choice.

Satisfied, low desiring people had the lowest prayer fulfillment. Because they are satisfied (and therefore have “low stress”) they see no need to seek support from a higher power. In contrast, *unsatisfied*, low desiring people have a great need for support (indicated by their high need to belong scores). These people do not desire a connection with other people, so they must seek support, and stress buffering, elsewhere. They may prefer to seek support through prayer, and therefore report the highest prayer fulfillment score of 13.9.

Both groups desiring a high social connection are more likely to seek out people for support rather than through prayer, though this does not mean they refrain from praying. In fact, it is possible that the HighE/HighD group is able to satisfy their high desire for connection because they also experience satisfaction from prayers. The HighE/HighD group has a higher prayer fulfillment score than the satisfied, low desiring group (LowE/LowD) because they require such a high level of connectedness that they seek *both* interpersonal connections and satisfaction through prayer.

Need to Belong and Personality Traits

It’s possible that a potential side effect to being unsatisfied and having a high need to belong is negative personality traits or disorders. The relationship between need to belong and personality traits (Leary et al., 2003) may be supported by the results of this study. Previous studies that used the Need to Belong scale used in this study, showed significant correlations with five personality disorders: histrionic, dependent, avoidant, borderline, and paranoid. The

histrionic, dependent, avoidant, and borderline disorders are associated with excessive concerns about social attention, approval, and acceptance (Millon & Davis, 1995 in Leary et al., 2003). “Avoidant individuals avoid social interactions not because they lack a desire to interact but rather because their high need for acceptance and feelings of personal inadequacy make social encounters particularly threatening” (Millon & Davis, 1995 in Leary et al., 2003).

Avoidant individuals, as an example, would fall in the group of LowE/HighD. They have not experienced a great deal of connectedness, possibly because they are afraid, but they still have a strong desire to connect with others. Because they often have fear when interacting with others, they may attempt to over-regulate their emotions to reduce the chance of being judged by the other person. This fits well into this study’s model (see Appendix G); with the LowE/HighD group experiencing high emotional regulation. Perhaps this is not a healthy high emotional regulation, and rather a reflection of the participant *over*-regulating their emotions.

Another personality disorder that fits into the model is neuroticism. Neuroticism was positively correlated with need to belong (Leary et al., 2003) with a significance less than .001. In our model, neurotic people would fall into one of the “unsatisfied” groups. This is understandable seeing as the characteristics of a neurotic person are seen in this study’s unsatisfied people with a high need to belong. Impulsivity is a characteristic of neurotic people and the unsatisfied groups of this study. In addition, previous findings (Hellmuth & McNulty, 2008) showed that stress has a particularly negative impact on neurotic people.

Limitations

There are several limitations to this study. First, connectedness is a difficult concept for people to self-report. When asked to self-report how connected they felt to other or how connected they wanted to feel, it is likely that people in the sample group may have had various definitions of connectedness. Also, people may have had a perceived relationship that does not accurately reflect their actual relationship. Because the questionnaires were self-reported, it is difficult to determine the degree of accuracy in the participants' responses. Additionally, accuracy can also be a problem if the participant was having an abnormal day or experiencing an abnormal mood. An example of abnormal circumstances would be if they had recently been through a tragedy, recent move, or break-up. Limitations to this study also included a low N of 49, and a lack of spiritual diversity in participants. In addition, this questionnaire was given during final exams which may or may not have been a stressful time for the participant.

Later implications

Further studies would include a deeper examination of the four ANOVA groups (LowE/LowD, LowE/HighD, HighE/LowD, and HighE/HighD), as well as side effects that may occur from the satisfied vs. unsatisfied groups (for example, personality traits). Additionally, a further examination of the relationship between need to belong and stress, and variables (other than connectedness) reducing high stress. Investigating the particulars of the interaction between our ANOVA groups and need to belong, could provide further insight as to why the effect is present and what effects it may have on a person's daily life. In further studies, it

would also be important to use a more diverse sample (in terms of religious views, location, and age) and a higher number of participants.

With further investigation, this information could be useful in therapy, most specifically in marriage or relationship therapy. The results of this study showed the importance of understanding what one desires, and then having the ability to obtain that desire. It is possible that some relationship problems stem from being unsatisfied in terms of connectedness and the results of this study help show how and why this may happen. Additionally, this research could benefit the practice of group therapy. It helps to outline the dynamics of connectedness and control in a person, and predicts possible displayed behaviors resulting from it. Likewise, it may be possible to also look at the model (Appendix G) in a reverse fashion starting with a displayed behavior and working towards finding a connection imbalance in the person. With more developed research, this could be helpful in treating and understanding people with personality disorders or negative personality traits. Overall, this study was very broad, making it difficult to theorize specific implications from the results.

In conclusion, the results of this study showed many significant correlations, interaction effects, and main effects between variables of connectedness and control. Results of the ANOVA help us speculate how connectedness affects people, and how connectedness and control work together. Additionally, the results showed unexpected findings concerning the relationship between one's desired and experienced connections and his or her need to belong in society. The results provide a wonderful basis for further research on this topic and give direction for following studies in social connectedness, control, need to belong, and interpersonal relationships.

References

- Alpert, Harry. (1961). Durkheim's Conception of the Nature, Method, and Scope of Sociology. In *Emile Durkheim and His Sociology* (pp. 79-173). New York: Russell and Russell.
- Berking, Matthias, Wupperman, Peggilee, Orth, Ulrich, Meier, Laurenz, L., Caspar, Franz. (2008). Prospective Effects of Emotion-Regulation Skills on Emotional Adjustment. *Journal of Counseling Psychology*, 55, 485-494.
- Berkman, Lisa, F., Syme, S, L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda county residents. *American Journal of Epidemiology*, 109, 186-204.
- Bogard, M. (1988). How battered women and abusive men account for domestic violence: Excuses, justifications, or explanations? In G. T. Hotaling, D. Finkelhor, J. T. Kirkpatrick, & M. A. Straus (Eds.). *Coping with family violence: Research and Policy perspectives*, 60-77, Thousand Oaks, CA: Sage.
- Cleaver, Glenda. (1987). Marriage Enrichment by Means of a Structured Communication Programme. *Family Relations*, 36, 49-54.
- Coats, Abby, H., Blanchard-Fields, Fredda. (2008). Emotion Regulation in Interpersonal Problems: The Role of Cognitive-Emotional Complexity, Emotion Regulation Goals, and Expressivity. *Psychology and Aging*, 23, 39-51.
- Cohen, Sheldon. (2004). Social Relationships and Health. *American Psychologist*, 676-684.

Culliford, Larry. (2002). Spiritual care and psychiatric treatment: an introduction. *Advances in Psychiatric Treatment*, 8. Retrieved March 11, 2009, from <http://apt.rcpsych.org/cgi/reprint/8/4/249>

Durkheim, Emile. (1997). *Suicide*. New York: Free Press.

Eysenck, Hans, J., Eysenck, Michael, W. (1985). *Personality and Individual Differences: A Natural Science Approach*. Springer.

(9, January 2008). Family meals may lower girls' eating disorder risk. *Reuters*. Retrieved January 4, 2009, from <http://www.reuters.com/article/healthNews/idUSCOL97025820080109>

Fergus, S., Zimmerman, Marc, A. (2005). ADOLESCENT RESILIENCE: A Framework for Understanding Healthy Development in the Face of Risk. *Annual Review of Public Health*, 26. Retrieved October 14, 2008, from <http://arjournals.annualreviews.org/doi/full/10.1146/annurev.publhealth.26.021304.144357?amp;searchHistoryKey=%24{searchHistoryKey}&cookieSet=1>

Folkman, Susan, Lazarus, Richard, S., Gruen, Rand, J., DeLongis, Anita. (1986). Appraisal, Coping, Health Status, and Psychological Stress. *Journal of Personality and Social Psychology*, 50, 571-579.

Forgas, Joseph, P. (2001). Emotion, Intelligence, and Emotional Intelligence. In *Handbook of Affect and Social Cognition* (pp. 410-425). Mahwah, NJ: Lawrence Erlbaum Associates. Retrieved March 11, 2009, from <http://books.google.com/books?hl=en&lr=&id=mGciFLxz588C&oi=fnd&pg=RA1->

PA410&dq=emotional+intelligence&ots=DfBqGXIT87&sig=TNw6anoiphQk-r13wINTTeoDKgs#PRA1-PA423,M1

Fulkerson, Jayne, A., Strauss, Jaine, Neumark-Sztainer, Dianne, Story, Mary, Boutelle, Kerri.

(2007). Correlates of Psychosocial Well-Being Among Overweight Adolescents: The Role of the Family. *Journal of Consulting and Clinical Psychology, 75*, 181-186.

Giddens, Anthony. (1971). Durkheim's conception of sociological method. In *Capitalism and modern social theory* (pp. 82-94). Cambridge: Cambridge University Press.

Goleman, Daniel. (1997). *Emotional Intelligence*. New York: Bantam.

Hellmuth, Julianne, C., McNulty, James, K. (2008). Neuroticism, Marital Violence, and the Moderating Role of Stress and Behavioral Skills. *Journal of Personality and Social Psychology, 95*, 166-180.

Hynes, Eugene. (1975). Suicide and Homo Duplex an Interpretation of Durkheim's Typology of Suicide. *The Sociological Quarterly, 16*, 87-104.

Kirby, Doug. (2001). Understanding What Works and What Doesn't In Reducing Adolescent Sexual Risk-Taking. *Family Planning Perspectives, 33*. Retrieved September 10, 2008, from <http://www.guttmacher.org/pubs/journals/3327601.html>

Leary, Mark, R., Kelly, Kristine, M., Cottrell, Catherine, A., Schreindorfer, Lisa, S. Individual Differences in the Need to Belong: Mapping the Nomological Network, 1-31, emailed document.

Lee, Richard, M., Draper, Matthew, Lee, Sujin. (2001). Social Connectedness, Dysfunctional Interpersonal Behaviors, and Psychological Distress: Testing a Mediator Model. *Journal of Counseling Psychology*, 48, 310-318.

Lee, Richard, M., Robbins, Steven , B. (1998). The Relationship Between Social Connectedness and Anxiety, Self-Esteem, and Social Identity. *Journal of Counseling Psychology*, 45, 338-345.

Markham, Christine, M., Tortolero, Susan, R., Escobar-Chaves, S, L., Parcel, Guy, S., Harrist, Ronald, Addy, Robert, C. (2003). Family Connectedness and Sexual Risk-Taking among Urban Youth Attending Alternative High School. *Perspectives on Sexual and Reproductive Health*, 35, 174-179.

Matthews, G., Deary, Ian, J. (1998). *Personality Traits*. Cambridge, UK: Cambridge University Press.

McCabe, Kristen, M., Goehring, Kelly, Yeh, May, Lau, Anna, S. (2008). Parental Locus of Control and Externalizing Behavior Problems Among Mexican American Preschoolers. *Journal of Emotional and Behavioral Disorders*, 16, 118-126.

Morrison, Martha , A., Hoffmann, Norman, G., DeHart, Sara, S., Estroff, Todd, W., King, Paul. (2001). Spirituality. In *Manual of Adolescent Substance Abuse Treatment* (pp. 229-234). Washington D.C.: American Psychiatric Publishing, Inc..

Paddock, Catharine. (2009, January 20). Dementia Less Likely In Calm And Outgoing People.

Medical News Today. Retrieved January 25, 2009, from

<http://www.medicalnewstoday.com/articles/136019.php>

Patton, Stanford, Barratt. (1995). Factor Structure of the Barratt Impulsiveness Scale. *Journal of Clinical Psychology*, 51, 772.

Peralta, Karen. *Stress Management: Medical Risks Of Stress*. (2005). Retrieved January 5, 2009, from <http://www.mental-health-matters.com/articles/article.php?artID=1304>

Piedmont, Ralph, L. (2004). Spiritual Transcendence as a Predictor of Psychosocial Outcome From an Outpatient Substance Abuse Program. *Psychology of Addictive Behavior*, 18, 213-222.

Seligman, Martin, E.P., Maier, Steven, F., Geer, James, H. (1968). Alleviation of learned helplessness in the dog. *Journal of Abnormal Psychology*, 73, 256-262.

Spector, Paul, E. *Work Locus of Control*. (1988). Retrieved September 7, 2008, from <http://chuma.cas.usf.edu/~spector/scales/wlcsnice.doc>

Spector, Paul, E. Overview of the *Work Locus of Control Scale*. (2004). Retrieved January 10, 2009, from <http://chuma.usf.edu/~spector/scales/wlcsover.html>

VanBreda, Adrian, D. *Resiliency Theory: A Review of Literature*. (2001, October). Retrieved November 6, 2008, from <http://www.vanbreda.org/adrian/resilience/resilience7.pdf>

Appendix A: *Need to Belong Scale*

Instructions: For each of the statements below, indicate the degree to which you agree or disagree with the statement by writing a number in the space beside the question using the scale below:

- 1 = Strongly Disagree
- 2 = Moderately Disagree
- 3 = Neither Agree nor Disagree
- 4 = Moderately Agree
- 5 = Strongly Agree

1. If other people don't seem to accept me, I don't let it bother me. (R)
2. I try hard not to do things that will make other people avoid or reject me.
3. I seldom worry about whether other people care about me. (R)
4. I need to feel that there are people I can turn to in times of need.
5. I want other people to accept me.
6. I do not like being alone.
7. Being apart from my friends for long periods of time does not bother me. (R)
8. I have a strong "need to belong."
9. It bothers me a great deal when I am not included in other people's plans.
10. My feelings are easily hurt when I feel that others do not accept me.

Appendix B: *Spiritual Transcendence Scale*

Section II.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. In the quiet of my prayers and /or meditations, I find a sense of wholeness.	<input type="checkbox"/>				
2. I have done things in my life because I believed it would please a parent, relative, or friend that had died.	<input type="checkbox"/>				
3. Although dead, memories and thoughts of some of my relatives continue to influence my current life.	<input type="checkbox"/>				
4. I find inner strength and/or peace from my prayers and/or meditations.	<input type="checkbox"/>				
5. I do not have any strong emotional ties to someone who has died.	<input type="checkbox"/>				
6. There is no higher plane of consciousness or spirituality that binds all people.	<input type="checkbox"/>				
7. Although individual people may be difficult, I feel an emotional bond with all of humanity.	<input type="checkbox"/>				
8. My prayers and/or meditations provide me with a sense of emotional support.	<input type="checkbox"/>				
9. I feel that on a higher level all of us share a common bond.	<input type="checkbox"/>				

Appendix C: *Work Locus of Control Scale*

Work Locus of Control Scale						
Copyright Paul E. Spector, All rights reserved, 1988						
The following questions concern your beliefs about jobs in general. They do not refer only to your present job.						
	Disagree very much	Disagree moderately	Disagree slightly	Agree slightly	Agree moderately	Agree very much
1. A job is what you make of it.	1	2	3	4	5	6
2. On most jobs, people can pretty much accomplish whatever they set out to accomplish	1	2	3	4	5	6
3. If you know what you want out of a job, you can find a job that gives it to you	1	2	3	4	5	6
4. If employees are unhappy with a decision made by their boss, they should do something about it	1	2	3	4	5	6
5. Getting the job you want is mostly a matter of luck	1	2	3	4	5	6
6. Making money is primarily a matter of good fortune	1	2	3	4	5	6
7. Most people are capable of doing their jobs well if they make the effort	1	2	3	4	5	6
8. In order to get a really good job, you need to have family members or friends in high places	1	2	3	4	5	6
9. Promotions are usually a matter of good fortune	1	2	3	4	5	6
10. When it comes to landing a really good job, who you know is more important than what you know	1	2	3	4	5	6
11. Promotions are given to employees who perform well on the job	1	2	3	4	5	6
12. To make a lot of money you have to know the right people	1	2	3	4	5	6
13. It takes a lot of luck to be an outstanding employee on most jobs	1	2	3	4	5	6
14. People who perform their jobs well generally get rewarded	1	2	3	4	5	6
15. Most employees have more influence on their supervisors than they think they do	1	2	3	4	5	6
16. The main difference between people who make a lot of money and people who make a little money is luck	1	2	3	4	5	6

Appendix D: Revised Social Connectedness Scale

Instructions: Following are a number of statements that reflect various ways in which we view ourselves. Rate the degree to which you agree or disagree with each statement using the following scale (1= Strongly Disagree and 6= Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered.

Strongly Disagree 1	Disagree 2	Mildly Disagree 3	Mildly Agree 4	Agree 5	Strongly Agree 6
1. I feel comfortable in the presence of strangers.....1	2	3	4	5	6
2. I am in tune with the world.....1	2	3	4	5	6
3. Even among my friends, there is no sense of brother/sisterhood.....1	2	3	4	5	6
4. I fit in well in new situations.....1	2	3	4	5	6
5. I feel close to people.....1	2	3	4	5	6
6. I feel disconnected from the world around me.....1	2	3	4	5	6
7. Even around people I know, I don't feel that I really belong.....1	2	3	4	5	6
8. I see people as friendly and approachable.....1	2	3	4	5	6
9. I feel like an outsider.....1	2	3	4	5	6
10. I feel understood by the people I know.....1	2	3	4	5	6
11. I feel distant from people.....1	2	3	4	5	6
12. I am able to relate to my peers.....1	2	3	4	5	6
13. I have little sense of togetherness with my peers.....1	2	3	4	5	6
14. I find myself actively involved in people's lives.....1	2	3	4	5	6
15. I catch myself losing a sense of connectedness with society.....1	2	3	4	5	6
16. I am able to connect with other people.....1	2	3	4	5	6
17. I see myself as a loner.....1	2	3	4	5	6
18. I don't feel related to most people.....1	2	3	4	5	6
19. My friends feel like family.....1	2	3	4	5	6
20. I don't feel I participate with anyone or any group.....1	2	3	4	5	6

Appendix E: *Barratt Impulsiveness Scale*

Instructions: Please read each statement and circle the number that best represents how the statement applies to you.

Rarely/Never 1	Occasionally 2	Often 3	Almost Always/Always 4	
1. I plan tasks carefully.....	1	2	3	4
2. I do things without thinking.....	1	2	3	4
3. I make-up my mind quickly.....	1	2	3	4
4. I am happy-go-lucky.....	1	2	3	4
5. I don't "pay attention".....	1	2	3	4
6. I have "racing" thoughts.....	1	2	3	4
7. I plan trips well ahead of time.....	1	2	3	4
8. I am self controlled.....	1	2	3	4
9. I concentrate easily.....	1	2	3	4
10. I save regularly.....	1	2	3	4
11. I "squirm" at plays or lectures.....	1	2	3	4
12. I am a careful thinker.....	1	2	3	4
13. I plan for job security.....	1	2	3	4
14. I say things without thinking.....	1	2	3	4
15. I like to think about complex problems.....	1	2	3	4
16. I change jobs.....	1	2	3	4
17. I act "on impulse".....	1	2	3	4
18. I get easily bored when solving thought problems.....	1	2	3	4
19. I act on the spur of the moment.....	1	2	3	4
20. I am a steady thinker.....	1	2	3	4
21. I change residences.....	1	2	3	4
22. I buy things on impulse.....	1	2	3	4
23. I can only think about one thing at a time.....	1	2	3	4
24. I change hobbies.....	1	2	3	4
25. I spend or charge more than I earn.....	1	2	3	4
26. I often have extraneous thoughts when thinking.....	1	2	3	4
27. I am more interested in the present than the future.....	1	2	3	4
28. I am restless at the theatre or lectures.....	1	2	3	4
29. I like puzzles.....	1	2	3	4
30. I am future oriented.....	1	2	3	4

Appendix F: *Emotional Regulation-Skills Questionnaire*

Below, you will find some statements about a variety of emotions you might have experienced in the last week and about how you dealt with these emotions. Please fill in the circle for the answer that fits the best for you. Don't spend a lot of time on each question – the first answer that comes to your mind is probably the best.

In the last week ...	not at all	rarely	some times	often	almost always
1.) ... I was able to consciously pay attention to my feelings.	<input type="radio"/>				
2.) ... I could consciously bring about positive feelings.	<input type="radio"/>				
3.) ... I understood my emotional reactions.	<input type="radio"/>				
4.) ... I could endure my negative feelings.	<input type="radio"/>				
5.) ... I was able to accept my negative feelings.	<input type="radio"/>				
6.) ... I could have labelled my feelings.	<input type="radio"/>				
7.) ... I had a clear physical perception of my feelings.	<input type="radio"/>				
8.) ... I did what I wanted to do, even if I had to face negative feelings on the way.	<input type="radio"/>				
9.) ... I tried to reassure myself during distressing situations.	<input type="radio"/>				
10.) ... I was able to influence my negative feelings.	<input type="radio"/>				
11.) ... I knew what my feelings meant.	<input type="radio"/>				
12.) ... I could focus on my negative emotions if necessary.	<input type="radio"/>				
13.) ... I knew what emotions I was feeling in the moment.	<input type="radio"/>				
14.) ... I consciously noticed when my body reacted towards emotionally charged situations in a particular way.	<input type="radio"/>				
15.) ... I tried to cheer myself up in emotionally distressing situations.	<input type="radio"/>				
16.) ... I did what I intended to do despite my negative feelings.	<input type="radio"/>				
17.) ... I was OK with my feelings, even if they were negative.	<input type="radio"/>				
18.) ... I was certain that I would be able to tolerate even intense negative feelings.	<input type="radio"/>				

19.)	... I was able to experience my feelings consciously.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
20.)	... I was aware of why I felt the way I felt.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
21.)	... I knew that I was able to influence my feelings.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
22.)	... I pursued goals that were important to me, even if I thought that doing so would trigger or intensify negative feelings.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
23.)	... I was able to experience my negative feelings without immediately trying to fight them off.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
24.)	... my physical sensations were a good indication of how I was feeling.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
25.)	... I was clear about what emotions I was experiencing.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
26.)	... I could tolerate my negative feelings.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄
27.)	... I supported myself in emotionally distressing situations.	<input type="radio"/> O ₀	<input type="radio"/> O ₁	<input type="radio"/> O ₂	<input type="radio"/> O ₃	<input type="radio"/> O ₄

