

SENSE OF BELONGING AND ITS RELATIONSHIP
WITH QUALITY OF LIFE AND SYMPTOM DISTRESS
AMONG UNDERGRADUATE COLLEGE STUDENTS

By

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CHAPTER I

INTRODUCTION

“No man is an island, entire of itself” this powerful and oft quoted line is credited to John Donne (1572-1631). It appears in *Devotions Upon Emergent Occasions*, Meditation XVII (1624). This quote helps one to recognize that we all have connections to other men, women, and children. This is where the concept of belonging comes in. Belonging is a broad and pervasively accepted concept in literature and studies throughout numerous fields. Sense of belonging has been explored in education, psychology, sociology, and social-psychology, and has also been examined in psychiatry, nursing, geography, anthropology, and religion to name a few. It is a concept that is closely related to other psychological, educational, and sociological concepts that are widely accepted and studied; examples include Holland’s (1959) concept of fit, Bowen’s (1966) concept of togetherness, Bowlby’s (1969,1973) attachment theory, Kegan’s (1982) concept of inclusion, Guisinger and Blatt’s (1994) concept of relatedness, as well as terms such as adjustment, association, bonding, engagement, connectedness, security, and even commitment. This dissertation will provide a review of literature on the concept of belonging from multiple disciplines and study its impact on peoples’ lives.

Abraham Maslow (1954) proposed a theory of human motivation that was easy to understand yet well designed and complex. In his theory he created a hierarchy of needs that began with physiological needs, followed by the needs of safety, belonging and love, esteem, and finally the need for self-actualization. His theory has thus far stood the test of time, is still considered relevant and practical, and is taught, discussed, and written about across the world. In the American culture, especially on college campus, most physiological and safety needs are met, thus higher level needs are of greater focus. Thus the next need that most often appears to be a source difficulty for people are the belonging needs. Maslow wrote of belonging, "We have very little scientific information about the belongingness need, although this is a common theme in novels, autobiographies, poems, and plays" (p 43). Unfortunately it would appear that this statement is still true. Maslow described this need as, "hunger for affectionate relationship with people in general, namely, for a place in his group or family"(p 43). Maslow went on to list many destructive effects not having a healthy sense of belonging has on people in increasingly industrialized societies including being a potential basis for most types of maladjustment and severe pathology. Maslow makes even stronger the importance of love and/or belonging needs by suggesting that in order to be healthy and avoid sickness people need love. Maslow makes a strong case for looking into this need for belonging and its impact on the health of people (Maslow, 1954).

More recently, research has shown sense of belonging to be a significant part of people's lives in a number of areas. Hale et al. (2005) found that sense of belonging in college students predicted better physical health. Sargent et al. (2002) supported that sense of belonging had buffering affect on depressive symptoms in persons who have a

family history of alcohol abuse. Friedman et al. (2005) saw a relationship between satisfaction with social support and psychological functioning in women with breast cancer. Another study showed the greater benefits of sense of belonging in motivation, concern for others, and positive interpersonal behavior in classroom settings as well as the risk factors involved with students and schools who do not have a strong sense of belonging (Edwards & Mullis, 2001). Multiple studies have pointed out the negative influence a lack of belonging has with persons who belong to underrepresented groups, particularly in school settings. For example, negative impacts include poorer intellectual and academic performance (Inzlicht & Good, 2006) and increased drug use (Napoli, Marsiglia, & Kulis, 2003). Additionally Gardner et.al, (2005) showed some of the different effects a lack of sense of belonging creates, such as greater risk to physical well-being. These studies only represent a small portion of the amount of research showing the relationship sense of belonging has with nearly every aspect of peoples, and in particular, students' lives. As will be further elaborated and explored in the literature review, studies of belonging reach into different sections of psychology as well as other disciplines. Literature on belonging will be presented from the areas of psychology (including literature from group therapy, social psychology, and neuropsychology) education, sociology, psychiatric nursing, and other disciplines. Overall the literature has shown relationships between sense of belonging and overall mental health, self-efficacy, self-esteem, greater therapeutic benefit, lower levels of stress depression and anxiety, better coping, easier adjustment to life changes, improved neurological functioning, healthier and safer schools and communities, improved academic achievement

performance and motivation, higher intellect and cognition, improved resistance to disease, and generally better physical health.

As noted earlier, there have been a number of other theories and concepts that are closely related to belonging that have been researched, which is echoed in writing by many authors (e.g. Baumeister and Leary 1995, Hagerty et.al 1996, and Hoffman et.al 2002). Because of this variety of related concepts a single definition of belonging is difficult to come by. One common definition of belonging is “happiness felt in a secure relationship” (Word Net, 2003). Belonging has also been defined as “To be a member of a group or to fit into a group naturally” (American Heritage® Dictionary). Belonging has also been defined as, “the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment” (Hagerty, et.al., 1992, p. 173). For the purpose of this study, the latter definition by Hagerty and her colleagues will be used, as Hagerty and Patusky (1995) used this definition as a basis for their Sense of Belonging Instrument (SOBI).

Because sense of belonging is so widely accepted as an important concept in psychology, it stands to reason that it has impact on people’s overall psychological functioning, well being, and/or quality of life. Thus instruments that can measure and define important global concepts of a person’s psychological functioning, well being, and quality of life would be useful in supporting the line of thought that belonging impacts mental health. An instrument that provides multiple scores across a broad range of psychological symptoms, and an instrument that examines quality of life across multiple dimensions would provide beneficial data for study in exploring belongings possible impact. Two instruments that have been empirically supported as reliable and valid in

measuring factors important to mental health are The Symptom Checklist-90 –Revised (SCL-90-R) created by Leonard R. Derogatis, Ph.D. (1975, 1994) and the Quality of Life Inventory (QOLI) created by Michael B. Frisch, Ph.D. (1994). The SCL-90-R is used by psychologists in a multitude of ways including to aid in diagnosis, to assist in treatment planning, to measure progress and/or outcomes of different treatments, to facilitate in therapeutic goal setting, and to help in screening for groups. Additionally the SCL-90-R has been a useful research tool as it is easy to proctor, quick to score, and provides numerical values that are broken down into three different global indices and further into nine separate factors. Likewise another widely used and well supported instrument is the QOLI. It is a good counter balancing measure to the more problem and symptom oriented assessments, as it comes from a more positive psychological base and looks at life satisfaction. It is useful in a variety of circumstances including measuring satisfaction in specific areas of life such as job satisfaction, evaluating treatment, tracking progress, screening for problem areas, treatment planning, and finding focus for goal setting among other uses. It too has been a valuable research tool because of its ease of administration, quick results, and it produces an overall numerical satisfaction score as well as score values across 16 different domains.

The core purpose of the present investigation was to explore if sense of belonging has a functional relationship with college student's quality of life and experience of psychological symptoms. This study investigated belonging through the use of the SOBI and compared it with undergraduate student's ratings on the aforementioned QOLI and the SCL-90-R. The overall hypothesis is that students who experience higher levels of belonging and its antecedents will report a higher of quality of life and lower levels of

psychological symptoms. Specifically, it was hypothesized that higher ratings of sense of belonging (as measured by low scores on the SOBI-P) and higher ratings of the antecedents to sense of belonging (as measured by high scores on the SOBI-A) would predict higher quality of life ratings (as measured by the total QOLI score) and lower experience of psychological symptoms (as measured by low scores on the SCL-90-R global indices).

CHAPTER II

REVIEW OF LITERATURE

In the following literature review sense of belonging will be explored from a multidisciplinary perspective. The organization of the review is grouped by sections (psychology, education, sociology, psychiatric nursing, and other disciplines).

Psychology

At the beginning of any discussion about sense of belonging Abraham Maslow comes up in the conversation. Maslow is famous for his theory on the hierarchy of needs from *Motivation and Personality* (1954). His book is a graphic depiction of the certain categories of needs people strive for in their lives. These needs start at the most basic level of physiological needs, then safety needs, next love and belonging needs, after that self-esteem needs, and finally actualization. This theoretical concept says simply that these needs, that humans have an innate desire to fulfill, cannot be fulfilled if a lower level need is not met. The needs form a triangle which shows actualization at the peak level of the pyramid. The fact that this theory takes into account that need fulfillment has an order of operation seems to explain why it is that humankind's basic capacity to work towards actualization is sometimes faulty. Basically it points out that if one does not have every need met in ones life it is impossible to become actualized. Thus there would appear to be a great need for psychologists to look to help people meet their needs. For students to fully succeed, this need would appear to be of great importance. Thus the

purpose of this dissertation is to help support that sense of belonging is a vital concept in the lives of students both inside and outside of the classroom (Maslow, 1954).

In Maslow's third edition of *Motivation and Personality* (1987) he further described the need for sense of belonging as humans need to find acceptance, recognition, and be valued/appreciated by groups of people. In *The Maslow Business Reader* (2000) Maslow suggested that further research should be done on his theory because it was not developed through traditional research, saying about his theory it should, "stand or fall, not so much on facts currently available or evidence presented, as upon researches yet to be done (p. 253)". In an audio recording, Maslow spoke about the self actualization and in reference to the power of belonging he said, "One good way of becoming of fostering self actualization is pick yourself beautiful, and decent, and good people to be with and you just can't help it you simply get healthier" (Maslow, 1967). Thus Maslow was in support of continuing research of his theoretical concepts, and through years of clinical observations, research, and life he still believed his theory offered valuable explanation for human motivation.

Further support for the importance of belonging was echoed in a statement by Corey (2001), "Only when we have a sense of belonging are we able to act with courage in facing and dealing with our problems" (p. 112). Corey went on to say later, in his discussion focusing on group therapy, that counseling (specifically group) can provide the atmosphere and place for individuals to fulfill their sense of belonging, and that this allows individuals to recognize that many of their difficulties are interpersonal in nature and that their goals should reflect change in their purposes and interaction within society. Thus from this perspective it can be inferred that students who have a higher sense of

belonging are less likely to suffer from psychological problems and will have a higher quality of life (Corey, 2001).

Baumeister & Leary (1995) provided arguably the most comprehensive argument to support that the need to belong exists as a fundamental human characteristic. In a broad and in depth review of the literature they found that the need to belong meets a number of criteria that they established in order to be considered a basic human need or motivation. In their own words, “A fundamental motivation should (a) produce effects readily under all but adverse conditions, (b) have affective consequences, (c) direct cognitive processing, (d) lead to ill effects (such as on health or adjustment) when thwarted, (e) elicit goal-oriented behavior designed to satisfy it (subject to motivational patterns such as object substitutability and satiation), (f) be universal in the sense of applying to all people, (g) not be derivative of other motives, (h) affect a broad variety of behaviors, and (i) have implications that go beyond immediate psychological functioning”(p 498). Specifically areas of research explored included the human motivation for forming of social bonds and not breaking bonds, humans’ considerable amount of cognition concerning attachment and belonging, the emotional connection to belonging, the consequences of deprivation of belonging both with and without frequent interaction and caring concern, the existence of satiation and substitution in terms of belonging, the potential for innate, universal and/or evolutionary connections to belonging, and counterexamples of belonging. Overall they found that the need to belong and/or form attachment met the criteria set forth. Additionally they found support for the ideas that there is a basic need to belong, belonging directly impacts cognition and emotion, and most importantly for the purposes of this research that deficits in attachment

and/or belonging negatively impact mental and physical health. Another interesting finding of their paper was that belonging needs appear to require a couple of things: one is consistent positive frequent contact with the same people, and these contacts need to have a general feel of care and concern for the well being of one another. This seemingly pivotal work established strong evidence that belonging is fundamental to humans, and thus belonging is a vitally important concept in multiple areas of human life including physical and mental health (Baumeister & Leary 1995).

A study by Walton and Cohen (2007) explored belonging uncertainty, or the proposed phenomenon that socially stigmatized groups have less certainty in terms of their social bonds and are thus more sensitive to things that suggest belonging may be difficult in certain environments such as academic settings. They cited research and literature showing belonging and related concepts such as social connectedness to have significant impacts on mental and physical health. The authors hypothesized that students who were from stigmatized groups, in particular black students, were impacted to a greater degree by signs that they would have few peers in an intellectual setting in terms of academic achievement. They did two separate experiments; the first led a group of students to believe they would not have many friends in a particular area of study and then asking them to list people they know that would fit into the particular field; the second experiment measured an intervention whose purpose was to increase belonging certainty. The researchers utilized two by two ANCOVA's for statistical analysis in both experiments. Experiment one had race and condition as its variables and SAT score was found to be a significant covariate. Experiment two used race and experimental condition as its variables and SAT scores, pre-intervention levels of academic identification and

race-based rejection sensitivity were examined and included when significant as covariates. The study found that black students were more influenced by increasing belonging uncertainty and gained more benefit from intervention that increased belonging certainty as compared to white students. What role did the SAT scores play? This study provided valuable support for the importance of belonging in a student population in terms of academic achievement and motivation, as well as insight into the possibly more significant need for belonging for students of minority status (Walton & Cohen, 2007).

The importance of belonging for children in school settings has been explored more frequently than in adult and/or college populations. One such article that would seemingly have some parallels to the experience of moving to college and trying to adjust to a new environment was a study that looked at belonging in children from Somali that were brought to the US and placed in school (Kia-Keating & Ellis 2007). The study cited research showing that students having a high sense of school belonging are associated with many positive academic, behavioral, and psychological effects such as a reduction in depressive symptoms, social-emotional distress, and social rejection. More specifically this study focused on sense of school belonging which includes components of attachment, involvement, and belief in one's school as measured by the Psychological Sense of School Membership (PSSM). The authors believed scores on the PSSM would have a moderating effect on the experience of mental health as measured by the War Trauma Screening Scale (WTSS), UCLA PTSD Index for DSM-IV (PTSD-I), Depression Self-rating Scale (DSRS), and Multidimensional Scales of Perceived Self-efficacy (MSPSE). This study, through the use of regression analysis, found that higher levels of sense of school belonging was linked to lower depression and higher self-

efficacy. Their results point towards examining ways of improving school experiences in order to positively impact mental health in students. Based on their very restricted population, this study has limited generalizability. Also the statistical power of this study is small based on it being a field study and a small sample size. However overall the study showed support for sense of belonging, specific to school in an adolescent population, and it having a significant impact on the experience of both positive and negative mental health concepts (Kia-Keating & Ellis 2007).

In the next study, a measurement of sense of belonging used by some youth development programs was evaluated (Anderson-Butcher & Conroy 2002). The paper did a good job of pointing out the importance and general understanding that youth development program's success is directly influenced by the sense of belonging that the youth involved in such programs has. They pointed out that research has shown that successful youth development programs that foster a healthy, strong, or high sense of belonging with their youth have been shown to decrease rates of problem behavior in youth such as academic failure, substance abuse, and early pregnancy. The article chronicles that organizations such as Boys and Girls Clubs of America have always appreciated and understood the importance of developing a sense of belonging with in their programs. The authors also identified the lack of research on sense of belonging, although many related concepts have been studied such as attachment. In the paper commitment, engagement, and connectedness are considered as components of belonging that occupy similar space and meaning. The measure of belonging is a 10-item measure used in Boys and Girls Clubs and other youth development programs. The authors utilized confirmatory factor analysis to explore the validity of the instrument. They used

cross-validation samples that were culturally diverse for the study. This article showed that their measure of sense of belonging had a positive relationship with protective factors, and a negative correlation with risk factors. Thus supporting that sense of belonging is at least related to some positive directions in the life of adolescents. Their study was lacking in that it was exploring a small instrument that was for a specific populations use. It also worked with an instrument that was developed with no statistical or empirical formulation. Still the instrument proved to be useful for its purposes and further supports sense of belonging as an influential concept (Anderson-Butcher & Conroy 2002).

A paper by Charles Chen is a review of literature for the purpose of pointing out major aspects of the transition to higher education and to set guidelines for counselors dealing with this population. The variable of most interest in this article was the section on social connectedness. The thorough review of literature showed that perceived social support is a major aspect in adjustment to college life, coping has been found to be better for students who feel socially connected and supported, and fostering new relationships has been shown to be important to adjustment and further to the self-esteem of students. The basic guidelines that were presented to counselors for the purpose of helping counselors identify student clients' difficulties and common focus points to work through were dealing with loss, building connectedness, improving competence, and making meanings. This article brought out the importance of social connectedness, a related concept to sense of belonging, and discussed it in a practical way for counselors. It showed how the literature should be integrated into working with the college student population that faces a significant life transition when coming to college. It even

suggests guidelines for counseling people in other life transitional stages. For the purpose of this paper this article connected the research on belonging and other adjustment factors to actual practice. It is another representation of the power of connectedness and belonging to peoples live, particularly college students (Chen, 1999).

Another journal article of particular importance to this paper from the Journal of College Counseling (by Martin Jr., et al., 1999) researched psychosocial factors in college adjustment. The article sighted the statistic 85% of student drop-outs are voluntary, which says that something within the educational system is not working for a significant amount of students who drop-out. Other important studies were cited that showed that social isolation and social adjustment factors were the best predictors of attrition as opposed to academic performance or even financial support. In this study the Student Adaptation to College Questionnaire (SACQ) was used to determine a measure for students perceived level of adjustment. The SACQ has items that examine social adjustment, personal-emotional adjustment, and attachment which are all concepts related to belonging. The authors used Pearson correlations to determine associations, as well as stepwise multiple regression to determine which variables predicted college adjustment. . It was found in this study of students from two vastly different universities that support from faculty and peers significantly effected adjustment, as well as academic self confidence and positive attitude towards the university. This study supports that a sense of support from people in ones environment is a significant factor in retention of college students. While this paper did not explore specific mental health issues, they did examine issues related to belonging with a student population. This paper did support the

importance of belonging to the academic and personal lives of college students (Martin, Jr., et.al., 1999).

Another paper that explored belonging looked at how building a sense of belonging would create safer schools. This paper cited that one of the few consistent connections between the children who have committed violent crimes in the schools is their lack of perceived belonging. School violence has been shown to happen regardless of many demographic factors such as socioeconomic status, or geographical setting. This paper discussed studies done in schools that have shown academic benefits to feeling a sense of belonging, including academic expectation, interest in learning, and course grades. It also cited causal links that have been shown to exist between an increase in sense of belonging and motivation, concern for others, and positive interpersonal behavior in classroom settings. This paper also explored the risks involved in alienation of students, considered the opposite of belonging. Research has shown that alienation leads to social withdrawal and powerlessness, which have been shown to correlate with acting out and violence. The authors go on to discuss ways of increasing belonging in school settings, which included less emphasis on punitive measures and more emphasis on preventative measures. Such preventative measures included an increased emphasis on getting students and teachers alike to connect, encouraging more community service activities, and decreasing school and classroom numbers. While this paper did not design and conduct a study on sense of belonging, it did bring up the concept in an empirical well thought out manner. The paper pointed out the potential benefits of sense of belonging and the risks of alienation. It could have done a more multidisciplinary search

of belonging, but overall it took a relatively broad perspective and provided support that sense of belonging is vital in school environments (Edwards & Mullis, 2001).

An interesting article by a Psychotherapist from the United Kingdom explored a phenomenon that he recognized in clients and mental health professionals alike. He discussed how people from birth are associated with groups and how these groups provide for our sense of self. The article goes on with information on how the changing face of work that is less stable and less loyal to its workers is removing a belonging group that many individuals depended on for a part of their self. The author goes on to use case illustrations of examples of the problems people are facing with their belonging groups. While this article is written from a psychodynamic point of view, the more humanistic ideas on belonging are not lost. The author suggests that people have a dependency on many groups, and that dramatic changes in belonging groups negatively impact mental health. He goes on to map out a potential plan for the course of therapy (both individual and group) with people who are suffering from a loss of a sense of self because of dramatic change in a belonging group. His basic concepts and work place focus on getting individuals to connect and/or reconnect with belonging groups that provide for a true self to emerge. This article provides further support for the relationship between mental health and sense of belonging. While it does not conduct a study it does utilize clinical, professional, and personal observations to support its hypothesis that belonging to groups is important for people and their mental health (Prodgers, 1999).

In another paper, the therapeutic and general mental health benefits of belonging were explored. The authors make the assertion that developing a sense of belonging is not merely something that is dealt with in childhood, but rather that it is a

lifelong process, that has been exacerbated by the globalization. The authors based much of their ideas of their clinical experience in the United Kingdom, working within the inner city. They go on to say that because of the high rate of relocation of so many people from a multitude of cultures finding belonging is more difficult. This paper cites that while at one time assimilation was thought to be beneficial for people in a new area or culture, there is now evidence that losing and/or abandoning ones culture has negative multigenerational impacts on families. Through the use of group therapy case studies the authors found a theme in clients that without a sense of belonging and feelings of authenticity with self results in relationships that have higher rates of anxiety and depressive symptoms. The authors have found that many people who seek treatment are experiencing a lack of belonging and feelings of inauthenticity, and that these experiences seem to lead to feelings of hopelessness, despair, and general disconnection. This article supports the idea that sense of belonging and mental health are intertwined and it is thus a logical step to hypothesize that they may have a relationship that is even causal. The paper has obvious short comings from a scientific perspective in that it is only base off case studies and was not empirically validated. None-the-less, the authors make a strong case that in the globalized world we live in, sense of belonging and authenticity are in jeopardy and should be a focus for mental health practice (Menzies & Davidson, 2002).

Group therapy is an area of study that sense of belonging would seemingly be of great importance. One of the most widely recognized scholars on group therapy, Irvin David Yalom discussed belonging in his work. Yalom (2005) goes into considerable depth describing the importance of interpersonal relationships. He describes how need

for belonging can be traced throughout the history of mankind including the belief that the species would not have survived without the ability to form personal relationships with significant depth and meaning. He goes on to discuss research on attachment, and cite the power of loneliness (which is considered a lack of interpersonal relationships). He even goes on to show support of the ideal that the need to be connected interpersonally is as basic as physiological needs. He ties this need with another important tenet of counseling work, self esteem. Yalom brings out how self esteem and interpersonal relationships have been shown to be untangle able factors in research. It has been supported that self acceptance is greatly contingent upon received acceptance from others. The way in which we build our self-esteem is based on our connectedness to others, so a core of our self is based on our understanding of others relationships with us. He explains how treatment of mental illness basically always has a goal of improving interpersonal relations, and how in his experience group members nearly always develop interpersonal goals to this effect. He goes on to postulate that group leaders need to understand this importance of interpersonal functioning and use it to help develop and facilitate growth and change in group therapy. He cited a number of examples from his professional experience that reinforced his belief in the importance of interpersonal relationships and connectedness, including work with terminally ill clients, inmates, and people of great resources and means. It was this anecdotal evidence that suggested beyond his knowledge of research helped him shape a belief that regardless of the situation the client is in interpersonal relationships are and should be a focus of therapeutic work. He states in simple eloquent terms that, "People need people – for initial and continued survival, for socialization, for the pursuit of satisfaction. No one –

not the dying, not the outcast, not the mighty – transcends the need for human contact” (Yalom, 2005: p. 24).

According to Pressman and colleagues (2005) research on social isolation has been shown to greatly influence health. This study examined the impact of loneliness and social network size on immune response. Social isolation and small social networks are on the opposite end of the spectrum than belonging, which constitutes reviewing this study as a related topic that has empirical merit. The authors discuss how evidence points to social isolation being associated with poorer health. Additionally people with many relationships who spend more time in social activities are less likely to contract diseases and have lower mortality rates. All participants were administered a vaccination that was required by the college the study took place at. In the college student population, the researchers assessed baseline levels of loneliness, social network size, health behaviors, restorative behaviors, self-esteem, hostility, neuroticism, extraversion, salivary cortisol, and Ab levels in the blood. Then for a period of two weeks they monitored loneliness, behaviors, moods, stress, and salivary cortisol daily. Following that the researchers assessed loneliness, stress, and mood biweekly for three and a half months. Ab levels in the blood were also taken at one and four months following a vaccination given to all participants near the beginning of the study. The researches utilized the UCLA Loneliness Scale to assess loneliness, the Social Networks in Adult Life Questionnaire to assess social network size, Goldberg’s Big Five Scale to assess neuroticism and extroversion, Rosenberg Self-Esteem Scale as a measure of self esteem, Cook–Medley Hostility Scale for hostility, Center for Epidemiological Studies—Depression Scale for depression and stress, mood was assessed by coding diary entries, sleep information was

assessed by the Pittsburgh Sleep Quality Index, health practices were measured by a questionnaire created by Cohen et.al., (1997), and physical activity was assessed by Paffenbarger Activity Questionnaire. This research was congruent with the hypothesis about loneliness. They found that participants who were lonely had poorer health and immune system functioning. Low numbers of social ties was found to be related to poorer immune response. Loneliness was also associated with high levels of psychological stress, negative affect, sleep efficiency and quality problems, and elevations in circulating levels of cortisol. While this study does not produce causal proof that lack of belonging produces poor immune response, it does at least show the relationship between loneliness and low social contacts with decreased immune response. Obviously for the purposes of this dissertation it would be of greater benefit to explore whether people with high sense of belonging have stronger immune responses. The small sample size and limited measures of health leave this study lacking in power and generalizability. However the evidence from the study produced information supporting the overall idea that having a greater sense of belonging could benefit the health and psychological well being of college students (Pressman, et.al., 2005).

Another article (Gardner, 2005), explored belonging from a different angle that did not include an explicit educational impact. This article examined belonging and loneliness. It was concerned with the amount of and sensitivity to social monitoring in students who feel included and those who feel isolated. The consequences of feelings of loneliness were cited. Some of these were even life threatening such as increased risk of heart attack and other health problems. One consequence that was not cited, but stands to reason based on the other consequences and the support of the previous articles was

academic success. This study hypothesized that students who measured to have a high sense of belonging by means of a low score on a loneliness measure would have lower scores on social monitoring, and that those who scored higher on a loneliness instrument would have higher levels of social monitoring. The study showed that persons who were measured as lonely were found to be more perceptive to emotional facial expression and voice tone. It was supported that persons who are lonely have in tact and maybe even extra sensitive social skills. This article showed that persons that lack belonging have the capability to connect socially. Thus sense of belonging would be a valuable intervention mark to help people, particularly students. Because this article did not specifically explore belonging caution is advised (Gardner, 2005).

In the field of neuropsychology, sense of belonging has not specifically been studied. However lack of belonging has been examined in animals, through social isolation research. One article that looked at health effects of social isolation on rats, showed dramatic effects of a lack of belonging. More specifically, this study explored health related difficulties of social isolation on tumor growth. In the study it was cited that social isolation has been shown to raise psychological disturbances by raising levels of corticosterone and catecholamines in the serum, and raising the levels of corticotrophin releasing factor. Social isolation has been tied to increased aggression, loco motor activity, decreased sleeping time, and increased morphine consumption in rats. The immune system is weakened by the stress created by social isolation, which in this study enhanced tumor metastasis. From this study one could suspect that social isolation could have similar effects on humans and their psychological and physical well-being (Wu, et. al., 2000).

Another article looked at cognitive performance of rhesus monkeys when socially isolated. This article presented that research has shown social isolation to produce predominant debilitating effects on behavior and compromising effects of cognitive performance. It also cited that social isolation has induced depressive behaviors in monkeys. Their study looked at the effects of cognitive performance on simple discriminatory tasks. They found that social isolation profoundly impacted performance of the cognitive tasks, and influenced the general behaviors and attitude of the monkeys. There overall findings support the importance of social contact or belonging for psychological well-being and cognitive performance. This must mean that social isolation is affecting structures of the brain such as the learning and memory structures (Washburn & Rumbaugh, 1991).

A study by Silva-Gomez and colleagues (2003) explored social isolation effects on brain development, specifically pyramidal neurons in the medial prefrontal cortex and hippocampus. This study supported previous work displaying a negative impact of social isolation on rats post-weaning. The pyramidal neurons dendratic spine density in both the medial prefrontal cortex and hippocampus was decreased and the spine length was shortened in the rats that were socially isolated. These specific effects could help explain some of the cognitive effects of social isolation. An important note to make of this study for humans is that the brain areas that were affected are found to be dysfunctional with persons who have schizophrenia (Silva-Gomez, et.al. 2003).

In another study that looked at schizophrenic like patterns in rats it was cited that previous studies have shown that social isolation of rats that have been weaned produces a gating deficiency that is the same as seen in people with schizophrenia. Research has

also shown isolation rearing is associated with discrimination learning, resistance to extinction, and altered responses to drugs. All of which point to neurological changes, due to social isolation. The study performed for this article supported that rats raised in social isolation performed like persons with schizophrenia on auditory discrimination tasks, showing gating deficiency. Essentially the socially isolated rats were unable to suppress auditory sensory cues that the socially raised rats would filter in their sensory perception (Stevens, et. al. 1997).

A study done by Peters & O'Donnell (2005) looked at neurophysiological effects of animals being raised in isolation, and found similar schizophrenic like effects on rats raised in social isolation. It was shown that animals raised in social isolation exhibited abnormal responses to Ventral Tegmental Area stimulation, and thus affected the neurophysiology of the mesocortical system. It was also found that social isolation caused numerous behavioral and neurochemical abnormalities including increased dopamine levels in the nucleus accumbens and the prefrontal cortex. The effects of dopamine agonists were also affected by social isolation. So the dopamine increase and abnormal cortical reactions can be the cause of abnormal sensory gating much like the last study supported (Peters, & O'Donnell, 2005). Another study showed similar results and added the component of hyper-emotional reactivity, such as a fear response, due to dopamine receptor changes and activity in the amygdala (Lapiz, et.al. 2003).

A plethora of research showing impacts of social isolation on the brain exists, a summary of some of the highlights are presented in this paragraph. One study suggested that chronic social isolation increases emotional reactivity to stress and produces hyperfunction of the HPA axis in adult rats (Weiss, et. al. 2004). Another study showed that

creating stressful inducing situations for mice can change the level of neurosteroids that work with GABA A receptors, which decreases pentobarbital sleep (Matsumoto, et.al., 1996). Learning, which is done through long-term potentiation in the brain, is also impaired by social isolation (Roberts & Green, 2003). And finally a study showed decrease sexual interest and performance in male rats raised in isolation. This was attributed to the volume of the posterodorsal component of the medial amygdala (MePD) and the size of neurons within the MePD, as well as smaller neurons in the sexually dimorphic nucleus of the preoptic area. This showed that social contact was a major contributing factor in the sexual differentiation and the display of sexual behaviors (Cooke, Chohanadisai, & Breedlove, 2000).

Education

An article by Hale et.al, (2005) supported the importance of belonging based on the connection between social support and physical health. The authors described social support in a way that is similar to the definitions of belonging presented previously, “It consists of a number of different domains, including emotional support, appraisal and affirmation, informational assistance, intimacy, comfort, and physical affection (p. 276).” Based on the author’s review of literature, they concluded that social support is a major factor in peoples health and well being. They examined social support in four domains, tangible support, belonging, disclosure, and social intimacy, with college students. They hypothesized that these four domains could be used to predict health perceptions and physical symptoms. They used the Interpersonal Support Evaluation List, College Version (ISEL), to measure social support domains of tangible support, belonging, and disclosure, the Miller Social Intimacy Scale (MSIS) to measure social intimacy, the

Health Perceptions Scale (HPERC) to measure perception of health, and the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS) to measure general physical symptoms. They found that through a regression analysis that belonging was the only variable that was a significant predictor for health. In women they found that belonging had an influence on health perceptions, and with men they found higher belonging to be a predictor of fewer physical symptoms. The study only showed small associations and thus is limited in its generalizability. Also the population that participated was relatively healthy, thus a less healthy population may show different results. Despite this they did provide more support for sense of belonging being an important factor in the lives of college students, particularly in the area of physical health (Hale et.al, 2005).

An important work studying belonging was presented by Hoffman, Richmond, Morrow, and Salomone (2003). It is estimated that twenty five percent of entering freshman do not make it to their sophomore year. This leaves one with the question of what are universities not doing, and what does research need to do to find a remedy for such high attrition rates. These researchers pointed out the discrepancy that most researchers who look at student adjustment and retention cite “sense of belonging” as an important variable, but have yet created a way to assess this variable in a precise and isolated way. They also point to the fact that most models researchers have supplied and institutions have utilized for aiding in higher retention rates and higher GPA’s have in large part failed to account for and/or integrate this “sense of belonging”. It is suggested that by creating an instrument that can assess this variable institutions can better adapt their orientation programs to lower attrition considerably. These researchers also introduce the term of “fit” as a postulate of belonging, and belonging being a term which

is opposite of loneliness and closely associated with social support. The researchers, for the purpose of this study, developed and assessed an instrument that would measure “sense of belonging”. They had hoped the instrument would aid in the study on why students withdraw or persist in college. The created instrument in this study was named the Sense of Belonging (SB) instrument, and was a Likert-type scale used to assess student/peer and student/faculty relationships. The initial instrument contained 85 items, and was studied in a focus group of college freshman. They also did an exploratory factor analysis on the instrument. The initial study using this scale showed some promising returns, and five factors were identified as significant; Perceived Peer Support, Perceived Faculty Support/Comfort, Perceived Classroom Comfort, Perceived Isolation, and Empathetic Faculty Understanding. The idea of “valued involvement” was congruent with their findings about sense of belonging students. From this article it becomes apparent that this construct of belonging has a place in the study of academic institutions and an area of improvement that educational settings should explore. This article also presented information on the support of having learning communities as a facilitator of sense of belonging with students. One of the bigger draw backs to this article was that the authors did not continue use of the SB instrument, and have not allowed or encouraged other researchers to further use the instrument. Specifically this study explored, “Whether and to what extent part-time students do have any sense of belonging, The focus of any sense of belonging, The factors which influence belonging, and What universities can do to foster a sense of belonging (p. 327).” The data was collected by interviews with 53 part-time students. This article certainly supported the idea of researching sense of belonging in college students (Hoffman, et.al., 2003).

Another study that looked at sense of belonging, explored this topic with part-time students on an international level. The study was conducted in Hong Kong, and basically their study showed that increasing a sense of belonging through peer interaction and greater student/faculty interaction increased the likelihood of part-time students completing educations and increased academic performance. They discuss research showing an increase in part-time students and the special needs of that population including sense of belonging development. The evidence supported that sense of belonging was an important issue for part-time students. Specific suggestions supported by their interview data for institutional improvement of belonging included, encouraging more class discussion, keeping students as a cohort, encouraging teaching staff to interact with students in more settings and more often, providing good quality teaching, emphasizing the importance of initial contact, enrolling students in their specific departments, and allowing students greater accessibility to resources. An obvious weakness of the study is in the areas of generalizability and power, as it was qualitative and specific to a unique environment. This study further supports the study of sense of belonging within educational settings (Kember, Lee, & Li 2001).

Sociology

In *Globalization & Belonging* the authors state in the first chapter in reference to the concept of belonging and globalization, “Although these issues are widely discussed, they have rarely been subject to systematic empirical examinations (p. 1).” The book has information about the forecasting theories from multiple disciplines have said in reference to the changes globalization will have on belonging. More specifically this book empirically explores a concept of local belonging. The authors describe this

belonging in more sociological terms referring to the process of people determining their comfort in particular residential places. They examined and compared four communities in Manchester England to determine if belonging was different between the communities base on a number of factors. Early in the book the point is made that belonging is not inherent, but rather is something that has to be worked through and/or achieved, similar to Maslow's belonging need concept. The study, operating from the premise that part of belonging to an area is having an attachment to what and who is near you, showed that in a more global world belonging may be different for people, as social distance has increased within neighborhoods and communities. This interesting finding leads to the thought that in today's world in this culture having distance and/or not being close with neighbors is detrimental to meeting the need to belong, and would support that enhancing closeness between people could potentially help with need fulfillment. This study also supported the idea that spending more time at work does not increase belonging or friendship. Thus in a culture where the working day is growing the potential for our needs being fulfilled may be shrinking. Essentially this book gave evidence to the idea that globalization has impacted belonging for people. Most of the impact appears to be counterproductive towards fulfilling the need to belong. The authors communicated that there findings support more work on belonging and how globalization has impacted it in different settings and areas (Savage, Bagnall, & Longhurst 2005).

An article looking at sense of belonging explored students' sense of belonging in school, and its impact on drug abuse. The article more specifically looked at Native American Adolescents in Urban school setting. The article discussed belonging in more sociological terms comparing it to being a part of a school community and having a

personal feeling of membership to a school and/or classroom. Research cited in the article covered the empirical support that belonging has been shown to be a protective factor for adolescent students. Additionally research showing the greater impact belonging has with minority students in academic settings was discussed. Overall research showed that having a stronger sense of belonging in a school environment was a significant protective factor for students, particularly Native American students especially in the area of academic performance. In their study school belonging was described as, “the experience of being part of a school community (p. 28).” The authors hypothesized that stronger sense of belonging would be significantly related to later onset and lower frequencies of drug use in Native American Youths. The researchers used their own survey form to answer the questions that they deemed necessary for the study, where drug use questions and belonging question were answered with a five point Likert-type scale. Bivariate correlations and least squares regressions were utilized for statistical analysis, with drug use, sense of belonging in school, and ethnicity as predictors. They found that sense of belonging had a significant buffering effect on drug use behaviors. Their hypothesis was supported as was the reverse where participants that had higher rates of disconnectedness and/or isolation showed earlier and more frequent drug usage. This provides further evidence of a relationship of belonging with a mental health related issue, drug use. One would suspect that sense of belonging at other ages in other educational institutions would reveal similar results. However the exploratory nature of their study limits its generalizability, as does the use of its survey form that has not been validated. This study does point to sense of belonging again being an influential factor in a student population (Napoli, Marsiglia, & Kulis 2003).

Inzlicht and Good looked at belonging in a chapter from *Stigma and Group Inequality: Social Psychological* (2006). They pointed to the threatening environment that exists for persons who belong to underrepresented groups, particularly in school settings. This text discusses the significant impact environment has on sense of belonging and how much belonging can mean to intellectual and academic performance. They go on to show how academic environments that put too much emphasis on a limited number of skills or abilities and/or convey the message that intelligence and capabilities are fixed and cannot be developed, negatively impact persons sense of belonging to that academic community. This leads to poor self concept and social identity, which increases the negative impact on performance in the social environment. In a vicious cyclical fashion any performance or achievement let down in academic environments can lead students to believe that they do not belong to the community. The authors of this paper used this in context of reinforcing stereotypes. Within this chapter a study was reviewed that looked at sense of belonging to math across a semester in calculus students (Good & Dweck 2003). This study found that female students whose environment was not conducive to fostering a sense of belonging to math, negatively impacted feelings of acceptance, peer expectations, trust in learning environment, and confidence in abilities. Essentially this chapter supported the impact belonging has on underrepresented groups that have negative stereotypes associated with them, and how this can influence academic performance. The authors suggest that researchers should look more closely at belonging in order to find solutions to some of the difficulties in academic communities. The chapter gave a good account for how belonging influences academic performance, specifically with minority groups (Inzlicht and Good, 2006).

Psychiatric Nursing

A pivotal article on sense of belonging appeared in 1992 in the Archives of Psychiatric Nursing. Hagerty et.al, (1992) went through an in-depth content analysis of sense of belonging based off Walker and Avant's (1988) strategy. First the authors established that human relatedness is a primary concern through social institutions, environments, and self. They pointed out that empirical literature is lacking on sense of belonging; however it is widely discussed in more narrative forms. After reviewing the literature the authors worked on defining sense of belonging, they defined it as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment. A system can be a relationship or organization, and an environment can be natural or cultural (p.173)." After developing this working definition the authors presented fieldwork data and clinical observations. The paper provides case examples of sense of belonging utilizing the concept as defined. The article then describes proposed antecedents to belonging including, "(1) energy for involvement, (2) potential and desire for meaningful involvement, and (3) potential for shared or complementary characteristics (p. 175)." Next the authors explore potential consequences of belonging, "(1) psychological, social, spiritual, or physical involvement; (2) attribution of meaningfulness to that involvement; and (3) fortification or laying down of a fundamental foundation for emotional and behavioral responses (p. 175)." Next Related, Borderline, and Invented cases displaying various aspects, antecedents, and consequences of belonging are presented. The authors also discussed the reasoning and utility of analyzing concepts such as sense of belonging such as aiding in conceptualization and application of practice. The authors also state the

case that understanding sense of belonging better can aid in treatment and development of new interventions. Finally the authors used this analysis to begin developing the instrument that became the Sense of Belonging Instrument used for this dissertation (Hagerty et.al., 1992).

Hagerty, Lynch-Sauer, Patusky, and Bouwsema wrote an article on human relatedness, a theory that they felt was emerging as a significant theory for health fields. The article discussed the human desire in building and maintaining relatedness to people, things, environments, culture, society, and self. Their stated purpose for this article was to compile a more organized theory and strategies for understanding and treating clients' needs based on their relatedness. The basic idea behind the theory formed from clinical observations of varying stages of connectedness and its effects on treatment efforts with psychiatric patients. A broad review of the literature was completed that looked at social support, attachment, loneliness, and other related topics. They also conducted focus groups with persons who do not have psychiatric histories on their perceptions of connectedness. They utilized Madden's (1990) hybrid model for concept development that includes: "(a) a theoretic phase with literature review and development of working definitions; (b) a field work phase of data collection and clinical observation; and (c) an analytic phase in which findings are compared, contrasted and integrated to clarify the concept (p. 292)." They focused on not only developing a theory of relatedness but also clarifying the states of relatedness. Their theory operated from a number of assumptions that include: development happens within the context of relatedness; people, influenced by self perceptions, give meaning to their experiences; people have the ability to proactively change their experiences and relatedness; affect is important to well-being;

relatedness is universal but is influenced by things such as ethnicity, gender, culture, etc...: people have internal and external interactive rhythmic patterns; people can have choice and responsibility in their relatedness; interventions can influence peoples relatedness particularly during times of increased sensitive; and relatedness is internal and external. In this theory relatedness is seen as the broad umbrella that encompasses all relationships. The authors define relatedness as “an individual’s level of involvement with persons, objects, groups or natural environments and the concurrent level of comfort or discomfort associated with that involvement (p. 292).” The four states of relatedness identified are enmeshment, connectedness, disconnectedness, and parallelism on a grid that displays a continuum of discomfort and lack of well being to comfort and sense of well being and involvement to lack of involvement. Through the continuation of their work the authors identified four major social processes involved in setting up and encouraging relatedness. The four processes are sense of belonging, reciprocity, mutuality, and synchrony. They go on to further elaborate on these four processes and the description of sense of belonging is based on the previous Hagerty article. The authors hypothesize based on their theory that persons who have higher levels of belonging, reciprocity, mutuality, and synchrony will experience more connectedness. They go on to discuss how relatedness has biopsychosocial influence and thus is a vital concept in health and mental health treatment and conceptualization. While this article does not focus its discussion on sense of belonging it did identify related concepts that laid the groundwork for the future sense of the belonging work by Hagerty and others. It provided a usable conceptual model of relatedness in a well organized and scholarly

manner. However the lack of empirical study only lends itself to critical exploration and continued empirical work (Hagerty et.al., 1993).

Hagerty and Patusky (1995) made a huge contribution for the purposes of measuring and studying sense of belonging. In an article from Nursing Research, the authors presented their work on the SOBI that is being utilized as the independent variable in this dissertation. The authors begin by pointing out that Anant (1966 & 1967) was the only person to make an attempt at measuring sense of belonging and that instrument was not found to be a sound measure. The authors go on to discuss the extensive amount of literature that alludes to the importance of sense of belonging, but without much empirical or scientific backing. Based off Hagerty and her colleagues (1992) earlier definition of belonging, the sense of belonging instrument was designed to represent valued involvement and fit (SOBI-P) and antecedents to sense of belonging (SOBI-A). Validity of the original 55 items was assessed by seven experts, and results of their assessment aided in the creation of a 49 item instrument. Psychometric testing of this instrument was done by administering the test to a group of college students and a group of patients diagnosed with depression. Following this testing a revised 27 item instrument was further tested with a group of retired Roman Catholic nuns. Three methods were utilized in establishing the construct validity of the SOBI: factor analysis, contrasted groups, and correlation with measurers of similar constructs. Factor analysis was conducted with student data only and produced an interfactor correlation of .36. They also supported their hypothesis that the two forms measured different dimensions of sense of belonging, interscale correlation of .45 with the student group. The authors found significant differences between group means for all three sample groups. Finally,

the authors established construct validity through correlating the SOBI to related measures. As there are no other established measures of belonging, the authors correlated the student group data with measures of loneliness, reciprocity and social support. The SOBI was reported to have internal consistency and test-retest reliability. Internal consistency reliability was examined with a coefficient alpha for each of three subject groups: college students, depressed patients and Catholic nuns. Alphas for each group were reported on both the SOBI-P and SOBI-A, respectively: students, .93 and .72; depressed patients, .93 and .63; and nuns, .91 and .66. Test-retest reliability was established for the student group only and the reported correlation was .84 for the SOBI-P and .66 for the SOBI-A over eight weeks. Valued involvement and fit were found to be intertwined and thus are both part of the SOBI-P. Moderate correlations were found between sense of belonging and social support as would be expected among related but distinct concepts. A relationship between sense of belonging and loneliness was also found and was suggested for further study as opposing concepts. The SOBI-P was supported as a potentially valuable instrument, and support for the SOBI-A was also strong although less well developed. Obviously there is room for further testing with more diverse groups, and further validity and reliability data would be of benefit for potential support for the instrument (Hagerty & Patusky, 1995).

Another article by Hagerty et.al, (1996) looked at sense of belonging and its relationship to psychological and social functioning in college students. This article cites earlier research that presented sense of belonging being an important part of relatedness that has significant impact on mental health. This article presented two main research questions: “(1) What are the relationships and differences between men and women’s

personal characteristics and sense of belonging? And (2) What are the relationships and differences between men and women's psychological and social functioning and sense of belonging (p. 236).” This article again uses the same concepts of antecedents, definition of belonging, and proposed consequences as previously described. In an attempt to fill a gap in the literature this article looked at gender differences specifically. Additionally this article is an attempt to add further support for the evidence that links over all well-being and social support. The authors present the hypothesis that social support and sense of belonging are related but not the same. The authors point out that sense of belonging is a smaller and more basic construct than social support. They also present the belief that higher levels of sense of belonging are associated with better psychological functioning. This article also gives a brief summary of the development of the SOBI. They used a community college student sample for their study, where gender was split approximately 60% to 40% female to male. The sample was relatively heterogeneous with about 60% of the participants were Caucasian and the age range was from 18 to 72. Other than the SOBI, this study utilized the Interpersonal Relationships Inventory (IRI) in order to look at social support and conflict, the Revised UCLA Loneliness Scale (RULS), the Beck Depression Inventory (BDI), the Anxiety Scale of the Symptom Checklist-90, and a general questionnaire for demographics and questions on involvement in community activities, attendance at religious services, history of psychiatric treatment, and suicidality. There results were analyzed separately by gender and they found that: age had no significant correlation relationship with scores on the SOPI; no significant differences between genders on the SOPI using T-tests for comparison; using an ANOVA no significant differences in scores on the SOPI were found based on Marital Status;

Pearson correlations calculated for years of education and SOPI scores were also did not yield significance; income level was also not found to differ significantly for males scores on the SOBI, but for women who have more than \$40,000 household incomes score higher on the SOBI-P and SOBI-A; an ANOVA showed a significant difference between men who identified their religious preference as Protestant and Catholic when compared with men who identified as having no religions preference on SOBI-P but no other significant differences were found between religious preference and SOBI scores for men or women; and no significant differences between SOBI scores based on ethnic background. The SOBI-P and the social support measure had a positive moderate correlation, while the conflict scale and the SOBI-P were moderately correlated in the negative. Likewise, the SOBI-A had a statistically significant positive correlation with social support and a negative correlation with conflict, except that in women SOBI-A and (note the directions of the differences in the scores on these variables)conflict were not significantly correlated. Other significant findings included differences in women who were involved in community activities and those who were not on SOBI-P scores, and differences between women who attend religious services and women who do not on SOBI-P scores. SOBI-P scores were also significantly negatively correlated with loneliness, anxiety, and depression as hypothesized. SOBI-A scores for women were also significantly correlated as hypothesized with loneliness, anxiety, and depression, however SOBI-A scores for men were not found to be significantly correlated with anxiety or depression but was with loneliness. This study provided excellent data confirming validity of the SOBI, and showed it to be not significantly related to age, gender, marital status, education and ethnicity. This study also showed relationships

between sense of belonging and social support that suggest they are related but distinct. Of importance to note this article also directly looked at psychological functioning and its relationship with sense of belonging and support further exploration of their relationship as this dissertation will do. Overall as hypothesized lower sense of belonging for both genders was shown to be related to depression, loneliness, anxiety, a history of psychiatric treatment, and suicidality. It does appear that the psychological state of sense of belonging is an important psychological functioning factor. The findings did suggest that sense of belonging may be more strongly related to psychological and social functioning in women. While the study does support the continued use of the SOBI, it also suggests that the SOBI should be further developed and explored to decrease its measurement error and to further establish the antecedent connections (Hagerty et.al., 1996).

Another Bonnie Hagerty article with Reg Williams explored the effects of sense of belonging, social support, conflict, and loneliness on depression. The article reviews much of the same literature from the previous articles on sense of belonging and discusses and utilizes Hagerty's other work with the SOBI. Additionally social support, as defined "both structural characteristics of a social network and perceived availability of resources (p. 216)" is also discussed as a factor in development and course of depression. Research showing connections between conflict in relationships and loneliness with depression is also cited. The authors used a partially ordered path model for determining effects of sense of belonging (as measured by the SOBI), social support (as measured by the IRI), conflict (as measured by the IRI), and loneliness (as measured by the RULS) on depression (as measured by the BDI) with a two group sample

composed of community college students and inpatient clients diagnosed with depression. Stepwise multiple regression was used in the path analysis technique utilized for determining statistical significance. As hypothesized in their model, the type of subject had the greatest effect on depressive experiences, while sense of belonging and loneliness were the next most influencing factors. Their data also continued to support the SOBI and the relationship between the SOBI-P and the SOBI-A. Conflict was seen to have the most impact on SOBI-P scores showing that high rates of conflict are associated with low sense of belonging. Social support was shown to have significant direct connections to loneliness, sense of belonging, and conflict, but not a direct significant connection to depression. This study showed sense of belonging to be a significant factor in depression. This study provided valuable support for continued research on sense of belonging and the SOBI, but was limited in its samples and the psychological concepts that were explored limited to experience of depression only (Hagerty & Williams 1999).

An interesting study by Rankin, Saunders, and Williams (2000) explored sense of belonging and the related concepts of attachment style and social support and their relationship with spousal abuse in African American men. A discussion of the various risk factors associated with domestic violence including childhood exposure to domestic violence and unemployment was given. Also the authors looked at whether hopelessness and depression had mediating effects on the predictors of abuse. Information on attachment styles is provided, as well as the links between attachment and sense of belonging, depression, and hopelessness. This study utilized Hagerty's definition of sense of belonging as well as the SOBI. The authors cited the lack of empirical research on African American men specifically, and decided to focus on this population to

determine if differences within this group exist. They proposed a number of path models to test their hypotheses:

Hypothesis 1: Severity and frequency (weighted by severity) of violence will be positively related to insecure attachment style, decreased social support, and decreased sense of belonging.

Hypothesis 2: The effect of insecure attachment style, employment, and perceived social support on severity and frequency (severity weighted of partner abuse will be mediated by hopelessness.

Hypothesis 3: The effect of insecure attachment style, employment and social support on severity and severity-weighted frequency of partner abuse will be mediated by depression.

Hypothesis 4: The effect of sense of belonging on severity and severity-weighted frequency of partner abuse will be mediated by hopelessness.

Hypothesis 5: The effect of sense of belonging on severity and severity-weighted frequency of partner abuse will be mediated by depression. (p. 1063-64)

Their African American sample of men that were arrested for charges of domestic violence had an age range from 18-69 with the mean age being 31. The measures used included a General Information Questionnaire, the Measure of Wife Abuse, Attachment Styles Questionnaire, Personal Resource Questionnaire, SOBI, Grimm State-Trait Hope Inventory Self Evaluation Scale, and the BDI. They conducted several multiple regressions to test their path models. Interestingly perpetrators who were employed were found to have increased rates of partner abuse. Sense of belonging was found to have an indirect effect on partner abuse, and was found to be the best predictor of the majority of

partner abuse forms as well as accounting for the most variance within the path models. Hopelessness was not found to predict abuse in the direction that it was hypothesized, and depression was not found to be linked to partner abuse. Their study suggested that “insecure attachment leads to a low sense of belonging, which leads to partner abuse (p.1076)”. Preoccupation with Relationships was correlated with decreased sexual abuse. The relatively small sample size limits the generalizability of the findings, but the study did provide further support for sense of belonging as measured by the SOBI as an important concept in the treatment of domestic violence. Additionally this study should be commended for its exploration of an African American male populations experience within a larger subgroup of domestic violence perpetrators (Rankin, Saunders, and Williams 2000).

An article by Bay et.al, (2002) explored sense of belonging, stress, and depression with persons who sustained a traumatic brain injury (TBI). The authors discuss the neurological, emotional, and mental changes that often accompany TBI, and the annual expense that these changes have on the health care system are estimated at 9-10 billion dollars. Depression has been shown to be a common problem following TBI. In research of the connection between depression and TBI social support and connections were found to be related to the experience and course of depression. Additional research showing a relationship between chronic stress and a vulnerability to depression was given. However the authors point out that interpersonal relatedness (composed of sense of belonging and other factors) has been show to alleviate the effects and experience of stress, which would therefore have an impact on the vulnerability to depression indirectly. Hagerty et.al. research was discussed and utilized for defining sense of

belonging and using the SOBI. Also literature showing how depressed mood impacts cognitive performance was discussed. The authors used a cross-sectional survey design to test the following hypotheses:

Hypothesis 1. Post-injury chronic stress and post-TBI depressive symptoms are positively related.

Hypothesis 2. Interpersonal relatedness (post-injury sense of belonging and social support) and post-TBI depressive symptoms are inversely related.

Hypothesis 3. Cognitive burden-processing speed and accuracy-and post-TBI depressive symptoms are positively related. (p. 223)

The sample was composed of 75 TBI survivors, between the ages of 18-65, who had significant others that participated, and were within two years of their injury. Measures of brain injury severity included length of posttraumatic amnesia (PTA), Glasgow Coma Scale (GCS), and duration of unconsciousness. The two measures of depression were the Center for Epidemiological Studies Depression Scale (CES-D) and the Neurobehavioral Functioning Inventory (NFI) depression subscale. The Perceived Stress Scale by Cohen, Kamarck, & Mermelstein (1983) was used to measure post-injury stress. The IRI and SOBI were used to measure interpersonal relatedness. A cognitive battery with measures of directed attention and short-term memory were also administered. Post injury, time since injury, and depressive symptoms were found to have a statistically significant correlation. Post-injury sense of belonging was found to be negatively correlated with depressive symptoms as hypothesized, and sense of belonging and time since injury combined to explain 58% of the variance in depressive symptoms. Social support was also significantly correlated with depressive symptoms. Cognitive battery tests were not

found to significantly relate to depressive symptoms. Much like earlier research, this study showed the relationship between sense of belonging as measured by the SOBI and depression. Its sample size was too small for and the diversity of the sample was lacking, but overall it did provide support for the SOBI and sense of belonging being a significant factor in depression and patients with TBI. Another interesting piece of information gained from this study is the relationship between stress and sense of belonging. More needs to be learned about sense of belonging and its relationship to psychological problems as well as its relationship with stress (Bay, et.al., 2002)

An article by Sargent, Williams, Hagerty, Lynch-Sauer, and Hoyle (2002) explored sense of belonging and its buffering effects on symptoms of depression. Based on their review of scientific literature they noted a trend to focus on the biological treatments for depression despite the well supported connection between biological and psychosocial factors in the development of depression. They cited psychosocial stressors that have been shown to bring about depression such as physical and sexual abuse, parental alcoholism/substance abuse. Because of the apparent causal relationship between psychosocial factors and depression they proposed that psychosocial treatment would logically have a positive effect on depression. Thus the authors that positive psychosocial factors are likely buffers against symptoms of depression. Formally they asked the following research questions:

1. Does a sense of belonging act as a buffer against the development of depressive symptoms in a group of Navy recruits who are at high risk for developing depression, as indicated by the presence of a positive family history of mental illness, alcohol abuse, or drug abuse in a first-degree relative?

2. Does a sense of belonging buffer against the development of depressive symptoms in Navy recruits who were subjected to childhood stress such as emotional, physical, or sexual abuse?

The paper contains additional information showing how a lack of sense of belonging has negative psychological consequences, but that research showing the positive effects of sense of belonging is lacking. The authors used archival data from another study and utilized a comparative design. They used the Beck Depression Inventory II, the SOBI-P, and demographic information. They subdivided their sample into two groups based on either having or not having a diagnosis of depression. They reported no significant differences between their two groups in terms of age, race/ethnicity, or gender. The authors found that the BDI-II scores and SOBI-P scores had a negative correlation as suspected. They ran several analysis of covariance using SOBI-P as the independent variable and depressive symptoms as the dependent with groups that had family history of alcohol abuse, groups that had a family history of drug abuse, and groups that had a history of childhood abuse. Their results supported the overall hypothesis that sense of belonging had a significant direct (main) effect against the development of depression regardless of the risk factors they considered. Their study also showed a significant buffering effect against symptoms of depression in people who reported a family history of alcohol abuse. This study provided significant support for the general idea that sense of belonging has an effect on psychological symptoms, specifically depression. It also further supported the use of the SOBI as a valuable measurement tool. Due to the relatively small sample size their study could possibly be invalidated by a study with a

larger sample size. The fact that they only looked at depression also limit this articles big picture contributions (Sargent, et.al, 2002).

Another article looking at sense of belonging and social support on depression and stress was done by Choenarom, Williams, and Hagerty (2005). The article cited the recognition by the World Health Organization made concerning depression being a major mental health problem. Stress is listed as an important concept in studying and treating depression based on their cyclical relationship. The authors state that sense of belonging, social support, and spousal support has been show to reduce harmful effects of stress. Thus their study looked at the potential mediating and/or moderating effects of sense of belonging, social support, and spousal support on the relationship between stress and levels of depression. Their study was longitudinal (9 months), and they utilized correlation and comparative study design. The 90 participants sample was divided into two groups, one group were participants with a diagnosis of depression the other group did not have a diagnosis of depression. The groups were relatively homogeneous and were not found to differ significantly on demographic factors including age, gender, or ethnicity. Measures used included the BDI-II, Perceived Stress Scale (PSS), SOBI, Social Support Scale (SOCIAL-S), and Spousal Support Scale (SPOUSE-S). They did three regression analyses to test the hypothesized mediators SOBI, SOCIAL-S, AND SPOUSE-S on the PSS, the BDI-II on the PSS, and the BDI-II on the PSS and each mediator variable. The two groups were found to be significantly different on all assessment measures as anticipated and were analyzed separately. In the depressed group the PSS, SOBI, SOCIAL-S, and SPOUSE-S were significantly correlated with the BDI-II. In the depressed group the SOBI and SOCIAL-S were found to have mediating

effects. The PSS scores had a negative effect on SOBI scores. PSS positively influenced BDI-II scores. The BDI-II was also found to be inversely influenced by SOBI, SOCIAL-S, and SPOUSE-S scores. SPOUSE-S scores were significantly correlated with BDI scores, and was shown to be the best predictor in the non-depressed group. SOBI and PSS scores were shown to be significant predictors in the depressed group. These findings are consistent with other research on sense of belonging and its relationship with stress and depression. Because it was a correlation design the study is limited in its support of the relationships. Its small sample size that was underrepresented by minority groups is also a limitation. Once again because of its focus on a only one psychological disorder it has limited generalizability to sense of belongings effects on psychological symptoms other than depression. Overall this study continued support for the SOBI and further study on sense of belonging with psychological problems (Choenarom, Williams, & Hagerty, 2005).

An article by Doris Leal Hill (2006) looked at sense of belonging from an American Indian vantage point as connectedness. She views sense of belonging as a part of relatedness and connectedness, and believes it to be an important concept to American Indians and health (mental and physical). The author believes framing sense of belonging through the specific American Indian cultural perspective can have potential beneficial impact on the mental health of American Indians. Works representing the central concepts of connectedness throughout American Indian culture are presented, including the worldview of a circle of life and interconnectedness of all things. Research displaying the increase in sense of belonging with persons who have a stronger ethnic identity is also cited. Overall the review of literature points to the positive consequences

to psychosocial well-being and health for American Indians who have a stronger sense of belonging. The author discusses how sense of belonging for American Indians is broad and includes relationships with family, spirituality, community, nature, a higher power, land, environment, ancestors, and traditions. A more theoretical discussion of belonging from psychological and sociological literature is presented that show belonging to be a basic human need. The historical difficulties with sense of belonging American Indians have faced based on being removed from their lands and discriminated against throughout American history is offered as evidence to the negative consequences of a lack of sense of belonging on health. The author concludes that sense of belonging is a very significant phenomenon particularly in American Indian culture, and has a pervasive influence on mental health and physical well-being. She also proposes that understanding cultural sense of belonging is an important concept in being a culturally competent practitioner. This article is limited based on its focus on one culture, but is of great value because of that perspective. The information in this article only helps support the idea that sense of belonging is a universal and fundamental element of the human experience (Hill 2006).

Recently an article on belonging and its relationship to nursing students' clinical placement experiences was published in *Nursing Education Today* by authors from Australia and the United Kingdom. Empirical and anecdotal evidence to the difficulties during nurses clinical experiences are presented that often are related to lack of belonging and/or alienation. The authors discussed belongingness as a concept using heavy references to Baumeister and Leary's 1995 paper on belonging being a fundamental human motivation including their definition of belonging that was further developed by

Somers (1999). They also discussed Maslow's (1987) concept of belonging and acceptance needs and its placement in his hierarchy of human motivational needs. Similar to previous research and literature the authors of this paper see belonging as a universal human motivation. The authors also discuss evolutionary psychology and anthropological views of belonging as a survival tactic that has adapted across human existence. Lack of sense of belonging literature that is linked to psychological symptoms of depression, anxiety, and stress was also discussed, as well as literature that suggests a strong sense of belonging is connected to general happiness and well-being. The review of literature also does an admirable job of explaining how the research has shown that even potential negative consequences of belonging to groups such as gangs, is actually more a representation of a lack of belonging in other areas (family, school, etc) that breeds conformity to negative peer associations found in gangs. Literature tying loneliness to numerous health problems and mortality rates was also presented as a related concept to lacking a sense of belonging. The paper goes on to discuss Social Capital Theory and its relationship to belonging to smaller communities and greater society, to add a more sociological view of belonging as opposed to the more individualistic view presented in most belonging literature. Their review was quite comprehensive touching on belongingness and mental processes, affective patterns, behavior, health and well-being, and social groups. The authors go on to discuss how belonging and nursing students is lacking and has not been empirically reviewed well. She found literature showing a strong connection between belonging and job satisfaction, lack of belonging and short clinical rotations, sense of belonging being a consistent desire for nurses, sense of belonging is affected by length of time spent in a work area as well as

the quality of support and guidance. Nursing literature also discussed conformity based on a desire to “fit in” to new work environments. The authors conclude by suggesting that sense of belonging be an area of focus in training environments and research based on its significance to health and well-being (Levett-Jones, et.al., 2007).

Other

In a book by Carol Lee Flinders (2002), belonging is explored from a historical perspective. In fact the author chose to associate belonging with the values of pre-agricultural humanity. From this values of belonging were established that include; Intimate connection with the land to which one “belongs”, Empathetic relationship to animals, Self-restraint, Custodial Conservatism, Deliberateness, Balance, Expressiveness, Generosity, Egalitarianism, Mutuality, Affinity for alternative modes of knowing, Playfulness, Inclusiveness, Nonviolent conflict resolution, Openness to Spirit. In this book, Flinders examines the difficulties and problems in our society and parallels them with losing and/or ignoring certain human values of belonging. She goes onto outline in greater detail the way humans lived before the common era, and points to how the values they had shaped their adaptive and evolutionary capacities. Flinders makes a strong connection to belonging and its emergence in early civilization as the meaning that people first attached to their experiences that were closely attached to the land they lived on, the nature they were coexisting with, and the people they lived with. The author goes on to write about how she defined the changes in humankind and their values when the shift from belonging to enterprise took place. The values of enterprise that came with the adoption of agriculture are listed as a comparison to the previously listed values of belonging. The values of enterprise include: Control and ownership of land, Control and

ownership of animals, Extravagance and exploitation, Change, Recklessness and Speed, Momentum and High Risk, Secretiveness, Acquisitiveness, Hierarchy, Competitiveness, Rationality, Businesslike sobriety, Exclusiveness, Aggressiveness and violence, and Materialism. One of the unique themes of in this book is the theory set forth that sexism, and inequality stemmed from the values of enterprise and not from prehistoric times. It is the author's belief that the problems of inequality we deal with did not exist in earlier times. She presents the case that the values of belonging lost out to the values of enterprise because they were vulnerable and the values of enterprise are about exposing and exploiting vulnerabilities. She provides examples of how the differing values have conflicted. Finally she provides ideas on how readopting values of belonging can heal many of the ills that we experiencing in our world. She sites historical examples of values of belonging breaking through and having spokes-leaders such as Elizabeth Cady Stanton, Jane Addams, and Martin Luther King Jr. This book looks at belonging from a historical, feminist, and an anthropological vantage point and supports both its study and increasing it in our world. Her basic premise on belonging and its roots also provides support for Maslow's premise that belonging needs are basic needs that arise from and are closely connected to the first needs (physiological and safety). This book helps to establish belonging as a multidisciplinary topic, and certainly supports further work into the impact and/or influence belonging has on people (Flinders 2002).

A work by Andrew Mason (2000) a Professor of Political Theory at the University of Southampton explores belonging from yet another angle, politically. In this book the term community is explored with great depth. Early in the book the nature and definition of community is presented as a contested concept. The author goes on to

define community in two ways first as an ordinary concept which is “a group of people who share a range of values, a way of life, identify with the group and its practices and recognize each other as members of that group (page 21)” second as a moralized concept which adds two conditions to the ordinary concept those conditions are that members of a group have solidarity and that members must not systematically exploit and/or have systematic injustice within the group. The book has details of the value of community both from individualist and collectivistic perspectives. The author recognizes the need for belonging and how community is a facilitator or venue for developing a sense of belonging. He points out that the need to belong is bipartisan and recognizable in differing hierarchical levels of community. In the book an explanation why the universal need to belong is so widely accepted and essentially impossible to deny entirely is presented. The author focuses on description and analysis of differing political communities and the global community, but goes onto highlight that in our new era of globalization the need for a sense of belonging is of greater importance to people and thus different communities from neighborhoods to political units must accept this potential need. By discussing how people can have a sense of belonging to political units and not have a sense of belonging to the whole of the government or entity that the political units work within, Mason shows that smaller communities can provide for the need to belong without requiring or forcing its members to feel they belong to a larger level community. The author through political analysis makes the point that smaller groups must exist for the belonging need to be fulfilled because simply one group cannot provide for a sense of belonging for every person. A multicultural education plan is presented in order to guide in the growth of a sense of belonging for more people within

the political community. Essentially Mason presents the case that the idea of Global Community is not sufficient and that separate communities must exist in order for people to have their needs met. This book in its presentation of how communities meet the need to belong allows for further work within communities such as within a university because of its variety of communities. The author's ideas about the importance of community, belonging, and multicultural education are congruent with that of counseling psychology (Mason, 2000).

Summary

Overall the literature on sense of belonging has presented it as a valuable concept across multiple disciplines. From Maslow's first concept of the need to belong much has been done in terms of researching belonging. Psychology as a field has done the most amount of research on the subject. It has been shown to be an important concept in human development, motivation, personality development, health and psychological well being, therapeutic effectiveness, academic motivation and success, neurological development and health, identity, and group associations. Studies in education have shown belonging to be an important and even necessary factor within educational institutions. Additionally sociology has shown belonging to be an important concept from a broader more social and cultural perspective. Finally psychiatric nursing has provided ample evidence that sense of belonging has an influence on the experience of psychological symptoms. While sense of belonging has been explored in a variety of disciplines, contexts, and populations it has not been looked at in the specific way that this research explores the concept. Belonging has not been studied in a consistent manner, but the most consistent work was done by researchers in the psychiatric nursing

area. Thus the SOBI and definition of sense of belonging from psychiatric nursing are utilized for the purposes of this study in hopes that future research will follow more consistent, valid, and reliable methods. Looking more globally at sense of belonging's impact on psychological symptoms and overall quality of life should provide a unique look at sense of belonging in the body of literature that does exist.

CHAPTER III

METHOD

Participants

Approximately 200 participants were recruited to participate in the study. Participants for this investigation were solicited from the student body of a large Midwestern University. General demographic characteristics were projected to be representative of the general demographic characteristics of the university student body due to the recruitment setting being from courses that are applicable and/or required for most major courses of study.

The sample consisted of 176 participants, approximately split equally by gender (male 52.3% female 47.7%), which is representative of the overall student body gender percentages. Consistent with the campus population the majority of the participants identified their racial/ethnic identification as Caucasian (n=132, 75%). The rest of the population represented included African American (8%), Asian American (2.3%), Native American/American Indian (5.1%), Hispanic American (1.7%), Arabic/Middle Eastern (.6%), Multiracial/ethnic (4%), International student/non-us citizen (1.7%), other (1.1%), and one participant did not indicate a racial/ethnic identification (.6%).

The mean age for the sample was 20 years of age (median and mode of 19 years of age), with an age range of 31 years. Students identifying as being in their sophomore year in school were the largest group in terms of school year (n=75, 42.6%) with junior

year classification ranking next (n=47, 26.7%), then senior year classification (n=29, 16.5%), and finally freshman (n=25, 14.2%). Only 83% of participants listed a current GPA, which ranged from 1.8-4.0. The mean GPA in the sample was 3.13, with 3.00 being the mode, 3.01 being the median, and a standard deviation of .52. Approximately half of the sample population identified that they lived at an off-campus apartment (n=89, 50.6%), while 19.9% identifying as living in a residence hall, 13.6% identifying as living in a fraternity/sorority house, 9.7% identifying as living in a on-campus apartment, 2.8% identifying as living in a on-campus Learning Community/Village, and 3.4% identifying as living with parents/family. Within the sample only two participants (1.1%) identified as not being heterosexual, endorsing the bisexual/transgendered/questioning identification.

Approximately 80% of the participants identified as considering themselves as a spiritual or religious person, and of that group approximately 54% identified as attending a spiritual/religious meeting on a regular basis. Approximately 56% of the sample reported being active in the community and/or campus, and of that group 1% identified doing 0 activities/month, 47.4% identified doing 1-3 activities/month, 32% identified doing 4-6 activities/month, 12.4% identified doing 7-9 activities/month, and 7.2% identified doing 10+ activities/month. Please see Table 1 and Table 2, which follow, for summary of data.

Table 1
Summary of Demographic Data.

Demographic Content	Responses	Frequency(n)
Gender	Male	92
	Female	84
Racial/Ethnic Identification	African American	14
	Asian American	4
	Caucasian	132

	Native American/ American Indian	9
	Hispanic American	3
	Arabic/Middle Eastern	1
	Multiracial/Multiethnic	7
	International Student/Non US Citizen	3
	Other	2
Classification	Freshman	25
	Sophomore	75
	Junior	47
	Senior	29
Current Living Situation	Residence Hall	35
	Fraternity/Sorority House	24
	On-Campus Apartment/Suite	17
	Off-Campus Apartment	89
	On-Campus Learning Community/Village	5
	With parents or family	6
Sexual Orientation Identification	Heterosexual	174
	Gay/Lesbian/Questioning	0
	Bisexual/Transgendered/Questioning	2
Spiritual or Religious Person	Yes	141
	No	35
Regular Spiritual or Religious Meeting	Yes	77
	No	67
Active in Community or Campus	Yes	98
	No	77
Estimated Activity in Community or Campus	0 activities/month	1
	1-3 activities/month	51
	4-6 activities/month	31
	7-9 activities/month	12
	10+ activities/month	7

Table 2
Summary of Demographic Data for Age and GPA.

Demographic Content	Mean	Median	Mode	Std. Deviation	Range (min-max)
Age	20.21	19.00	19.00	03.11	31.00(18-49)
GPA	03.13	03.02	03.00	00.52	02.20(1.8-4.0)

Instrumentation

Symptom Checklist-90-Revised: The Symptom Checklist-90 Revised (SCL-90-R) (Derogatis, 1994) is a self-report measure of psychopathology and psychology distress. It was developed systematically through psychometric studies that began in the 1970's. It is a 90 item test with items that are answered on a five point scale of distress (0=Not at

all, 1=A little bit, 2=Moderately, 3=Quite a bit, 4=Extremely). It is scored and interpreted in nine symptom dimensions (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism) and three global indices (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). Raw scores in the nine symptom dimensions are calculated by dividing the item response sum by the number of responses in a given dimension, while raw scores for the Global Severity Index is calculated by dividing the total sum of all responses by the total number of responses, the Positive Symptom Total is calculated by summing all nonzero responses, and the Positive Symptom Distress Index is calculated by dividing the total sum of all responses by the sum of all nonzero responses. Raw scores can be converted to T scores that range from 30-80 with a mean of 50 and a standard deviation of 10, which likewise can be converted to percentile scores (Pauker, J.D. & Payne R.W., 1994). While all scores will be calculated, for the purpose of this study only SCL-90-R global indices raw scores will be used in the analyses. This methodological decision was made because the SCL-90-R global indices raw scores are the least transformed scores measuring global symptom distress. The SCL-90-R global indices are a measure of current psychological symptoms. A minimal amount of instruction and effort is required to administer the test. The estimated total time for administration of the SCL-90-R is 15 minutes.

The SCL-90-R manual contains two formal reliability estimates for the nine symptom scales and the three global distress scales, including internal consistency and test-retest (Derogatis, 1994). Measures of internal consistency reliability for the nine symptom dimensions were examined in two studies, the first conducted by Derogatis,

Rickels and Rock (1976) involving 209 “symptomatic volunteers” and the second conducted by Horowitz, Rosenberg, Baer, Ureno and Villasenor (1980), including 103 psychiatric outpatients. Coefficient alphas for the two studies ranged from a low of .77 for Psychoticism to .90 for Depression in the first study and a low of .79 for Paranoid Ideation to .90 for Depression in the second study (Derogatis, 1994).

Test-retest reliability coefficients were obtained in a study by Derogatis, Rickels and Rock (1976) involving 94 heterogeneous psychiatric outpatients with one week between test administrations. Derogatis (1994) reports coefficients between .80 and .90 for the nine constructs and states that this is “an appropriate level for measures of symptom constructs” (p. 28). The Horowitz et al. (1980) study provided test-retest coefficients ranging from .68 for Somatization to .83 for Paranoid Ideation with 10 weeks between tests.

Established constructs of validity for the SCL-90-R include convergent-discriminant validity and construct validity. Construct validity for the SCL-90-R was examined in a study conducted by Derogatis and Cleary (1977), with findings suggesting empirical-theoretical confirmation. Specifically, Derogatis (1994) states that the “hypothetical symptom constructs of the SCL-90-R can be recovered from real clinical data, and further, that these empirical measures correlate well with established and accepted external criterion measures” (p. 30). Derogatis and Cleary (1977) also address factor invariance for the SCL-90-R, reporting acceptable levels of invariance for all nine symptom dimensions across gender.

Convergent-discriminant validity was also established for the SCL-90-R. In their 1976 study, Derogatis, Rickels and Rock examined the convergent-discriminant validity

of the SCL-90-R by contrasting scores with the clinical, Wiggins content and Tyron's cluster scales from the MMPI. The findings suggest highly acceptable levels of convergent-discriminant validity, with SCL-90-R dimensions correlating to their respective MMPI constructs with the exception of Obsessive-Compulsive, which has no comparable MMPI scale (Derogatis, 1994). Various other studies have found acceptable levels of convergent-discriminant validity between the SCL-90-R and the Middlesex Hospital Questionnaire, the Center for Epidemiological Studies Depression Scale (CES-D), the Hamilton Rating for Depression and the General Health Questionnaire (GHQ-28) (Derogatis, 1994).

Quality of Life Inventory: The Quality of Life Inventory (QOLI) (Frisch, 1994) is a 32-item instrument designed to assess subjective well-being or perceived quality of life across 16 distinct life areas. These areas include a diverse constellation of life topics such as learning, goals-and-values, health, work and relatives, among others. The QOLI utilizes a Likert-style scoring system with responses ranging from -3 (Very Dissatisfied) to +3 (Very Satisfied). One object of note is that there is no true zero point on this scale and individuals must select a score on the dissatisfied or the satisfied end of the spectrum. The inventory yields total weighted satisfaction scores in the 16 distinct life areas by multiplying the importance score with the satisfaction score in each area. Summing all 16 weighted satisfaction scores and dividing that sum by the sum of the total areas of life that did not receive a score of zero produces that QOLI raw score. Raw scores can be converted to T-scores which are paired with the normed percentiles. Finally, total scores can be interpreted in terms of four levels, ranging from very low (10th percentile and below) to high (above 80th percentile). While all scores will be calculated, for the

purpose of this study only QOLI raw score will be used in the analyses. This methodological decision was made because the QOLI raw score is the least transformed overall quality of life score (Barnes, L.B., & Johnson, R.W., 1994).

In regards to the reliability of the QOLI, Frisch (1994) reported both test-retest reliability coefficients as well as a coefficient alpha for the instruments internal consistency reliability. Specifically, the test-retest findings suggested a retest coefficient of 0.73 for 55 participants with administrations 14 days apart, while the coefficient alpha for internal consistency was found to be 0.79 (Frisch, 1994). Furthermore, the author found a significant comparability coefficient of 0.79 upon changing the format of the QOLI, suggesting that the updated version is an accurate measurement of quality of life.

In addition to reliability statistics, Frisch also provided validity information for the QOLI. Convergent validity was demonstrated by comparing the QOLI against two other measures of life satisfaction, the Satisfaction with Life Scale and the Quality of Life Index. Frisch (1994) suggests that both the Satisfaction with Life Scale and the Quality of Life Index were significantly and positively correlated with the QOLI ($r = .56, p < .001$; $r = .75, p < .001$ respectively). In addition, discriminant validity was established by comparing QOLI scores to the Marlowe-Crowne Social Desirability Scale. The findings suggest a .25 correlation or 6% shared variance between the two instruments, concluding that the QOLI specifically measures quality of life rather than other constructs, such as social desirability (Frisch, 1994).

Sense of Belonging Instrument: The Sense of Belonging Instrument (SOBI) (Hagerty & Patusky, 1995) consists of a total of 27-items, but is broken into two separate tests which assess belonging in two separate areas, psychological sense of belonging

(valued involvement and fit), as assessed by the SOBI-P, and antecedents to sense of belonging, people's motivation (desire and ability) for sense of belonging, as assessed by the SOBI-A. Both tests utilize a Likert-style scoring system with four options ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Of note the SOPI-P questions are written in the negative, meaning that a score of 4 would represent a low sense of belonging, where as the SOPI-A questions are written in the affirmative, meaning a score of 4 would represent a high score in the antecedents to sense of belonging. Scores on the SOBI-P ranged from 21-72 with a mean of 55.54 and a standard deviation of 9.73, while scores on the SOBI-A ranged from 19-36 with a mean of 28.04 and a standard deviation of 3.42 in a sample of college students (Hagerty & Patusky, 1995).

In regards to the reliability information of the SOBI, Hagerty and Patusky (1995) reported both internal consistency and test-retest reliability. Internal consistency reliability was examined with a coefficient alpha for each of three subject groups: college students, depressed patients and Catholic nuns. Alphas for each group were reported on both the SOBI-P and SOBI-A, respectively: students, .93 and .72; depressed patients, .93 and .63; and nuns, .91 and .66. Test-retest reliability was established for the student group only and the reported correlation was .84 for the SOBI-P and .66 for the SOBI-A over eight weeks (Hagerty & Patusky, 1995).

Three methods were utilized in establishing the construct validity of the SOBI: factor analysis, contrasted groups, and correlation with measures of similar constructs. Factor analysis was conducted with student data only and produced an interfactor correlation of .36 (Hagerty & Patusky, 1995). They also supported their hypothesis that the two forms measured different dimensions of sense of belonging, interscale correlation

of .45 with the student group. Hagerty and Patusky (1995) demonstrate further construct through contrasted groups. Specifically, the authors found significant differences between group means for all three sample groups. Finally, the authors established construct validity through correlating the SOBI to related measures. As there are no other established measures of belonging, the authors correlated the student group data with measures of loneliness, reciprocity and social support (Hagerty & Patusky, 1995).

Procedure

Participant solicitation occurred through the use of direct solicitation in undergraduate classes. The primary investigator presented information regarding the study in undergraduate level Introduction to Speech Communications (SPCH 2713) courses to obtain participants. Participants were asked to volunteer and were informed that participation involved being in a research project examining the relationship between belonging, quality of life and symptom distress (please see appendix 1 for entire script). Course credit and/or extra credit was offered by participating professors as a benefit (equivalent to one quiz grade). Participants were also informed of their right to decline participation, to withdraw from the study at any point in time, and other rights as afforded and protected by the American Psychological Association and the Oklahoma State University Institutional Review Board.

Participants signed and received a copy of an Informed Consent Form prior to participating in the study (Please see appendix 2 for the informed consent). Signed consent forms were collected (prior to completion of any other study materials) and were placed in a sealed envelope that was kept separate from the other study materials. In an effort to help maintain privacy and confidentiality, each participant's name was not

entered into the computer database. Thus the participants' identity information was not in an electronic format. After having read the instructions and collecting the signed informed consents, students electing to participate completed a brief demographic form (see appendix 3), the Symptom Checklist 90-Revised (with demographic section marked out), the Quality of Life Inventory (with demographic section marked out) and the Sense of Belonging Instrument (see appendix 4). Upon the completion of these assessments, the primary investigator collected the study materials from participants that were placed in a sealed envelope with the participant identification number written on it that coincided with the participant identification numbers written on the top of all of the other study materials with the exception of the signed informed consent.

The data were tabulated, calculated, and checked by the primary investigator and an independent research assistant. The scores from the instruments were then entered into a password protected computer folder in the form of a Microsoft Excel file. On the SOBI-P there is one reverse scored item that was changed prior to totaling scores on the SOBI-P. The statistical package utilized for the examination of statistical significance was SPSS 16.0. All consent forms were secured in a file cabinet and kept in a room separate from participant data, remaining confidential.

In this study multiple linear regression analysis was used to determine statistical significances. The independent or predictor variables in all four of the separate multiple linear regression equations for the study were total scores on the SOBI-P and the SOBI-A. Of note, SOBI-P and SOBI-A scores are in different directions; meaning that high SOBI-P scores represent a low psychological experience on sense of belonging, whereas high SOBI-A scores represent high antecedents to sense of belonging. The dependent or

criterion variables in this study were the total raw score on the QOLI for the first multiple linear regression analysis, and then the 3 global indices (Global Severity Index, Positive Symptom Distress Index, Positive Symptom Total) on the SCL-90-R were each entered into a separate multiple linear regression analysis. Incomplete participant cases were excluded listwise (meaning participants scores will only be included in overall regression analysis if complete scores on all variables were obtained), in order to support reliability and validity of the regression analysis.

CHAPTER IV

RESULTS

The following results are organized first by presenting relevant information and descriptive statistics concerning each of the measures. Next each multiple regression analysis is presented in the order that it was tested, with results from that particular multiple linear equation following the hypothesis.

Within the sample all participants completed the SOBI-P form, and all but one participant completed the SOBI-A form (meaning 99.4% of participants received scores). The total raw scores on the SOBI-P had a range of 40 with scores spanning from 18-58 (SOBI-P total raw scores have an absolute range of 54). As expected, the scores were on the low end of the scoring range with a mode score of 19, mean score of 29.01, median score of 28.00, and a standard deviation of 8.884. This indicates that the participants tended to experience a positive psychological state in terms of their sense of belonging. The total raw scores on the SOBI-A had a range of 15 with scores spanning from 21-36 (SOBI-A total raw scores have an absolute range of 27). As expected the scores were on the high end of the scoring range with a mode score of 27, mean score of 28.76, median score of 28.00, and a standard deviation of 3.122. This indicates that the participants reported experiencing a high amount of antecedents to their sense of belonging. The computed Cronbach's Alpha for the SOBI-P was .937, while the SOBI-A was .829.

Within the sample only two participants failed to complete the QOLI. Thus 98.9% of the sample received scores on the QOLI. The descriptive statistics for the QOLI overall rating scores showed the majority of the sample population to be rated as experiencing average or high quality of life. Only a cumulative 21.3% of the sample obtained ratings of low (12.1%) or very low (9.2%). The descriptive statistics for the QOLI raw score showed a range of 7.7 points out of a possible range of 12 for the QOLI. The minimum score was a -2.0 while the maximum was a 5.7, while the absolute minimum and maximum for the QOLI extended from -6.0 to +6.0.

Within the sample only one participant failed to complete the SCL-90-R. Thus 99.4% of participants received scores on the SCL-90-R. The descriptive statistics for the SCL-90-R GSI raw scores showed a score range of 2.83 with scores spanning from 0.0-2.83 (SCL-90-R scores have a range of 4.0). The descriptive statistics for the SCL-90-R PST raw scores showed a score range of 83 spanning from 0-83 (SCL-90-R scores have a range of 90). The descriptive statistics for the SCL-90-R PSDI raw scores showed a score range of 3.76 with scores spanning from 0.0-3.76 (SCL-90-R scores have a range of 4.0).

A multiple regression analysis was conducted to evaluate if the SOBI measures (both psychological state & antecedents) could predict the QOLI raw scores. Thus the null hypothesis was that SOBI-P total score and SOBI-A total score would not have a statistically significant predictive relationship to QOLI raw scores. The predictors were the two total scores on the SOBI-P and SOBI-A, while the criterion variable was the overall QOLI raw score (computed from the average of the weighted satisfaction ratings for the areas of life rated Important or extremely important by participants). The linear

combination of SOBI scores was found to be statistically significant in its predictive relationship to the QOLI raw scores, $df=172$, $F=57.185$, $p<.001$. The sample multiple correlation coefficient was .634, indicating that approximately 40% ($R^2=.402$) of the variance of the QOLI raw scores in the sample can be accounted for by the linear combination of SOBI measures.

The following paragraph presents evidence and statistics concerning the major statistical assumptions for running a multiple regression. The roughly normally distributed histogram of residuals supports the assumption of normal distribution. Also a visual scan of the partial regression scatter plots of each of the predictor variables with the criterion variable demonstrated a linear relationship, thus supporting the assumption of linearity for multiple regression. Also the linearity assumption is supported based on the observed SD of the dependent (criterion) variable being greater than the SD of the residuals ($1.4588>0.994$). There was a lack of high multicollinearity as indicated by a low VIF score ($VIF=1.275$). The Durbin-Watson statistic supports the assumption of independent errors and independent observations ($D-W=2.081$). The assumption of homoscedasticity is supported by the relatively unpatterned scatter of the simple residual plot. Additionally, violations of homoscedasticity were controlled by excluding outlier values that exceeded two standard deviations; however no scores fell outside those perimeters.

As anticipated, the bivariate correlation between SOBI-P scores and the QOLI raw scores was negatively correlated (Pearson Correlation = $-.628$), and was statistically significant ($p<.001$). As anticipated, the bivariate correlation between SOBI-A scores and the QOLI raw scores was positively correlated (Pearson Correlation = $.370$), and was

statistically significant ($p < .001$). Scores on the SOBI-P and SOBI-A were found to be negatively correlated (Pearson Correlation = $-.464$). This correlation was found to be statistically significant ($p < .001$). SOPI-P scores accounted for approximately 40% (Pearson Correlation = $-.628 = R \text{ Square} = .394$) of the variance of QOLI raw scores. However evaluation of the Coefficients table showed that only SOBI-P and not SOBI-A scores made a significant contribution to the prediction equation (SOBI-P $t = -8.689$, $p < .001$ & SOBI-A $t = 1.489$, $\text{Sig} = .138$). Please see Table 3, which follows, for summary of data.

Table 3

Summary of Multiple Regression for SOBI scores predicting QOLI scores.

	QOLI raw score		
	B	Beta	Sig.
SOBI-P	-.10	-.58	<.00**
SOBI-A	.05	.031	.14
R Square	.40		
F	57.19**		
N	173		

* significant at .01 level

** significant at .001 level

A multiple regression analysis was conducted to evaluate how well the SOBI measures (both psychological state & antecedents total raw scores) predicted the SCL-90-R Global Severity Index (GSI) scores. The predictors were the two total scores on the SOBI-P and SOBI-A, while the criterion variable was the overall SCL-90-R GSI scores (computed by summing the scores on the nine symptom dimensions and the additional items). The linear combination of SOBI scores was found to be statistically significant in

its relationship to the SCL-90-R GSI scores, $df=173$, $F=43.572$, $p<.001$. The sample multiple correlation coefficient was .581, indicating that approximately 34% ($R^2=.338$) of the variance of the SCL-90-R GSI scores in the sample can be accounted for by the linear combination of SOBI measures.

The roughly normally distributed histogram of residuals supports the assumption of normal distribution for all variables. The partial regression scatter plots of each of the predictor variables with the criterion variable demonstrated a slightly linear relationship, thus supporting the assumption of linearity for multiple regression. However the linearity assumption is not supported based on the observed SD of the dependent (criterion) variable being less than the SD of the residuals ($0.57910 < 0.994$). Because of this the strength of the relationship between the variables is likely underestimated due to the limitation of the linear model. There was a lack of high multicollinearity as indicated by a low VIF score ($VIF=1.262$). The Durbin-Watson statistic supports the assumption of independent errors and independent observations ($D-W=2.117$). The assumption of homoscedasticity is supported by the relatively unpatterned scatter of the simple residual plot. Additionally, violations of homoscedasticity were controlled by excluding outlier values that exceeded two standard deviations; however no scores fell outside those perimeters.

As anticipated, the bivariate correlation between SOBI-P scores and the SCL-90-R GSI scores was positively correlated (Pearson Correlation = .557), and was statistically significant ($p<.001$). The bivariate correlation between SOBI-A scores and the SCL-90-R GSI scores was negatively correlated (Pearson Correlation = -.107), but this correlation was not statistically significant ($p=.079$). Of note, the SOBI-A standardized and

unstandardized coefficients (Beta and B) were positive numbers that are statistically significant, which was an unexpected finding. Scores on the SOBI-P and SOBI-A were found to be negatively correlated (Pearson Correlation = $-.456$). This correlation was found to be statistically significant ($p < .01$). SOBI-P scores accounted for approximately 30% (Pearson Correlation = $.557$ = R Square = $.310$) of the variance of SCL-90-R GSI scores. Evaluation of the Coefficients table showed that both SOBI-P and SOBI-A scores made a significant contribution to the prediction equation (SOBI-P $t = 9.174$, $p < .001$ & SOBI-A $t = 2.646$, $p = .009$). Please see Table 4, which follows, for summary of data.

Table 4

Summary of Multiple Regression for SOBI scores predicting SCL-90-R GSI scores.

	SCL-90-R GSI		
	B	Beta	Sig.
SOBI-P	.04	.64	<.00**
SOBI-A	.03	.19	.01*
R Square	.34		
F	43.57**		
N	173		

* significant at .01 level

** significant at .001 level

A multiple regression analysis was conducted to evaluate how well the SOBI measures (both psychological state & antecedents total raw scores) predicted the SCL-90-R Positive Symptom Total (PST) scores. The predictors were the two total scores on the SOBI-P and SOBI-A, while the criterion variable was the overall SCL-90-R PST scores (computed by counting the total number of items endorsed with a positive response). The linear combination of SOBI scores was found to be statistically significant in its

relationship to the SCL-90-R PST scores, $df=173$, $F=40.363$, $p<.001$. The sample multiple correlation coefficient was .566, indicating that approximately 32% (R Square=.321) of the variance of the SCL-90-R PST scores in the sample can be accounted for by the linear combination of SOBI measures.

The roughly normal distributed histogram of residuals supports the assumption of normal distribution for all variables. Also a visual scan of the partial regression scatter plots of each of the predictor variables with the criterion variable demonstrated a linear relationship, thus supporting the assumption of linearity for multiple regression. Also the linearity assumption is supported based on the observed SD of the dependent (criterion) variable being greater than the SD of the residuals ($19.798>0.994$). There was a lack of high multicollinearity as indicated by a low variance inflation factor score ($VIF=1.262$). The Durbin-Watson statistic supports the assumption of independent errors and independent observations ($D-W=1.985$). The assumption of homoscedasticity is supported by the relatively unpatterned scatter of the simple residual plot. Additionally, violations of homoscedasticity were controlled by excluding outlier values that exceeded two standard deviations; however no scores fell outside those perimeters.

As anticipated, the bivariate correlation between SOBI-P scores and the SCL-90-R PST scores was positively correlated (Pearson Correlation = .561), and was statistically significant ($p<.001$). The bivariate correlation between SOBI-A scores and the SCL-90-R PST scores was negatively correlated (Pearson Correlation = -.185), and was statistically significant ($p=.007$). Of note, the SOBI-A standardized and unstandardized coefficients (Beta and B) were positive numbers, which was an unexpected finding. Scores on the SOBI-P and SOBI-A were found to be negatively correlated (Pearson

Correlation = -.456). This correlation was found to be statistically significant ($p < .001$). SOBI-P scores accounted for approximately 31% (Pearson Correlation = .561 = R Square = .314721) of the variance of SCL-90-R PST scores. However evaluation of the Coefficients table showed that only SOBI-P and not SOBI-A scores made a significant contribution to the prediction equation (SOBI-P $t = 8.491$, $p < .001$ & SOBI-A $t = 1.255$, $Sig = .211$). Please see Table 5, which follows, for summary of data.

Table 5

Summary of Multiple Regression for SOBI scores predicting SCL-90-R PST scores.

	SCL-90-R PST		
	B	Beta	Sig.
SOBI-P	1.35	.60	<.00**
SOBI-A	.57	.09	.21
R Square	.32		
F	40.36**		
N	173		

* significant at .01 level

** significant at .001 level

A multiple regression analysis was conducted to evaluate how well the SOBI measured (both psychological state & antecedents total raw scores) predicted the SCL-90-R Positive Symptom Distress Index (PSDI) scores. The predictors were the two total scores on the SOBI-P and SOBI-A, while the criterion variable was the overall SCL-90-R PSDI scores (computed by dividing the sum of all item values by the total number of items endorsed with a positive response). The linear combination of SOBI scores was found to be statistically significant in its relationship to the SCL-90-R PSDI scores, $df=173$, $F=19.390$, $p < .001$. The sample multiple correlation coefficient was .430,

indicating that approximately 18% ($R^2=.185$) of the variance of the SCL-90-R PSDI scores in the sample can be accounted for by the linear combination of SOBI measures.

The roughly normally distributed histogram of residuals supports the assumption of normal distribution. The partial regression scatter plots of each of the predictor variables with the criterion variable demonstrated a slightly linear relationship, thus supporting the assumption of linearity for multiple regression. However the linearity assumption is not supported based on the observed SD of the dependent (criterion) variable being less than the SD of the residuals ($0.56897 < 0.994$). There was a lack of high multicollinearity as indicated by a low VIF score ($VIF=1.262$). The Durbin-Watson statistic supports the assumption of independent errors and independent observations ($D-W=2.100$). The assumption of homoscedasticity is supported by the relatively unpatterned scatter of the simple residual plot. Additionally, violations of homoscedasticity were controlled by excluding outlier values that exceeded two standard deviations; however no scores fell outside those perimeters.

As anticipated, the bivariate correlation between SOBI-P scores and the SCL-90-R PSDI scores was positively correlated (Pearson Correlation = .389), and was statistically significant ($p < .001$). The bivariate correlation between SOBI-A scores and the SCL-90-R PSDI scores was negatively correlated (Pearson Correlation = -.014), but this correlation was not statistically significant (Sig. = .426). Of note, the SOBI-A standardized and unstandardized coefficients (Beta and B) were positive numbers that are statistically significant, which was an unexpected finding. Scores on the SOBI-P and SOBI-A were found to be negatively correlated (Pearson Correlation = -.456) as

anticipated. This correlation was found to be statistically significant ($p < .001$). SOBI-P scores accounted for approximately 15% (Pearson Correlation = .389 = R Square = .151321) of the variance of SCL-90-R PSDI scores. Evaluation of the Coefficients table showed that both SOBI-P and SOBI-A scores made a significant contribution to the prediction equation (SOBI-P $t = 6.224$, $p < .001$ & SOBI-A $t = 2.653$, Sig=.009). Of note, the SOBI-A standardized and unstandardized coefficients (Beta and B) were in the positive numbers, which was an unexpected finding. Please see Table 6, which follows, for summary of data.

Table 6

Summary of Multiple Regression for SOBI scores predicting SCL-90-R PSDI scores.

	SCL-90-R PSDI		
	B	Beta	Sig.
SOBI-P	.03	.48	<.00**
SOBI-A	.04	.21	.01*
R Square	.19		
F	19.39**		
N	173		

* significant at .01 level

** significant at .001 level

In summary, statistical significance was found in each of the hypotheses. In particular scores on the SOBI-P were found to be a significant predictor of the QOLI total raw score and the SCL-90-R GSI, PST, and PSDI scores. Scores on the SOBI-A was found to be a significant predictor of scores on both SCL-90-R GSI and PSDI scores, but not on the QOLI total raw or the SCL-90-R PST scores. Of note, the SOBI-A standardized and unstandardized coefficients (Beta and B) were positive numbers on all

three SCL-90-R scores, which was an unexpected finding. In each of the prediction equations the combination of SOBI scores accounted for a significant amount of variance in the QOLI total raw score and SCL-90-R GSI, PST, and PSDI scores. Overall, the linear combination of SOBI scores were found to be strong predictors of scores on the QOLI and SCL-90-R.

CHAPTER V

DISCUSSION

A measure of sense of belonging was used to determine the functional relationship of sense of belonging with quality of life and experience of psychological symptoms. As the literature suggested and as hypothesized in this paper, sense of belonging appears to have a strong predictive relationship to students' quality of life and the experience of psychological symptoms. More specifically the analysis of this study support the following results. Students who experience a high sense of belonging (as measured by low scores on the SOBI-P) and who report high levels of the antecedents to Sense of Belonging (as measured by high scores on the SOBI-A) are more likely to report experiencing greater overall quality of life across multiple areas of life (as measured by high scores on the QOLI raw scores) [$F=57.185, p<.001$]. Also the results suggest that students who experience a low sense of belonging (as measured by high scores on the SOBI-P) and who report high levels of the antecedents to Sense of Belonging (as measured by high scores on the SOBI-A) are more likely to report experiencing greater depth and/or severity in their reported psychological symptoms and/or mental disorder (as measured by high scores on the SCL-90-R GSI) [$F=43.572, p<.001$]. The positive relationship between SOBI-A scores and SCL-90-R GSI scores was unexpected. Additionally the results suggest that students who experience a low sense of belonging

and who report high levels of the antecedents to sense of belonging are more likely to report experiencing greater numbers and breadth in their reported psychological symptoms (as measured by high scores on the SCL-90-R PST) [$F=40.363, p<.001$]. The positive relationship between SOBI-A scores and SCL-90-R PST scores was unexpected. Finally these results suggest that students who experience a lower sense of belonging and who report lower levels of the antecedents to sense of belonging are more likely to report experiencing greater intensity in their reported psychological symptoms (as measured by high scores on the SCL-90-R PSDI) [$F=19.390, p<.001$]. The positive relationship between SOBI-A scores and SCL-90-R PSDI scores was unexpected. Interestingly SOBI-A standardized and unstandardized coefficients (Beta and B) were positive numbers on all three SCL-90-R scores. Theoretically levels of antecedents to sense of belonging might not have a positive or negative impact on psychological distress or well being. Likewise psychological distress and well being may occur with person's who have either low or high antecedents to sense of belonging. Potentially antecedents to sense of belonging might work as a mediator or moderator variable with the psychological experience of sense of belonging. Additionally it is possible that antecedents to sense of belonging are actually more of a personality characteristic or trait. If this were the case then it could stand to reason that higher levels of psychological symptoms and distress may prevent the fulfillment of this personality characteristic or trait. Obviously less is known theoretically and empirically about antecedents to sense of belonging, thus multiple explanations could potentially reveal the nature and impact of these antecedents.

Literature from multiple disciplines and schools of thought (including psychology, education, sociology, and psychiatric nursing) make a case that sense of belonging and related concepts are extremely important in numerous aspects of people's lives and our world. Additionally research and theories in a multitude of professions identify negative consequences and impact of the lack of sense of belonging. This study attempted to explore in greater detail a small aspect of the impact of sense of belonging in the lives of college students. The results were strongly in support of validating the concept of sense of belonging as a valuable variable for study. It would appear the message that belonging is an essential need, initially proposed by Maslow, has merit in at least the lives of college students. Personal and professional experience also supports that sense of belonging is a vital and central concept in the mental health field.

Some limitations, as with all studies, exist that are noteworthy. First all of the assumptions inherent to the statistics ran with this data, are not able to be supported in their entirety, specifically the normal distribution assumption and the assumption of homoscedasticity. However, reasonable attempts were made to fulfill the assumptions of the model, and were well within the boundaries of existing studies represented in current literature. While the statistical model used is rather robust, and the sample of participants was of more than adequate in size, the actual influence sense of belong has on quality of life and the experience of psychological symptoms is certainly not known. No causal relationships can be ascertained from these results. Because of the lack of causal links, it is possible that there are no causal links between variables. It is also possible that there are confounding variables that were not identified and as a result have yet to be explored. Additionally, using a convenience sample of relatively homogeneous students at one

educational institution, limits the scope of the results despite the statistical strength. As with all studies that do not include randomization, generalizability is severely limited. The Sense of Belonging Instrument is a relatively young measure. With the Sense of Belonging Instrument's youth comes little reliability and validity data, which is cause for some hesitancy and is a limitation of this study. Also the current results only took into consideration participants compared to their peers. As a group, college students measured scores are on the higher end of the belonging scale. As with most psychological concepts, measuring sense of belonging, quality of life, and psychological symptoms is difficult because it attempts to quantify a very subjective and qualitative experience. Added to this complication is the fact that the data is collected through self report. Thus the process of is not entirely reliable. In fact the very process of measurement of human conditions and experiences is wrought with difficulty and complications, and is unlikely to ever be flawless or without error. Also there is potential that the very concepts attempted to be measured are simply manifestations of completely undiscovered or unexplored concepts that are of greater scope, thus making these relationships moot and/or less important. Thus, studies like the present study must be tempered with sensibility, rationality, and sensitivity.

While sense of belonging is thought of and supported as a human need, more study with varied populations and cultures is needed. Additional areas that would be beneficial to study based on the results of this study would be to determine if the sense of belonging has a similar predictive relationship with other psychological measures. Also looking at specific symptom clusters and/or diagnostic criteria and their relationships with sense of belonging could be fruitful for exploration and would certainly be a

welcomed addition to the literature. It would also be appropriate to further study the Sense of Belonging Instrument and its properties, to further validate it as a measure. This is of particular interest, as the current results represented some unexpected relationships between the SOBI-A with the SCL-90-R. As true experimental design with the concept of belonging is difficult and in many cases unethical to explore, alternative ways of exploring and researching the subject are highly recommended.

Sense of belonging is a human need; there is no strong evidence to refute this statement. The findings from this paper started from that base belief and worked to not only provide more support for the statement, but to also display a less explored idea that measurements for sense of belonging and its antecedents can be useful for predicting other human experiences and conditions. At a broader level these findings could be used to support work on developing more ways of measuring belonging and related concepts in multiple disciplines for use in theory development and refinement. Also on a broad level these findings could be used as support for educational institutions to pursue more programs and initiatives for aiding in the development of belonging for its student bodies. On a more micro level these findings can be used by mental health practitioners as a concept to pay attention to and assess in their clients, in order to aid in conceptualization, diagnosis, and potentially treatment. Certainly these findings support further exploration of the concept and its impact on people, environments, systems, health, well-being, and a multitude of other potential relationships and influences. If further work is done in this area, it is within the realm of possibility that sense of belonging could be identified as one of the most important factors to take into consideration and work with for most

psychological problems. However such lofty ideas and goals are only to be known through further work on sense of belonging.

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APPENDICES

Appendix 1

Script

Research suggests that individuals who experience a high level of belonging experience better physical health than those with lower levels of belonging. Similarly, research findings suggest that a sense of belonging can act as a buffer against the symptoms of psychological distress and can even provide academic and social benefit. However, despite these findings, there is a relative lack of research on the significance of belonging in the lives of college-aged students and its relationship to holistic emotional well-being.

This study is specifically being conducted to explore the relationships between belonging, quality of life and symptom distress among undergraduate college students. Participation will include completing a demographic information sheet and three assessment instruments. The total time commitment for participation in this study should not exceed one classroom hour. If you would like to participate in this study please read and sign the top copy of the informed consent sheet and keep the bottom copy for your records. In order to protect anonymity, the informed consent sheet contains a study identification number that will keep your identifying information separate from your responses. If you do not wish to participate in this study, you do not have to and no informed consent sheet will be given to you. Again, participation is entirely voluntary and you may discontinue participation at any time without penalty.

Please follow the written directions on each assessment instrument; however please do not fill out the Demographic Information section of the SCL-90-R on the back page or the first page of the QOLI.

Appendix 2

INFORMED CONSENT FOR RESEARCH PARTICIPATION

Sense of Belonging and its Impact on Quality of Life and Symptom Distress Among Undergraduate College Students

I hereby authorize Ryan Jones, under the direction of Dr. John Romans, to perform the following procedures:

This research project is being conducted through the Oklahoma State University and the Graduate College and will investigate the relationship between belonging, quality of life and symptomatic distress among undergraduate college students. The primary investigator for this project is Ryan Jones, Counseling Psychology Ph.D. Student.

Participating in this study will require the completion of three assessment instruments, all of which can be completed during this class period. Participation will also involve reading and signing this Informed Consent in class along with the completion of these previously mentioned instruments.

Consistent with previous research in this area, we will also request your permission to find out about demographic information (e.g. age, gender, year in school, etc.). The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you. Research records will be stored securely and only researchers and individuals responsible for research oversight will have access to the records. It is possible that the consent process and data collection will be observed by research oversight staff responsible for safeguarding the rights and well-being of people who participate in research.

Risks associated with participating in this study are minimal. Benefits associated with participation include providing insight into the understanding of belonging and the collegiate experience as well as possible course credit or extra credit.

The following questionnaires will be used for the purposes of this research: a demographic form, the Symptom Checklist 90-Revised, the Quality of Life Inventory and the Sense of Belonging Instrument. The researchers are committed to protecting the privacy of the study participants. To further protect this privacy, participant information will not appear on the individual assessment instruments. Instead, the number found at the upper right hand of this document will be the only information connecting the participants to the data. There will be only one list connecting participant names to data and this list will be locked in a secure location in the investigator's office.

Your participation in this study is completely voluntary. You may withdrawal from this study at any point without penalty. Your participation is greatly appreciated.

Preliminary results of this study can be obtained in approximately four months by emailing ryan.c.jones@okstate.edu

For additional information contact:

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If you have questions about the research and your rights as a research volunteer, you may contact Dr. Sue Jacobs, IRB Chair, 219 Cordell North; phone: 405-744-1676;
irb@okstate.edu

I certify that I am 18 years old or older, that I have read and fully understand the consent form, that by providing the information below I agree to the terms and conditions freely and voluntarily, and that a copy has been made available to me.

Name: _____

Date: _____

Signature: _____

Researcher's Signature: _____

Appendix 3

PARTICIPANT DEMOGRAPHICS FORM

Age: _____ Gender: _____ Male _____ Female

Classification: _____ Freshman _____ Sophomore _____ Junior _____ Senior

Current GPA: _____

Current living situation: _____ Residence Hall
_____ Fraternity/Sorority House
_____ On-Campus Apartment/Suite
_____ Off-Campus Apartment
_____ On-Campus Learning Community/Village
_____ With parents or family

Racial/Ethnic Identification: _____ African-American
_____ Asian-American
_____ Caucasian-American
_____ Native American/American Indian
_____ Pacific Islander/ Native Alaskan
_____ Hispanic-American
_____ Arabic/Middle Eastern Descent
_____ Multiracial/multiethnic
_____ International student/ non-US citizen
_____ Other

Sexual Orientation Identification: _____ Heterosexual
_____ Gay/Lesbian/Questioning
_____ Bisexual/Transgendered/Questioning

8) Do you consider yourself a spiritual or religious person? _____ Yes _____ No

If Yes do you regularly attend a spiritual or religious meeting? _____ Yes
_____ No

9.) Do you consider yourself active in the community and/or campus? _____ Yes
_____ No

If Yes, check your estimated activity on campus or in the community according to the following scale

- _____ 0 activities/month
- _____ 1-3 activities/month
- _____ 4-6 activities/month
- _____ 7-9 activities/month
- _____ 10 + activities/month

Appendix 4

**SENSE OF BELONGING
INSTRUMENT**

SOBI-P

Instructions: Here are some statements with which you may or may not agree. Using the key listed below, circle the number that most closely reflects your feelings about each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I often wonder if there is anyplace on earth where I really fit in.	1	2	3	4
2. I am just not sure if I fit in with my friends.	1	2	3	4
3. I would describe myself as a misfit in most social situations.	1	2	3	4
4. I generally feel that people accept me.	1	2	3	4
5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.	1	2	3	4
6. I would like to make a difference to people or things around me, but I don't feel that what I have to offer is valued.	1	2	3	4
7. I feel like an outsider in most situations.	1	2	3	4
8. I am troubled by feeling like I have no place in this world.	1	2	3	4
9. I could disappear for days and it wouldn't matter to my family.	1	2	3	4
10. In general, I don't feel a part of the mainstream of society.	1	2	3	4
11. I feel like I observe life rather than participate in it.	1	2	3	4
12. If I died tomorrow, very few people would come to my funeral.	1	2	3	4
13. I feel like a square peg trying to fit into a round	1	2	3	4

hole.				
14. I don't feel that there is anyplace where I really fit in this world.	1	2	3	4
15. I am uncomfortable that my background and experiences are so different from those who are usually around me.	1	2	3	4
16. I could not see or call my friends for days and it wouldn't matter to them.	1	2	3	4
17. I feel left out of things.	1	2	3	4
18. I am not valued by or important to my friends.	1	2	3	4

**SENSE OF BELONGING
INSTRUMENT**

SOBI-A

Instructions: Here are some statements with which you may or may not agree. Using the key listed below, circle the number that most closely reflects your feelings about each statement.

KEY: SD = Strongly Disagree

D = Disagree

A = Agree

SA = Strongly Agree

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. It is important to me that I am valued or accepted by others.	1	2	3	4
2. In the past, I have felt valued and important to others.	1	2	3	4
3. It is important to me that I fit somewhere in this world.	1	2	3	4
4. I have qualities that can be important to others.	1	2	3	4
5. I am working on fitting in better with those around me.	1	2	3	4
6. I want to be a part of things going on around me.	1	2	3	4
7. It is important to me that my thoughts and opinions are valued.	1	2	3	4
8. Generally, other people recognize my strengths and good points.	1	2	3	4
9. I can make myself fit in anywhere.	1	2	3	4

VITA

Ryan Christopher Jones

Candidate for the Degree of

Doctor of Philosophy

Dissertation: SENSE OF BELONGING AND ITS RELATIONSHIP WITH QUALITY OF LIFE AND SYMPTOM DISTRESS AMONG UNDERGRADUATE COLLEGE STUDENTS

Major Field: Educational Psychology

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Obtained Bachelor of Arts in Psychology, *Cum Laude*, from Oklahoma State University in May 2003
Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in July, 2009.

Experience:

Practicum at Stillwater Domestic Violence Services, Inc. June 2004 – May 2005
Practicum at Associated Centers for Therapy August 2005 – July 2006
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Name: Ryan Christopher Jones

Date of Degree: July, 2009

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: SENSE OF BELONGING AND ITS IMPACT ON QUALITY OF LIFE
AND SYMPTOM DISTRESS AMONG UNDERGRADUATE
COLLEGE STUDENTS

Pages in Study: 97

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology

Scope and Method of Study: This study examined sense of belonging and its relationship with quality of life, and psychological symptoms and distress in undergraduate students at Oklahoma State University. Data was collected in class through the use of multiple assessments/surveys including demographic form, Symptom Checklist 90 Revised (SCL-90-R), Quality of Life Inventory (QOLI), and Sense of Belonging Instrument (SOBI-P & SOBI-A). Data was analyzed by regressing SOBI-P & SOBI-A scores with the overall QOLI raw score and the three global indices of the SCL-90-R, in order to determine if a functional relationship between the concepts existed.

Findings and Conclusions: It was predicted that SOBI-P and SOPI-A could be combined to predict QOLI and SCL-90-R global indices scores. The results were statistically significant and supported the hypothesis that SOBI-P and SOBI-A scores had a functional predictive relationship with the overall QOLI raw score and the three global indices of the SCL-90-R. Thus it was concluded that sense of belonging, as measured by the SOBI, is an important mental health concept to consider in work with college students and within educational institutions. Additionally this study supported further exploration of the concept of sense of belonging and its impact on mental health.

ADVISER'S APPROVAL: Dr. John S. Romans
