FROM THE OUTSIDE LOOKING IN: SENSE OF BELONGING, DEPRESSION, AND SUICIDE RISK

by

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Abstract

by

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Sense of belonging has demonstrated significant relationships with depression and suicidal thoughts, highlighting its potential utility in refining assessment of suicide risk. Sense of belonging is conceptualized as an individual’s experience of feeling valued, needed, and accepted by people in his or her social environment. The present study utilized the Sense of Belonging Instrument to examine sense of belonging in 116 depressed veterans recruited from a psychiatric outpatient and day treatment program at a Veterans Affairs Medical Center. Participants were assessed for the presence of a depressive disorder using a structured clinical interview. Self-report measures of depression, suicidal behaviors, hopelessness, life stress, social support, and sense of belonging were completed. Lower sense of belonging was significantly associated with greater severity of depression, hopelessness, and suicidal ideation. In addition, lower sense of belonging was significantly related to history of previous suicide attempt(s). However, sense of belonging did not relate to suicidal ideation and past suicide attempt(s) beyond the association between suicidal ideation and established risk factors. Sense of belonging displayed a significant relationship with depression and hopelessness and is likely to play a critical role in both the development and recovery from depression. Low sense of belonging provides an important target for assessment and intervention in the treatment of depression. Cognitive, behavioral, and interpersonal interventions may help
to improve an individual’s sense of belonging and decrease symptoms of depression and hopelessness.
Major depression is at the forefront of mental health problems, affecting about 16.6% of Americans at some point throughout their lives (Kessler, Chiu, Demler, & Walters, 2005). Depressed individuals miss an average of 27.2 workdays per year (Kessler et al., 2006) and cost employers as much or more money in health and disability expenses than individuals with common medical illnesses (Druss, Rosenheck, & Sledge, 2000). According to the World Health Organization, depression is the fourth leading cause of disease burden worldwide and the leading cause of disability (Üstün, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004), meaning that depression causes a significant burden on society and accounts for a substantial number of deaths and time lost to disability. It is projected that depression will be one of the top three leading causes of disease burden by the year 2030 (Mathers & Loncar, 2006). Individuals diagnosed with major depression and subclinical depression have an increased mortality rate (Cuijpers & Smit, 2002), highlighting the critical need for more effective treatments for depression.

Individuals diagnosed with affective disorders are at significantly higher risk for suicide than the general population (Bostwick & Pankratz, 2000). Approximately 60-70% of depressed individuals experience suicidal ideation (Möller, 2003), and about 30% of suicide ideators will make a suicide attempt (Nock, Borges, Bromet, Alonso et al., 2008). It is estimated that about 13-19% of past suicide attempters will eventually die by suicide (Suominen et al., 2004). At least one Axis I psychiatric disorder, often a depressive disorder, is present in more than 90% of individuals who die by suicide (Henriksson et al., 1993) and attempt suicide (Beautrais et al., 1996). However, all depressed individuals do not die by suicide, and differences in the presence and severity of various depressive
symptoms may impact an individual’s level of suicide risk (McGirr et al., 2007). Depressed individuals who attempt and complete suicide differ on a number of other variables, including substance use, prior psychiatric hospitalizations, and the occurrence of stressful life events (DeJong, Overholser, & Stockmeier, 2010), emphasizing the importance of a comprehensive model to identify suicide risk.

*Suicide and Related Risk Factors*

In 2000, suicide was determined to be the 13th leading cause of death worldwide, accounting for 1.5% of total deaths (World Health Organization, 2002). In 2007, suicide was ranked the 11th leading cause of death in the U.S., taking the lives of 11.5 of every 100,000 individuals (Xu, Kochanek, Murphy, & Tejada-Vera, 2010). Suicide is one of the top five leading causes of death when examining individuals aged 10-54 (Xu et al., 2010). It is estimated that 1.9 to 8.7% of U.S. adults attempt suicide at some point in their lives, 3.9% formulate a suicide plan, and 5.6 to 14.3% experience thoughts about suicide (Nock, Borges, Bromet, Cha et al., 2008). Despite an increase in treatment sought, there has been no significant decrease in the occurrence of suicidal thoughts, plans, gestures, or attempts in US adults throughout the 1990s (Kessler, Berglund, Borges, Nock, & Wang, 2005).

Characteristics related to past suicide attempts (i.e. intensity, duration) are the best predictors of future suicidal behavior (Joiner & Rudd, 2000). In addition to individuals with mood disorders, individuals with impulse-control, substance abuse, psychotic, and personality disorders are at the highest risk for suicide and suicidal behavior (Nock, Borges, Bromet, Cha et al., 2008), with the presence of multiple disorders elevating suicide risk (Hawton, Houston, Haw, Townsend, & Harriss, 2003). Individuals who are
male (Nock & Kessler, 2006), non-Hispanic White or Native American (Nock, Borges, Bromet, Cha et al., 2008), divorced (Stack, 2000), separated (Kposowa, 2000), widowed at a young age (Luoma & Pearson, 2002), adolescents (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999), or older adults (Conwell, Duberstein, & Caine, 2002), are at greater risk for suicide. Common psychological factors associated with risk for suicide include, a sense of hopelessness about the future (Beck, Brown, Berchick, Stewart, & Steer, 1990; Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001), perceived burdensomeness (Joiner et al., 2002), and lack of life meaning (Orbach, Mikulincer, Gilboa-Schechtman, & Sirotta, 2003) or reasons for living (Britton et al., 2008).

**Suicide in Veterans**

In the general population, veterans are twice as likely to die by suicide as non-veterans (Kaplan, Huguet, McFarland, & Newsom, 2007). Suicide rates among treatment-seeking, Veteran’s Affairs (VA) service connected patients are even higher, reaching up to seven or eight times the suicide rate in the general population (Zivin et al., 2007). Many common factors associated with suicidal behaviors are prevalent in veteran populations. Veterans at increased risk for suicide are often male, younger or older, non-Hispanic, substance using, depressed, and likely to have been hospitalized for psychiatric reasons in the previous year (Zivin et al., 2007). Soldiers who are unmarried, divorced, or separated are at greater risk for death by suicide (Thoresen, Mehlum, Roysamb, & Tonnessen, 2006). Elderly veteran suicide completers are less likely than younger veteran suicide completers to have been diagnosed with a psychiatric illness and received adequate treatment (Thompson et al., 2002). Veterans with greater than or equal to 12 years of education and activity limitations are at greater risk for suicide (Kaplan et al.,
More recent research has demonstrated that active duty personnel have a higher level of acquired capability for suicide than civilian clinical patients, which could contribute to increased risk for completed suicide (Bryan, Morrow, Anestis, & Joiner, 2010). Despite the heightened risk of suicide in veteran populations, relatively little empirical work has been conducted on suicide risk in veterans.

Theoretical Models of Depression and Suicide

The etiology of depression may be best understood via pathways involving externalizing symptoms, internalizing symptoms, and psychosocial adversity (Kendler, Gardner, & Prescott, 2002). Current research and clinical practice emphasizes integrative models of depression that often incorporate biological, cognitive, interpersonal, and life events components (Kendler et al., 2002). All of these models propose that deficits in one or more of the aforementioned areas make individuals vulnerable to depression when confronted with significant life stressors. Significant losses and life difficulties play a significant role in the development of depression (Brown & Harris, 1978). Depression can partially be explained as the result of a genetic vulnerability or interruption in the neurobiological mechanisms or pathways of the brain (Nestler et al., 2002). Cognitive distortions and negative beliefs about oneself, others and the world can lead to depressive symptoms and maladaptive behaviors (Beck, Rush, Shaw, & Emery, 1979). Depressed individuals may display deficits in social behavior and functioning that evokes negative interpersonal reactions from those in their environment (Coyne, 1976a; Klerman, Weissman, Rounsaville, & Chevron, 1984). Considered individually, each of the models makes significant contributions to the understanding of depression. However, each model
used alone becomes too narrow in focus and fails to capture the complete etiology, course, and treatment of depression.

Despite an abundance of empirical support for various demographic and psychiatric risk factors for suicide, there is a lack of empirically-supported, theoretical models of suicide to guide prevention and treatment efforts. A suicidal crisis may be explained by stressor-activated maladaptive cognitions and information processing biases that are common to psychiatric disturbance and increase in frequency, intensity, and duration until the cognitions are characterized by suicidal ideation and/or behavior that indicates intent to end one’s own life (Wenzel & Beck, 2008). In order to die by suicide, an individual may require the capability to perform lethal self-injury, the sense that he or she is a burden on loved ones or society, and a lack of belonging to a valued group or relationship (Joiner, 2005). A framework that integrates cognitive, affective, behavioral, and physiological components can help treat all aspects of functioning for suicidal patients (Rudd, 2004).

Social and interpersonal factors play a critical role in understanding both depression (Coyne, 1976b; Coyne & Downey, 1991) and suicidal behaviors (Duberstein et al., 2004; Van Orden, Witte, Gordon, Bender, & Joiner, 2008). The current study will examine social and psychological factors among depressed individuals who may be at risk for suicide.

*Social Origins of Depression*

A number of early influential theories aimed to understand the role of social factors in depression. The behavior of depressed individuals has a negative effect on the mood of people with whom they interact, often leading to rejection and subsequent
isolation (Coyne, 1976b). Depressed individuals may lack appropriate social skills, which limits positive reinforcement from their surrounding social world and can lead to depression (Lewinsohn, 1974). Considering interpersonal theories of depression, it can be hypothesized that the social isolation that often accompanies depression may contribute to an individual’s sense that he or she does not belong in a given social environment, thus reinforcing isolation and increasing the individual’s risk for further psychological problems. However, a number of factors that may be present in the individual’s social environment (e.g. marital partner, social support, and confiding relationships) may play a protective role in the depressed individual’s life by fostering a sense of belonging and preventing the exacerbation of further psychological issues.

Marital factors demonstrate a significant but complex relationship with depression. Individuals who are separated or divorced, particularly men, demonstrate higher rates of depression than married individuals in most countries throughout the world (Weissman et al., 1996). Conversely, the presence of a marital partner may provide a buffering effect against depression (Schoevers et al., 2000). Having a committed spouse may provide individuals with a relationship in which a sense of belonging can be achieved. However, the quality of a marriage has a significant impact on an individual’s satisfaction with life, level of stress, and depression severity, indicating that marriage may not be advantageous if the quality of the relationship is poor (Holt-Lunstad, Birmingham, & Jones, 2008). In some women, marital distress may lead to and play a significant role in maintaining depression (Assh & Byers, 1996).

Families comprise a specific type of social network with the potential to protect against or increase an individual’s risk for psychological disorders. A disturbed family
environment plays a critical role in the development of depressive disorders (Kendler, Gardner, & Prescott, 2002). Individuals who experience family disruption (Gilman, Kawachi, Fitzmaurice, & Buka, 2003) or are raised by depressed parents (Weissman et al., 2006) are at significant risk for lifetime depression. Better family functioning, indicated by high degree of family cohesion and adaptability, may be protective against the development of depressive symptoms (Compton, Thompson, & Kaslow, 2005). Individuals whom are part of cohesive families are likely to experience the feeling of being valued, needed, and accepted by the other members, which may be protective against further psychological problems.

An inverse relationship between low social support and depression has been established (Wade & Kendler, 2000). Low levels of social support are associated with the onset of depression (Wade & Kendler, 2000), severity of depressive symptoms (Stice, Ragan, & Randall, 2004), recovery from depression (Nasser & Overholser, 2005), and recurrence of depression (Burcusa & Iacono, 2007). Adequate social support may help facilitate recovery from an episode of depression (Keitner, Ryan, Miller, & Norman, 1992) and is protective against recurrent episodes of depression (Burcusa & Iacono, 2007). Definition and assessment of social support varies widely and may include social network (number of close relationships), quality of intimate relationships, sources of support (i.e. instrumental, tangible, emotional), perceived level of support, or degree of social integration. Social integration is often reflected in the size of an individual’s social network and the rate of social interaction within the network. Social integration typically occurs in groups larger than a few individuals. Measurement of social integration does not directly assess an individual’s sense of belonging, but it is expected that high levels of
social integration are related to greater sense of social belonging. Despite a clear relationship between social support and depression, social support remains a broad, multi-dimensional construct that is inconsistently defined and measured in a variety of ways throughout the research (Sarason & Sarason, 2009). Thus, examination of specific aspects of social support and their relationships with depression is warranted.

Confiding relationships are one form of social support that is significantly related to depression and likely to foster a sense that an individual is valued, needed, and accepted in the relationship. Lack of a close confidant during a time of crisis significantly increases an individual’s risk for depression (Brown, Andrews, Harris, Adler, & Bridge, 1986; Crowell, George, Blazer, & Landerman, 1986). Women who do not have a confiding relationship with a friend are more depressed than men, whereas women who report having a confidant demonstrate levels of depression similar to men (Antonucci, Lansford, & Akiyama, 2001). The absence of a close confidant is significantly related to recent depressive symptoms in a primary care setting (Newton et al., 2008). Women who report the presence of a confiding relationship with a romantic partner are significantly less likely to develop depression than women who report confiding relationships with anyone other than a romantic partner or no confiding relationships in the face of considerable life events (Brown & Harris, 1978). Depressed individuals who experience less family conflict and report a close relationship with a confidant may require less intensive treatment than depressed individuals who report more family conflict and lack a confidant (Moos, 1991). Thus, confiding relationships among depressed individuals may prevent against the development of additional psychological problems by providing an environment in which the individual experiences a sense of belonging.
Stressful life events have an even stronger association with depression than ongoing social support (Wade & Kendler, 2000). Recent environmental adversity is one of the strongest risk factors for depressive episodes over a short period of time (Kendler, Gardner, & Prescott, 2002). A strong association exists between exposure to stressful life events and subsequent onset of depressive episodes, with more severe events demonstrating a stronger relationship with depression than non-severe events (Kessler, 1997).

Marital factors, family environment, social support, confiding relationships, and stressful life events are important factors that comprise an individual’s social world and demonstrate significant relationships with depression. There is less empirical support for the mechanisms by which social and environmental factors lead to depression. It is possible that individuals with impaired social environments lack a sense of belonging, which has long been considered a fundamental human need (Baumeister & Leary, 1995). Depressed individuals who do experience a sense of belonging in their social environments may be at less risk for the development of further psychological disorders than those individuals who lack a sense of belonging.

*Social Origins of Suicide*

Suicide research has largely ignored key social factors related to suicide risk. Durkheim (1897/1963) asserted that the etiology of suicide can only be explained by social factors. Suicide may best explained as a failure of social integration, a collective phenomenon that falls on society (Durkheim, 1897/1963). Suicide varies inversely with an individual’s degree of integration in all types of social groups to which the individual is a part (Durkheim, 1897/1963). People who are well integrated into society by multiple
and strong relationships are unlikely to commit suicide, whereas unintegrated people are much more likely to kill themselves (Durkheim, 1987/1963). Greater levels of social integration have been associated with decreases in the suicide rate. Contrary to popular belief, a decrease in suicide rates has been observed before and during holiday periods (Phillips & Wills, 1987) and in times of acute national crisis (Joiner, Hollar, & Van Orden, 2006). Lower rates of suicide have also been observed during major sporting events that facilitate a sense of “pulling together” (Joiner et al., 2006).

Specific social factors and major social institutions are related to suicide and may foster an individual’s level of integration and sense of belonging, including supportive relationships, marriage, family, religion, and community. Healthy and adaptive social relationships provide individuals with a sense of attachment, social integration, opportunity for nurturance, reassurance of worth, reliable alliance, and guidance (Weiss, 1974). The nature of relationships vary, but the negative consequences that result from difficulty in establishing or maintaining interpersonal relationships may include loneliness, depression, anxiety, anger, and suicidal behavior. Individuals who live alone or lose a partner are at increased risk for suicide (Conner, Duberstein, & Conwell, 1999). Suicide attempters report more recent stressful life events, which may include loss of friendships and social support (Kelly, Soloff, Lynch, Haas, & Mann, 2000). Loss of a confidant is significantly related to suicidal ideation or thoughts of self-harm (Fanous, Prescott, & Kendler, 2004). Individuals who report lower levels of social adjustment are significantly more likely to have attempted suicide in the past (Kelly et al., 2000). Loss of social relationships can lead to feelings of loneliness and is associated with higher levels of suicide and suicidal behavior (Heinrich & Gullone, 2006).
Marriage should increase an individual’s degree of social integration and social regulation. Marriage can also bring greater meaning to an individual’s life, reducing the individual’s risk for suicide (Durkheim, 1897/1963; Stack, 2000). In contrast, divorce or widowhood result in a broken interpersonal bond that is likely to decrease an individual’s sense of belonging and increase suicide risk. Individuals who are divorced (Kposowa, 2000), separated (Wyder, Ward, & De Leo, 2009), or widowed, particularly at a young age (Luoma & Pearson, 2002), are at greater risk for suicide than their married counterparts. The loss of a spouse due to death, separation, or divorce is associated with poorer well-being, loneliness, depression, and suicide (Peters & Liefbroer, 1997).

Regardless of marital status, having children may be protective against suicide (Qin & Mortensen, 2003), possibly by creating an interpersonal bond in which the experience of being valued and needed can be fostered.

A healthy, nurturing family environment would likely cultivate a sense of integration and belonging among its members. When disruption occurs within a family and children are at risk for maladaptive behaviors, it seems plausible that a severed sense of familial integration may play a role. Exposure to adverse experiences, including physical abuse, sexual abuse, emotional abuse, exposure to a battered mother, household substance abuse, mental illness in the home, parental separation or divorce, and incarcerated household members dramatically increase an individual’s risk of attempting suicide (Dube et al., 2001; Waldrop et al., 2007).

Religious affiliation is associated with less suicidal behavior (Dervic et al., 2004). Religious affiliations may be protective against suicide not because of the specific teachings of the religion, but because a religious society is made up of beliefs and
practices common to all of the faithful followers (Durkheim, 1897/1963). It is possible that an individual’s specific religious affiliation is less important than the degree to which the individual is committed to religious beliefs and practices (Stack, 1983) and the extent to which the individual is involved in a religious community. Church attendance is more closely related to degree of suicidal ideation than an individual’s identification with a particular religion and various sociodemographic variables (Stack & Lester, 1991). Individuals who attend church regularly and are active within the religious community are likely to experience a greater sense of belonging than individuals who attend church services and do not engage with other members. Networking and social support among members of a religious congregation are encouraged in many organized religions and may account for the decreased risk of suicide in religious individuals (Pescosolido & Georgianna, 1989; Stack & Wasserman, 1992). Membership in religious organizations that foster extensive networks may play a role in individuals’ sense of belonging and support (Pescosolido, 1990; Pescosolido & Georgianna, 1989).

The community in which an individual lives may impact suicide risk via a social integration mechanism. There is a strong positive relationship between urbanization and suicide rates that may be best accounted for by the decrease in community social networks that are generally less common in cities than in rural communities (Stack, 1997). Suicide risk increases for individuals whose social and demographic characteristics differ from those of the majority population living in their neighborhood (Neeleman & Wessely, 1999), suggesting a lack of social cohesion. Immigrants are often at greater risk for suicide due to a lack of social integration (Fossion et al., 2004), especially in the case of international migration when bonds are broken and individuals
may encounter the added stress of a new language in addition to a new culture (Kposowa, McElvain, & Breault, 2008).

Social integration is a critical component of suicide risk, but empirical research has largely ignored the sense of belonging that is distinct from an individual’s level of social integration. Often times, individuals may report the presence of supportive family members or friends but may lack a sense of belonging in their social networks. It is insufficient to draw conclusions about the extent of an individual’s sense of belonging based on marital status, size of support network, religious affiliation, community involvement or number of family members. Research has shown that individuals’ perceived evaluation of the nature of their social support networks is far more important than an objective or quantitative measure of their social networks (Antonucci & Israel, 1986). Until recently, researchers have failed to directly measure the psychological experience of belonging that is related to an individual’s degree of social integration.

Defining Sense of Belonging

A sense of personal involvement in a social relationship or organization may represent one important path to understanding the impact of one’s social world on individual risk for suicide. The current study conceptualizes belonging as an individual’s experience of feeling (1) valued, (2) needed, and (3) accepted by a social system (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). First, belonging is characterized by an individual’s perception that he or she plays a significant part in a social relationship and is held in high regard by others in the social network. Second, the individual perceives that his or her contribution to the social relationship is in some way unique and essential to the overall composition of the social system. Third, the individual
feels welcomed and accepted as his or her true self and feels no need to behave under any pretense. Sense of belonging refers to a person’s perception that his or her characteristics fit with the surrounding environment (Hagerty et al., 1992). A lack of belonging may thus be characterized by a sense of disconnection and the feeling that an individual does not fit with the social environment. A sense of belonging is preceded by three necessary factors: energy for social involvement, the desire for meaningful participation, and the potential for complementary characteristics within the social environment (Hagerty et al., 1992). A healthy sense of belonging results in individuals finding psychological, social, spiritual, or physical involvement; ascription of meaningfulness to that involvement; and establishment of a basic foundation for emotional, cognitive, and behavioral responses (Hagerty et al., 1992). Sense of belonging is thought to culminate in a psychological experience involving cognitive and affective factors that are related to affiliative behavior and psychological and social functioning (Hagerty, Williams, Coyne, & Early, 1996).

Although researchers have only recently begun to systematically examine the role of belonging in psychological functioning, sense of belonging has long been recognized as a basic human need. In the hierarchy of needs, the need to belong follows basic needs for food, hunger, and safety, and precedes esteem and self-actualization (Maslow, 1968). All human beings may be innately driven toward establishing and sustaining a sense of belonging, largely based on survival and reproductive goals (Baumeister & Leary, 1995). The need to belong is characterized by: 1) regular, affectively positive, conflict-free social contact with individuals to whom a person feels connected, and 2) the perception that the social relationship is stable, fosters affective concern, and is long-term in nature (Baumeister & Leary, 1995). Psychopathology, physical illness, and adjustment
difficulties that can result from a lack of belonging provide evidence for belonging as a fundamental, universal need (Baumeister & Leary, 1995).

Sense of belonging has also been conceptualized as a developmental construct comprised of companionship, affiliation, and connectedness (Lee & Robbins, 1995). Social connection may be conceptualized as a relational schema that speaks to an individual’s sense of self in relation to others and can be measured using the Social Connectedness Scale and the Social Assurance Scale (Lee & Robbins, 1995). According to Lee and Robbins’ (1995) definition of belonging, failed sense of belonging relates to a deficiency within the self rather than a lacking social environment (Lee & Robbins, 1998). Although the Social Connectedness Scale appears to be valid and reliable in college student populations (Lee, Draper, & Lee, 2001), it has not been administered to clinical samples and utilizes a conceptualization of belonging that is incomplete.

Sense of belonging in adulthood is associated with a number of experiences in childhood, adolescence and throughout the lifespan. Adult sense of belonging, measured by the Sense of Belonging Instrument- Psychological Experience (SOBI-P; Hagerty & Patusky, 1995), is strongly correlated with perceived childhood relationships with parents (Hagerty, Williams, & Oe, 2002). Financial problems, incest, and homosexuality in the family of origin during childhood are related to lower levels of belonging in adults (Hagerty, Williams, & Oe, 2002). Low sense of belonging is significantly related to male partner abuse among adults (Rankin, Saunders, & Williams, 2000). Greater sense of belonging is associated with divorce in the family of origin and participation in high school athletics (Hagerty et al., 2002). There is little understanding of the mechanisms by which significant events impact sense of belonging.
Sense of belonging is also associated with positive outcomes. Churchgoers who report a sense of belonging to their congregation describe a greater satisfaction with their health than those who do not report a sense of belonging (Krause & Wulff, 2005). It is hypothesized that belonging generates a sense of life meaning and other positive emotions, which are significantly related to positive health outcomes (Krause & Wulff, 2005). Among adolescents, a significant relationship exists between perceived belonging in school, self-efficacy, and academic grades (Roeser, Midgley, & Urdan, 1996). Self-esteem and perception of health are related to sense of school belonging in adolescents (Ma, 2003).

Despite the historical focus on sense of belonging, there is a lack of consensus on the definition of the construct and vigorous methods for measuring the construct of belonging. Many researchers claimed to measure sense of belonging but instead utilized an objective measure, such as the size of an individual’s social network or an individual’s perceived social support. Some researchers have argued that belonging is a dimension of social support and have used the concepts interchangeably (Fiala, Bjork, & Gorsuch, 2002). Others have assessed belonging using a single item (Krause & Wulff, 2005; Steger & Kashdan, 2009) or a subscale of a larger scale designed to measure various constructs (Van Orden et al., 2008). In contrast, the Sense of Belonging Instrument - Psychological Experience (SOBI-P) is theory-driven and was developed to measure belonging as the individual’s perceived experience of feeling valued, needed, and accepted by people in his or her social environment (Hagerty & Patusky, 1995). Although support for the validity and reliability of the SOBI-P exists (Choenarom, Williams, & Hagerty, 2005; Hagerty & Patusky, 1995), little research on this measure has been conducted in clinical
samples and the demonstrated relationships among belonging, depression, and suicidality warrant further investigation.

**Sense of Belonging, Depression, and Suicide**

Sense of belonging has demonstrated a direct, inverse relationship with depressive symptoms in both depressed and non-depressed samples (McLaren, 2009; Sargent, Williams, Hagerty, Lynch-Sauer, & Hoyle, 2002). Individuals who report greater levels of depressive symptoms report a higher number of negative social interactions and a lower sense of belonging in social interactions (Steger & Kashdan, 2009). Sense of belonging appears to be more strongly and directly related to depression than measures of perceived social support and loneliness (Hagerty & Williams, 1999; Bay, Hagerty, Williams, Kirsch, & Gillespie, 2002). In depressed individuals, sense of belonging and perceived social support may mediate the relationship between stress and depression (Choenarom, Williams, & Hagerty, 2005). Individuals with higher levels of depression demonstrate a heightened sensitivity to both positive and negative perceptions of belonging than do less depressed individuals (Steger & Kashdan, 2009).

Individuals with a lower sense of belonging are more likely to report current or past suicidal thoughts or attempts than individuals with greater sense of belonging (Bailey & McLaren, 2005; Hagerty et al., 1996). Sense of belonging is associated with a history of suicide attempts among individuals receiving treatment for opiate dependence (Conner, Britton, Sworts, & Joiner, 2007). Coupled with a sense of perceived burdensomeness, sense of belonging is significantly related to suicidal ideation in college students (Van Orden, Witte, Gordon, Bender, & Joiner, 2008). Although sense of belonging may fluctuate in relation to emotional disturbances or current life stressors,
individuals who report a history of psychiatric treatment or suicidality but are no longer
depressed demonstrate lower levels of belonging than individuals with no history of
psychiatric treatment or suicidality, suggesting that belonging is more than a symptom of
depression and may be a relatively stable trait (Hagerty et al., 1996).

A sense of belonging serves as a buffer against the development of depressive
symptoms in individuals who have a family history of alcohol abuse (Sargent, Williams,
Hagerty, Lynch-Sauer, & Hoyle, 2002). In older adults, higher self-reported sense of
belonging is significantly related to more overall reasons to live, but specifically
including child-related concerns, responsibility to family, and survival and coping beliefs
(Kissane & McLaren, 2006). An elevated sense of belonging also reduces the effects of
depression and suicidal ideation among older adults (McLaren, Gomez, Bailey, & Van
Der Horst, 2007). The strength of the relationship between depression and suicidal
ideation in women is weakened when sense of belonging is considered, whereas
depression does not remain a risk factor for suicide in men who experience a sense of
belonging (McLaren et al., 2007). Among male farmers, depression and sense of
belonging individually demonstrate significant relationships with suicidal ideation,
indicating that high sense of belonging, but not social support, may compensate for high
levels of depressive symptoms (McLaren & Challis, 2009).

Preliminary evidence suggests that a sense of belonging may be fostered using
brief interventions aimed to reduce the impact of negative effects of stress, including
interpersonal difficulties and risks for depression (Williams et al., 2004). Throughout
nine weeks of basic training, a sample of Navy recruits completed a weekly intervention
designed to teach individuals strategies for coping with stress, decreasing negative
cognitions, and increasing sense of belonging (Williams et al., 2004). Recruits who were identified to be at risk for depression at the beginning of training and were randomly selected to complete the intervention demonstrated a greater sense of belonging upon completion of training than recruits who were initially identified at risk for depression and were randomly chosen to complete the sham intervention (Williams et al., 2004).

**Sense of Belonging in the Current Study Population**

Sense of belonging may be a particularly important area to target for some veterans. Enlistment in a military group may inherently foster a sense of cohesion and belonging with the group’s respective guiding philosophy, training, uniforms, and traditions. Some veterans who experience deployment and exposure to combat report an increased level of connectedness to their unit and experience some difficulty relating to friends and family once they return to civilian life (Brenner et al., 2008). Veterans often do not feel that they are able to discuss their war experiences with their families until they are prompted many years later, perhaps by commemorations (Barron, Davies, & Wiggins, 2008). Anecdotal accounts from Israeli soldiers experiencing battle fatigue and mental breakdown reported lacking a sense of belonging, feeling cut-off, abandoned, and rejected (Dasberg, 1976). In addition, Holocaust survivors reported a lack of belonging after being rescued from concentration camps (Kestenberg & Kestenberg, 1988). Participation in war-related collective commemorations may foster a greater sense of belonging in veterans, although this finding lacks rigorous empirical methods (Barron et al., 2006).
Specific Goals and Hypotheses

Despite the identification and empirical support for numerous demographic risk factors for suicide, clinicians continue to fail at predicting which individuals will die by suicide. Although depression diagnosis is an important part of suicide risk, it is not sufficient in identifying individuals who are most at risk for suicide. Even though there is significant knowledge of the role of social factors in suicide and depression, there is little empirical support for the role of interpersonal factors in suicide risk. Sense of belonging has demonstrated significant relationships with depression and suicidal thoughts, highlighting its potential utility in refining measures of suicide risk. To date, research on sense of belonging has lacked rigorous empirical methods and has been largely speculative in nature. Measures of belonging have lacked conceptual and theoretical clarity and empirical validation. Without strong empirical support for the psychological construct of belonging, researchers have interchanged related but distinct concepts. Research findings are often based on one question aimed to capture sense of belonging. Theoretical assumptions about sense of belonging are often made based on an individual’s degree of social integration, such as the size of his or her social network or marital status. Studies have only recently begun to utilize a comprehensive definition of belonging that was examined and refined based on concept analysis (Hagerty et al., 1992). Empirical research has begun to highlight the critical role of belonging in social and psychological functioning, but few studies have examined sense of belonging in clinical samples.

The current study examined sense of belonging in depressed veterans within a psychiatric outpatient and day treatment program setting. Specifically, the current
research explored the relationships among sense of belonging, depressive symptoms, and suicidal behaviors. Findings helped to determine whether or not a sense of belonging can contribute to our understanding of suicide risk, even when controlling for depression and other known risk factors.

**Hypotheses**

1. Lower sense of belonging would be significantly related to greater current suicidal ideation.

2. Sense of belonging would demonstrate a strong, negative relationship with current suicidal ideation, even when controlling for some known risk factors for suicide.

3. Sense of belonging would demonstrate a strong, negative relationship with past suicide attempts, even when controlling for some known risk factors for suicide.

4. Depressed individuals who reported the presence of at least one confidant would demonstrate a significantly greater sense of belonging than individuals who reported no confidant. There would be no difference in sense of belonging between individuals with one confidant and individuals with more than one confidant in their lives.

5. Level of involvement in social groups and organizations (i.e. religious groups, self-help groups, volunteer organizations, and fraternal organizations) would demonstrate a strong, positive relationship with sense of belonging.
Method

Participants

Participants included 116 adult psychiatric outpatients. Individuals were recruited from the psychiatric Day Hospital program and outpatient mental health clinic at the Veterans Affairs Medical Centers in Cleveland, Ohio. Outpatients spoke English as their primary language and suffered from a Major Depressive Disorder or another psychiatric disorder in which depression commonly exists (i.e. Dysthymic Disorder, Adjustment Disorder with depressed mood). To be included in the study, all participants met diagnostic criteria for a depressive disorder according to the SCID structured interview (First, Spitzer, Gibbons, & Williams, 1995). Individuals were excluded from the study if they met any of the following criteria: (1) non-English speaking (2) age less than 18 years or greater than 69 years, or (3) current diagnosis of bipolar disorder, dementia, schizophrenia, mental retardation or an organic brain syndrome. Patients with the diagnoses listed above were excluded from the study because their depressive illness was likely to be distinct from patients who experienced a primary diagnosis of Major Depressive Disorder.

A total of 127 individuals provided informed consent in order to participate in the study. Eight (6.3%) subjects were not included in the analyses based on inclusion/exclusion of diagnostic criteria, one (0.8%) participant was excluded due to his age being greater than 69-years-old, and two (1.6%) participants were not included because they did not complete the study visit. A final sample of 116 participants with informed consent and complete study visits were included in the data analyses. Participants ranged in age from 24 to 69 years old (mean ± SD = 53.60 ± 9.02). The
majority of participants were African-American (59.5%) male (93.1%) veterans. Most participants were unmarried (78.4%) and not currently employed (81.9%). Almost one-half (46.6%) of participants reported living alone, and more than one-third of participants (35.1%) reported that their physical health was in the moderately poor to poor range.

All 116 participants met criteria for a depressive disorder based on the Structured Clinical Interview for DSM-IV (SCID: First et al., 1995). Diagnoses included Major Depressive Disorder (MDD), recurrent episode \( n = 71, 61.2\% \); MDD, single episode \( n = 13, 11.2\% \); MDD, recurrent, with psychotic features \( n = 5, 4.3\% \); Dysthymia \( n = 10, 8.6\% \); Adjustment Disorder with Depressed Mood \( n = 6, 5.2\% \); and Depressive Disorder Not Otherwise Specified \( n = 11, 9.5\% \). The duration of current episode ranged from 2 weeks to 44 years, with a mean of 8.2 years. The current sample represented a chronically depressed population, with the majority of participants reporting more than one lifetime depressive episode (82.3%) and a significant number of participants reporting more than two lifetime episodes (62.1%). The mean age of onset for the first depressive episode was 27.90 years \( (SD = 13.81) \). Almost half of the participants reported both a prior psychiatric hospitalization (44.0%) and a previous suicide attempt (43.1%). Current psychiatric comorbidities were also prevalent, including PTSD (23.3%), other anxiety disorders (33.6%), and current substance use disorders (34.5%). The majority (76.7%) of participants reported a history of substance use disorders and a large number of participants (44.0%) reported a history of significant legal problems.

Measures

*Structured Clinical Interview for DSM-IV* (SCID: First et al., 1995) is a semi-structured diagnostic interview used to assess for the presence of Axis I major mental
disorders as described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV: American Psychiatric Association, 2000). The interview utilizes a series of “yes or no” and open-ended questions to assess the frequency, chronicity, and severity of symptoms. The beginning portion of the SCID contains a series of screening questions used to target key symptoms that warrant further investigation if endorsed by the patient. The remaining parts of the SCID are organized into sections according to the various classes of psychiatric diagnoses, including mood, psychotic, anxiety, substance use, somatoform, and eating disorders. After completing the screening questions, interviewers can administer the specific modules to assess the presence or absence of the core symptoms of the individual disorders. The SCID is considered the most valid and reliable measure used to assess psychiatric disorders (Lowe et al., 2004). Good interrater reliability and test-retest reliability have been established for Axis I disorders (Schneider et al., 2004; Zanarini & Frankenburg, 2001). Concurrent validity for the SCID in diagnosing Major Depressive Disorder has been demonstrated with the Composite International Diagnostic Interview Version 3.0 (Haro et al., 2006) and the self-report Diagnostic Inventory for Depression (Zimmerman, Sheeran, & Young, 2004).

*Sense of Belonging Instrument- Psychological Experience* (SOBI-P: Hagerty & Patusky, 1995) is an 18-item self-report measure designed to assess the extent to which an individual perceives being valued, needed, and accepted by people in his or her social environment. Individuals are asked to rate the items using a 4-point Likert scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree), reflecting the degree to which the individual experiences a sense of belonging in his or her social system or environment. One item, “I generally feel that people accept me,” is reverse scored. The
total belonging score is a sum of the scores of the individual items and can range from 18 to 72, with higher scores indicating a greater sense of belonging. High internal consistency has been demonstrated in depressed patients ($\alpha = .93$; Hagerty & Patusky, 1995), older adults ($\alpha = .92$; Kissane & McLaren, 2006) and traumatically brain injured individuals ($\alpha = .95$; Bay, Hagerty, Williams, Kirsch, & Gillespie, 2002). Eight week test-retest reliability in college students has been reported ($\alpha = .84$). The SOBI-P is moderately correlated with a measure of social support, the Interpersonal Relationships Inventory ($r = .42$), and strongly correlated with the Revised UCLA Loneliness Scale ($r = -.76$), demonstrating discriminant validity in depressed outpatients (Hagerty & Patusky, 1995).

**Beck Depression Inventory** (BDI-II: Beck, Steer, & Brown, 1996) is a 21-item self-report scale designed to measure the presence and severity of affective, cognitive, somatic, and motivational symptoms of depression. Participants are asked to choose the best statement out of four that most accurately describes how they have been feeling over the past week. Items are scored 0 (neutral) to 3 (most severe). If more than one response is chosen, the most symptomatic item is scored. The BDI-II score is a summation of the items, and total scores can range from 0 to 63, with higher scores indicating more severe depression. High internal consistency has been demonstrated with coefficient alphas of .90 and above among psychiatric outpatients (Beck, Steer, Ball, & Ranieri, 1996) and recent suicide attempters (Joe, Woolley, Brown, Ghahramanlou-Holloway, & Beck, 2008). One week retest reliability of .93 has been reported (Beck, Steer, & Brown, 1996). Convergent and discriminant validity have been supported. The BDI-II is positively correlated with the Hamilton Rating Scale for Depression in African American recent
suicide attempters (Joe et al., 2008). The BDI-II is more positively correlated with the Depression subscale of the Symptom Checklist-90-Revised than the Anxiety subscale in clinically depressed adult outpatients (Steer, Ball, Ranieri, & Beck, 1997). Among older adults, the BDI-II is strongly and positively correlated with the Center for Epidemiologic Studies Depression Scale (CES-D) and the Perceived Stress Scale, and negatively associated with the Short Psychological Well-Being Scale (Segal, Coolidge, Cahill, & O’Riley, 2008). Evidence of a two-factor structure has emerged among samples of depressed outpatients (Steer, Ball, Ranieri, & Beck, 1999) and older depressed inpatients (Steer, Rissmiller, & Beck, 2000).

Beck Hopelessness Scale (BHS: Beck, Weissman, Lester, & Trexler, 1974) is a 20-item self-report scale designed to measure one’s negative expectations about the future. Participants are asked to read a statement and respond true or false based on how the statement applies to his/her future expectations. Each item is scored 0 or 1. Nine items are keyed false and 11 items are keyed true, so that the total hopelessness score is a sum of the scores on the individual items. BHS scores range from 0 to 20, with higher scores indicating more pessimistic views about the future. A score of 10 or more indicates severe levels of hopelessness and increased risk for suicide (Beck, Steer, Kovacs, & Garrison, 1985). Psychometric properties of the BHS in clinical and non-clinical populations have been adequate (Dozois & Covin, 2004). Adequate internal consistency has been demonstrated among psychiatric patients (Dyce, 1996; Young, Halper, Clark, Scheftner, and Fawcett, 1992). Correlations between BHS and BDI scores have been similar for clinical and university populations (Alford, Lester, Patel, Buchanan, & Giunta, 1995). BHS scores are significantly related to MMPI-2 scales that
measure depression, low self-esteem, and self-alienation and unrelated to other personality scales, which supports the BHS’s convergent and discriminant validity (Thackston-Hawkins, Compton, & Kelly, 1994). The BHS can be used to identify individuals at high risk for suicide (McMillan, Gilbody, Beresford, & Neilly, 2007).

*Beck Scale for Suicide Ideation* (BSSI: Beck & Steer, 1991) is a 21-item self-report measure designed to evaluate the presence and severity of suicidal thoughts. Patients rate each item on a scale of 0 to 2, with 2 being most severe. The last two items address the number of previous suicide attempts and the intention to die associated with the last attempt. The BSSI is useful in quantifying the degree of suicidal ideation in psychiatric patients and can serve as a warning sign when evaluating suicide risk (Steer, Kumar, & Beck, 1993). The BSSI has demonstrated strong internal consistency with coefficient alphas greater than .93 among psychiatric outpatients (Beck, Steer, & Ranieri, 1988), and .89 among psychiatric inpatients (Beck et al., 1979; Beck et al., 1988). The BSSI has moderate test-retest reliability ($r = .54$) with psychiatric inpatients (Beck et al., 1988). BSSI subscales of Motivation and Preparation are strongly correlated with number of previous suicide attempts and suicide intent related to the most recent attempt, suggesting evidence of convergent validity (Holden & DeLisle 2005). BSSI scores highly correlate with clinician ratings of suicidal ideation, producing correlation coefficients ranging from .90 for psychiatric inpatients to .94 for psychiatric outpatients (Beck et al., 1988). The BSSI predicts suicidal ideation (Cochrane-Brink, Lofchy, & Sakinofsky, 2000). Individuals who score a 3 or higher are approximately seven times more likely to die by suicide than those scoring less than three (Brown, Beck, Steer, & Grisham, 2000).
Multidimensional Scale of Perceived Social Support (MSPSS: Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item self-report measure designed to assess an individual’s degree of perceived social support from family, friends, and significant others. The measure is divided into three subscales (family, friends, and significant others), with four items that address each of the subscales. Individuals are instructed to determine the degree to which they agree with each statement using a 7-point Likert scale, ranging from “very strongly disagree” (1) to “very strongly agree” (7). By summing the scores of the individual items, total scores can be calculated for each of the subscales and for global satisfaction of perceived social support across each of the subscales. Total scores range from 12 to 84, with higher scores reflecting higher levels of perceived social support. Good internal consistency has been demonstrated in psychiatric outpatients (α = .92; Cecil, Stanley, Carrion, & Swann, 1995; Clara, Cox, Enns, Murray, & Torgrude, 2003). The three factor structure has consistently been reported in psychiatric outpatient samples (Clara et al., 2003). Adequate test-retest reliability after 2-3 months (r = .85) shows stability over time (Zimet et al., 1988). The MSPSS is positively correlated with the Social Support Behaviors Scale (Kazarian & McCabe, 1991), negatively correlated with the Beck Depression Inventory (Bruwer et al., 2008), and shows little relationship with social desirability (Kazarian & McCabe, 1991), demonstrating adequate convergent and discriminant validity.

Social Support Questionnaire- Short Form (SSQ-SF: Sarason, Sarason, Shearin, & Pierce, 1987) is a 12-item instrument used to assess an individual’s social network and the help perceived from that network in six different areas. Separate scores are obtained for total number of social supports (0-9 per item) and level of satisfaction with social
supports (1 = very dissatisfied to 6 = very satisfied). The size of the individual’s social network is the sum of the social supports listed (SSQ-SFN), ranging from 0 to 54 with higher scores indicating a larger social network. The perceived social support score is the sum of the satisfaction ratings (SSQ-SFS), ranging from 6 to 36 with higher scores indicating greater perceived social support. The SSQ-SF is highly correlated with the original 27-item Social Support Questionnaire (Sarason et al., 1987). Coefficient alphas ranging from .71 (Hudson, Elek, & Campbell-Grossman, 2000) to .90 or greater (Robins & Fiske, 2009; Sarason et al., 1987; Vranceanu, Hobfoll, & Johnson, 2007) have consistently demonstrated adequate to strong internal consistency for both subscales. The SSQ-SF is negatively correlated with measures of loneliness, depression, and low self-esteem, suggesting adequate concurrent validity (Sarason et al., 1987).

*Modified Life Experience Scale* (MLES) is a self-report measure of current and lifetime stressors that has been adapted from the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978). The MLES consists of 27 stressful life events, including occupational difficulties, relationship problems, health complications, acts of violence, and loss of loved ones. Subjects are asked to indicate whether or not each event occurred in their lives and if it occurred recently (within the past 3 months), long ago, or both. Each item is scored 0 to 3 (0 = never, 1 = long ago, 2 = recently, 3 = long ago and recently) and summed for a total score, with higher scores indicating more current life stress. Test-retest reliability was reported for the original LES (r = .63 and r = .64; Sarason et al., 1978). The LES is significantly correlated with a number of stress related measures, demonstrating adequate construct validity (Sarason et al., 1978). The negative events subscale of the original LES is significantly correlated with measures of
depression (Chang, 1997). Adaptations of the LES are frequently utilized in research (Bailey, Koepsell, & Belcher, 1984).

**Demographic information.** Participants were asked to provide basic demographic information, including age, gender, race, marital status, occupation, and employment status. Participants also indicated additional individuals whom resided in their households.

**Social Network Questions.** Participants were asked to respond to a number of questions designed to assess the presence or absence of close, supportive relationships in their current lives. Participants were also asked to identify the frequency with which they have been involved in a number of specific social groups (e.g. religious groups, fraternal groups) and social organizations (e.g. volunteer service organizations, self-help groups, such as Alcoholics Anonymous) over the past six months, using the following rating scale: 1 = never, 2 = every few months, 3 = monthly, 4 = weekly.

**Procedures**

All study procedures were approved by the Institutional Review Boards of both the Department of Veterans Affairs Medical Center and Case Western Reserve University. Participants were recruited in a number of ways. Study flyers were displayed in public waiting areas throughout the psychiatric Day Hospital and outpatient mental health clinics so that interested participants could contact the study coordinator.

Treatment providers (e.g. VAMC psychiatrists, psychologists, social workers, and nurses) were asked to distribute flyers to interested patients meeting criteria for the study. Members of the research team contacted VAMC treatment providers directly to obtain names of patients who met criteria for the study. Lastly, Dr. Josephine Ridley, Director of
the Day Hospital program and Responsible Investigator of the study, recruited eligible patients from the psychiatric Day Hospital program. After names of potential participants were given to the research team, research staff often chose to review the patients’ medical records to determine preliminary eligibility and avoid bringing in patients who were ineligible due to exclusionary diagnoses. Medical records of patients who contacted the research team in response to the flyer were also often accessed in order to rule out exclusionary diagnoses. The research team made initial contact with potential participants in person, via distributed flyers, or by postcards delivered through the U.S. mail. During the initial telephone screening process, the research team asked potential participants basic screening questions related to depression to determine their suitability for study participation. If it was determined based on the potential participants’ answers to basic screening questions that the interested patients were good candidates for the study, a member of the research team scheduled a time to meet with the patient to complete study procedures. All interviews took place at the VAMC Wade Park facility, in a private room within Psychology Services.

All study visits were conducted by clinical psychology doctoral students who completed human subjects’ research training requirements and were trained in all study procedures. Training for SCID interviewers included formal video training and observation of interviews administered by advanced graduate students and/or clinical psychologists. In addition, all doctoral students in training completed fidelity ratings in the presence of advanced graduate students, and they were not approved to independently conduct interviews until adequate inter-rater agreement was demonstrated. Upon arrival at the VAMC, potential participants were escorted to a private room where they began by
reviewing the consent forms with a trained member of the research staff. The purpose of the study, study procedures, risks and benefits of participation, and privacy and confidentiality were reviewed in detail. Participants were encouraged to ask questions about participation. Participants who signed the consent form then completed the SCID interview with the researcher in order to determine the presence of a depressive disorder and other comorbid diagnoses. Following the SCID interview, the researcher collected information regarding participants’ social supports and involvement in group organizations using the Social Network Questions. Lastly, participants completed a packet of self-report questionnaires. Upon completion of the study visit, the researcher compensated participants $10 in cash or gift card (depending on the availability of funds) for their time.

A number of procedures were utilized in order to maintain confidentiality of research participants. Each participant was assigned a unique identifier that could not be linked to any identifiable information. Study interview forms and questionnaires were marked with the unique identifier, and the consent form was the only form with the participant’s names. Consent forms were stored in a locked cabinet at the VA, separate from study data.

Data Analytic Plan

Descriptive Statistics

Descriptive statistics were used to examine the characteristics of the sample. Mean age of participants was calculated, as well as distribution of marital status, gender, and ethnicity. Mean scores and standard deviations were examined for the BDI-II, BHS, BSSI, MSPSS, and SOBI-P. Descriptive statistics were used to assess differences
between participants recruited from day hospital and outpatient mental health clinics. Prior to testing hypotheses, descriptive statistics were also used to assess for normality, the identification of outliers, and other potential abnormalities in the data. Data abnormalities were addressed prior to the testing of hypotheses.

*Psychometric Properties of Measures*

Reliability and validity of the measures were examined in the current sample. Reliability was measured using internal consistency (Cronbach’s alpha). It was expected that all the measures would contain a sufficient amount of internal consistency, with an alpha (α) above .70 (DeVellis, 2003). Intercorrelations between measures were examined to assess the validity of measures.

*Testing of Hypotheses*

1. **Lower sense of belonging would be significantly related to greater current suicidal ideation.**

   A Pearson correlation was calculated to determine the relationship between scores on the Sense of Belonging Instrument- Psychological Experience (SOBI-P) and the Beck Scale for Suicide Ideation (BSSI). Additional Pearson correlations among the SOBI-P, Beck Depression Inventory (BDI-II), and Beck Hopelessness Scale (BHS) added to our understanding of the relationship between sense of belonging and psychological aspects of depression and suicide. Cohen’s (1988) guidelines for interpreting correlations were used: a correlation of .10 to .29 indicated a small effect, a correlation of .30 to .49 indicated a medium effect, and a correlation of .50 to 1.0 indicated a large effect. It was expected that $r > .40$ for correlations among all measures.
2. **Sense of belonging would demonstrate a strong, negative relationship with current suicidal ideation, even when controlling for known risk factors for suicide.**

A hierarchical multiple regression analysis was conducted in order to evaluate the strength of the relationship between sense of belonging and suicidal ideation while controlling for possible covariates, including level of depression, hopelessness, recent life stress, marital status, gender, race, and age. Current suicidal ideation scores (BSSI) were used as the dependent variable. Demographic risk factors (i.e. marital status, gender, race, and age) and a measure of recent life events (MLES) were entered at step one to determine how much variance was accounted for by these variables. In the second step, the BDI-II was added to determine how much additional variance is explained by depression severity. In the third step, the BHS was entered to determine how much additional variance was explained by hopelessness scores. Lastly, the SOBI-P was entered at step 4 to determine if sense of belonging accounts for additional variance beyond what was accounted for by hopelessness, depression severity, recent life events, and demographic risk factors. A sense of belonging was to be considered a significant contributor to the regression equation if the $F$ change value was significant ($p < .05$) at the final step. It was expected that $R^2 > .15$ at the final step, indicating that an additional 15% of the variance would be explained by sense of belonging.

3. **Sense of belonging would demonstrate a strong, negative relationship with past suicide attempts, even when controlling for some known risk factors for suicide.**
A hierarchical logistic regression analysis was conducted in order to evaluate the strength of the relationship between sense of belonging and past suicide attempts while controlling for possible covariates, including level of depression, hopelessness, recent life stress, marital status, gender, race, and age. Past suicide attempts were used as the dependent variable. Demographic risk factors (i.e. marital status, gender, race, and age) and a measure of recent life events (MLES) were entered at step one to determine how much variance was accounted for by these variables. In the second step, the BDI-II was added to determine how much additional variance was explained by depression severity. In the third step, the BHS was entered to determine how much additional variance was explained by hopelessness scores. Lastly, the SOBI-P was entered at step 4 to determine if sense of belonging accounted for additional variance beyond what was accounted for by hopelessness, depression severity, recent life events, and demographic risk factors. A sense of belonging was to be considered a significant contributor to the regression equation if the $F_{\text{change}}$ value was significant ($p \leq .05$) at the final step. It was expected that $R^2 > .15$ at the final step, indicating that an additional 15% of the variance would be explained by sense of belonging.

4. Depressed individuals who reported the presence of at least one confidant would demonstrate a significantly greater sense of belonging than individuals who reported no confidant. There would be no difference in sense of belonging between individuals with one confidant and individuals with more than one confidant in their lives.

A one-way between groups Analysis of Variance (ANOVA) was conducted to explore the impact of having a confidant(s) on sense of belonging, as measured by the
Individuals were examined according to three groups: those who reported the presence of one confidant, those who reported having one or more confidants, and those who had no confidants. Sense of belonging scores (SOBI-P) were the dependent variable. A significant difference among mean SOBI-P scores would be indicated by a significant $F$ value ($p \leq .05$). If the $F$ value were significant, Tukey’s HSD post-hoc test would be used to examine where the differences among the groups occur.

5. **Level of involvement in social groups and organizations (i.e. religious groups, self-help groups, volunteer organizations, fraternal organizations)** would demonstrate a strong, positive relationship with sense of belonging.

Initial data analytic plan included conducting a hierarchical multiple regression analysis in order to evaluate the strength of the relationship between social involvement and sense of belonging while controlling for possible covariates, including recent life stress, level of depression and current suicidal ideation. Sense of belonging scores (SOBI-P) were to be used as the dependent variable. However, Pearson correlations examining the association between sense of belonging scores and involvement in social activities did not support the further use of statistical analyses, including multiple regressions.

Results

All statistical analyses were conducted with SPSS 20.0 and Amos 20.0. In the event of missing data, a number of rules were followed to ensure the integrity of the data. Participants missing 3 or more data points on a measure were dropped from analyses. Cases were excluded pairwise, meaning they were only excluded from analyses that required the missing data. For subjects who omitted only one or two items across all
scales, the intermediate response option was inserted in its place (BDI = 1.5, BHS = 0.5, BSSI = 1, MLES = 1.5, SOBI-P = 2.5, MSPSS = 4, SSQ-SFS = 3.5). One item was omitted by four participants on the BDI, five participants on the BHS, 6 participants on the BSSI, 14 participants on the MLES, and 7 participants on the SOBI-P, MSPSS, and SSQ-SFS. Two items were omitted by two participants on both the BDI and BSSI, three participants on the MLES, and one participant on the BHS, SOBI-P, MSPSS, and SSQ-SFS. Three or more items were omitted by one participant on the BDI, 7 participants on the BSSI, and 2 participants on the SSQ, meaning the entire scales were not included in the analyses. Additionally, due to protocol changes and delays with the Institutional Review Board, 15 participants did not complete the entire SSQ-SF measure.

Mental health outpatients (n = 84) and day hospital patients (n = 32) were compared on a number of demographic variables (see Table 1). There were no significant differences between groups on age and marital status. However, there were more females in the day hospital sample than in the outpatient sample ($\chi^2 (1) = 6.05, p < .05$). The groups also differed according to race, where the majority of outpatients were African American (69.0%) and the majority of day hospital patients were White (59.4%) ($\chi^2 (2) = 11.62, p < .0001$). As anticipated, psychiatric outpatients were more likely to be employed than day hospital patients ($\chi^2 (1) = 4.39, p < .05$). Although day hospital patients were more likely to have a history of suicide attempts ($\chi^2 (1) = 4.77, p < .05$) and psychiatric inpatient hospitalizations ($\chi^2 (1) = 4.06, p < .05$), there were no differences between groups in number of reported suicide attempts and number of previous psychiatric hospitalizations. There were no differences between groups on measures of depression (BDI), sense of belonging (SOBI-P), perceived social support (MSPSS), life
stress (MLES), and number of reported confidants. However, day hospital patients demonstrated higher levels of hopelessness (BHS; $t \ (113) = 2.11, p < .05$) and suicidal ideation (BSSI; $t \ (107) = 2.49, p < .05$) than psychiatric outpatients. Although the groups differed on measures of hopelessness and suicidal ideation, this finding was anticipated given the higher level of care provided for day hospital patients. Despite some important differences between groups, similar levels of depression, sense of belonging and life stress warranted combination of samples for statistical analyses.

Before exploring the specific hypotheses regarding sense of belonging and suicide risk, means, standard deviations, and inter-correlations between measures were examined to assess validity of the measures (see Table 2). There was no indication of multi-collinearity among the measures. Measures of depression, hopelessness, and suicidal ideation were all strongly correlated ($r \geq .60, p < .01$, for all correlations). Sense of belonging was strongly correlated with depression ($r = -.62, p < .01$), hopelessness ($r = -.68, p < .01$), and perceived social support ($r = .54, p < .01$). Sense of belonging was significantly correlated with current suicidal ideation ($r = -.48, p < .01$), report of at least one prior suicide attempt ($r = -.26, p < .01$), and number of prior suicide attempts ($r = -.28, p < .01$). Correlations were also examined among established risk factors and current measures of mood and suicidal ideation. Age, gender, and race were not related to level of suicidal ideation, depression or hopelessness, and thus they were not included as covariates in regression analyses as originally hypothesized. Additionally, the number of individuals living in the home and number of children reported by participants were not associated with level of suicidal ideation, depression, hopelessness, or sense of belonging. A small correlation was demonstrated between marital status and level of
suicidal ideation ($r = -.23, p < .05$), as well as marital status and history of past suicide attempt(s) ($r = -.23, p < .05$). Involvement in social groups and organizations was not correlated with sense of belonging, thus step 5 of the data analytic plan was not conducted. Participation in volunteer service organizations was correlated with measures of depression ($r = -.24, p < .05$) and hopelessness ($r = -.24, p < .05$).

Reliability analyses were conducted for each of the measures used in the study. Cronbach’s alpha coefficients demonstrated internal consistency that ranged from good to excellent for each measure: Beck Depression Inventory-II ($\alpha = .90$), Beck Hopelessness Scale ($\alpha = .93$), Beck Scale for Suicide Ideation, ($\alpha = .95$), Sense of Belonging Instrument ($\alpha = .96$), Multidimensional Scale of Perceived Social Support ($\alpha = .94$), Modified Life Experience Scale ($\alpha = .80$), Social Support Questionnaire- Number ($\alpha = .90$), and Social Support Questionnaire- Satisfaction ($\alpha = .94$).

Assumptions of normality were also explored prior to testing hypotheses. Histograms, Normal Q-Q Plots, Detrended Normal Q-Q Plots, and boxplots were evaluated for each measure. The Beck Scale for Suicide Ideation was positively skewed (skewness = 1.43, $SE = 0.23$) with scores grouped on the low end, indicating that low levels of current suicidal ideation were common for the sample. This finding was consistent with expectations for patients receiving outpatient mental health treatment. The Beck Hopelessness Scale demonstrated positive kurtosis (kurtosis = -1.37, $SE = 0.45$), indicating a peaked distribution where a significant number of individuals scores’ were clustered in the center of the distribution. The Modified Life Experience Scale demonstrated positive skewness (skewness = 0.72, $SE = 0.23$) and positive kurtosis (kurtosis = 3.23, $SE = 0.45$), indicating frequent lower levels of life stress and fewer
individuals at either end of the range of scores. As anticipated, the Social Support Questionnaire- Number Score was positively skewed (skewness = 1.38, SE = 0.24; kurtosis = 1.58, SE = 0.48), indicating that small social networks were common for the sample. The Social Support Questionnaire- Satisfaction Scale was negatively skewed (skewness = -0.75, SE = 0.24), demonstrating that high levels of satisfaction with level of perceived social support was common for the sample. All remaining skew and kurtosis values were less than twice the standard error of skewness and kurtosis, indicating a normal distribution. Given the large sample size, examination of histograms, and relatively small but significant skewness and kurtosis values, transformation of the data was not warranted.

**Sense of Belonging and Suicidality**

A hierarchical multiple regression analysis was conducted in order to evaluate the strength of the relationship between sense of belonging and current suicidal ideation (BSSI) while controlling for possible covariates, including level of depression, hopelessness, life stress, perceived social support, and marital status (see Table 3). Current suicidal ideation, measured by the BSSI scores, was used as the dependent variable. Preliminary analyses were conducted to ensure no violation of the assumptions of multicollinearity, normality, linearity, and homoscedasticity. In the first step, marital status and perceived social support (MSPSS) were entered, explaining 26.3% of the model ($R^2 = .26$, $F (2, 105) = 18.69$, $p < .001$). Degree of life stress (MLES) was entered at the second step and explained an additional 4.3% of the variance in suicidal ideation ($\Delta R^2 = .04$, $F$ change $(1, 104) = 6.43$, $p < .05$). BDI-II was entered at the third step and accounted for an additional 14.9% of the variance in suicidal ideation ($\Delta R^2 = .15$, $F$ change $(1, 103) = 21.91$, $p < .001$).
change (1, 103) = 28.21, \( p < .001 \)). In the fourth step, BHS was entered, and severity of hopelessness explained an additional 5.6% of the variance in suicidal ideation (\( \Delta R^2 = .06 \), \( F \) change (1, 102) = 11.59, \( p = .001 \)), beyond what was explained by marital status, life stress, perceived social support, and depression severity. Lastly, the SOBI-P was entered at step five and did not make a significant contribution to the model (\( \Delta R^2 = .003 \), \( F \) change (1, 101) = 0.65, \( p = \text{ns} \)). In the final step of the model (\( R^2 = .52 \), \( F (6, 101) = 17.77, p < .001 \)), level of life stress (\( \beta = .19, p < .05 \)), depression (\( \beta = .29, p < .01 \)), and hopelessness (\( \beta = .37, p < .01 \)) remained strongly related to current level of suicidal ideation.

The relationship between sense of belonging and past suicidality was also explored. First, an independent samples t-test was performed to examine differences in sense of belonging between individuals who reported a history of prior suicide attempt(s) and individuals who never attempted suicide. Individuals who indicated at least one prior suicide attempt demonstrated significantly lower levels of belonging (\( M = 39.29, SD = 10.72 \)) than individuals who reported no previous suicide attempts (\( M = 45.92, SD = 13.32; t (114) = 2.88, p = .005 \)).

Next, a hierarchical logistic regression analysis was performed in order to evaluate the strength of the relationship between sense of belonging and history of past suicide attempt(s) while controlling for possible covariates, including level of depression, hopelessness, life stress, perceived social support, and marital status (see Table 4). Individuals were divided into two groups: those who reported a history of at least one suicide attempt and those who reported no prior suicide attempts. Report of the presence or absence of past suicide attempts was used as the dependent variable. In the first step,
marital status and perceived social support (MSPSS) were entered into the model ($\chi^2 (2, N = 113) = 11.69, p < .01$), which explained between 9.8% (Cox and Snell $R^2$) and 13.2% (Nagelkerke $R^2$) of the variance in history of suicide attempts. After the first step, perceived social support was the only significant contributor to the model, reporting an odds ratio of 0.96 and correctly classifying 65.5% of the cases. Measure of life stress (MLES) was added in the second step ($\chi^2 (1, N = 113) = 21.35, p < .001$), and the model explained between 25.4% (Cox and Snell $R^2$) and 34.0% (Nagelkerke $R^2$) of the variance in history of suicide attempts. Life stress contributed significantly to the model, reporting an odds ratio of 1.17. After the second step, the model correctly classified 76.1% of the cases. BDI-II was entered in the third step but did not add significantly to the understanding of suicide attempt status. BHS was entered in the fourth step ($\chi^2 (1, N = 113) = 5.95, p < .05$), and the model explained between 29.2% (Cox and Snell $R^2$) and 39.2% (Nagelkerke $R^2$) of the variance in history of suicide attempts. The BHS contributed significantly to the model, reporting an odds ratio of 1.13. After the fourth step, the model correctly classified 77.0% of the cases. Lastly, the SOBI-P was entered at step five and did not make a significant contribution to the model.

**Examination of Social Networks**

A series of independent samples t-tests were performed to examine differences in mood and belonging between individuals who reported no confidants versus individuals who reported one or more confidants. There were significant differences between groups for each of the following measures: SOBI-P ($t (108) = 2.78, p < .01$), BDI-II ($t (108) = 3.66, p < .001$), BHS ($t (107) = 3.22, p < .01$), and BSSI ($t (102) = 2.65, p < .01$). Given the significant findings between individuals who reported no confidants and individuals
who reported one or more confidants and previous research emphasizing the importance of a single confidant in depression (Brown & Harris, 1978), further breakdown of groups was warranted.

A series of one-way between groups Analysis of Variance (ANOVA) tests were conducted to explore the impact of having a confidant(s) on measures of belonging and mood (see Table 5). Individuals were examined according to three groups: those who reported no confidants, those who reported the presence of one confidant, and those who reported having one or more confidants. The first ANOVA examined the impact of having a confidant on perceived sense of belonging, as measured by the SOBI-P. There was a significant difference in SOBI-P scores for the three groups \(F(2, 107) = 4.16, p < .05; \text{ eta squared} = .07\). Post hoc comparisons using Tukey’s test indicated that individuals who reported no confidants demonstrated significantly lower levels of belonging than individuals who reported more than one confidant. The difference in sense of belonging scores between individuals who reported no confidants and individuals who reported one confidant was not significant.

A second ANOVA was conducted to explore the impact of having a confidant(s) on depression, as measured by the BDI-II. There was a significant difference in BDI-II scores for the three groups \(F(2, 107) = 6.63, p < .01; \text{ eta squared} = .11\). Post hoc comparisons using Tukey’s test indicated that individuals who reported no confidants were significantly more depressed than individuals who reported one confidant and individuals who reported more than one confidant. The difference in depression severity between individuals who reported one confidant and individuals who reported more than one confidant was not significant.
A third ANOVA was conducted to explore the impact of having a confidant(s) on hopelessness, as measured by the BHS. There was a significant difference in BHS scores for the three groups \((F (2, 106) = 5.14, p < .01; \text{eta squared} = .09)\). Post hoc comparisons using Tukey’s test indicated that individuals who reported no confidants demonstrated significantly greater severity of hopelessness than individuals who reported one confidant. The difference in degree of hopelessness between individuals who reported no confidant and individuals who reported more than one confidant was not significant.

A fourth ANOVA was conducted to explore the impact of having a confidant(s) on suicidal ideation, as measured by the BSSI. There was a statistically significant difference in BSSI scores for the three groups \((F (2, 101) = 3.52, p < .04; \text{eta squared} = .07)\). Despite reaching statistical significance, post hoc comparisons using Tukey’s test indicated that actual differences between groups were not significant at the \(p < .05\) level.

Post-hoc Analyses

Planned statistical analyses demonstrated that sense of belonging was not strongly related to measures of suicide risk after controlling for known risk factors for suicide. In order to examine relationships among the SOBI-P and other measures of mood, a number of post-hoc analyses were conducted. First, a hierarchical multiple regression analysis was conducted in order to evaluate the strength of the relationship between sense of belonging and depression severity (BDI-II) while controlling for possible covariates, including degree of life stress and perceived social support. Current level of depression, measured by BDI-II scores, was used as the dependent variable. Preliminary analyses were conducted to ensure no violation of the assumptions of multicollinearity, normality, linearity, and homoscedasticity. In the first step, perceived social support (MSPSS) was
entered, explaining 30% of the model \( R^2 = .31, F (1, 113) = 48.50, p < .001 \). In the second step, measure of life stress (MLES) was entered and did not make a significant contribution to the model \( \Delta R^2 = .02, F \text{ change} (1, 112) = 3.13, p = \text{ns} \). SOBI-P was entered at the final step, and sense of belonging accounted for an additional 14.4% of the variance in depression \( \Delta R^2 = .14, F \text{ change} (1, 111) = 29.70, p < .001 \). In the final regression model \( R^2 = .46, F (3, 111) = 31.90, p < .001 \), perceived social support \( \beta = -.28, p = .001 \) and sense of belonging \( \beta = -.45, p < .001 \) remained significantly related to depression severity.

Next, a hierarchical multiple regression analysis was conducted in order to evaluate the strength of the relationship between sense of belonging and degree of hopelessness (BHS) while controlling for possible covariates, including degree of life stress, perceived social support, and depression severity. Current degree of hopelessness, measured by BHS scores, was used as the dependent variable. Preliminary analyses were conducted to ensure no violation of the assumptions of multicollinearity, normality, linearity, and homoscedasticity. In the first step, perceived social support (MSPSS) was entered, explaining 25.4% of the variance in hopelessness \( R^2 = 0.25, F (1, 112) = 38.20, p < .001 \). In the second step, measure of life stress (MLES) was entered and did not make a significant contribution to the model \( \Delta R^2 = .001, F \text{ change} (1, 111) = .12, p = \text{ns} \). BDI-II was entered in the third step and explained an additional 23.7% \( \Delta R^2 = 0.24, F \text{ change} (1, 110) = 51.19, p < .001 \) of the variance in hopelessness. SOBI-P was entered at the fourth step, and sense of belonging accounted for an additional 8.8% of the variance in hopelessness \( \Delta R^2 = 0.09, F \text{ change} (1, 109) = 22.68, p < .001 \). In the final regression model \( R^2 = .58, F (4, 109) = 37.51, p < .001 \), depression severity \( \beta = .40, p \)
< .001) and sense of belonging ($\beta = -.40, p < .001$) remained significantly related to degree of hopelessness.

A path analysis was conducted using Amos 20.0 in order to identify variables significantly associated directly and indirectly to suicide risk as measured by current suicidal ideation. It was initially hypothesized that sense of belonging would demonstrate a significant relationship with suicidal ideation. A Pearson correlation demonstrated a significant association between sense of belonging and suicidal ideation. However, hierarchical multiple regression analysis did not demonstrate a significant relationship between sense of belonging and suicidal ideation after controlling for known risk factors. Thus, the direct path between sense of belonging and suicidal ideation was eliminated prior to conducting the hypothesized path analysis.

The modified path analysis was executed in order to explore the relationships among sense of belonging, depression, and hopelessness. The model in Figure 1 provided a good fit to the data, $\chi^2 (3, N = 116) = 0.73, p = .87, \chi^2/df = 0.24$, normed fit index (NFI) = .997, comparative fit index (CFI) = 1.000, root-mean-square error of approximation (RMSEA) = .000, PCLOSE = .907. The presence or absence of a confidant(s) reported by an individual was significantly associated with sense of belonging ($\beta = .25, p < .01$) and depression ($\beta = -.18, p < .05$). Sense of belonging significantly predicted level of depression ($\beta = -.58, p < .001$) and degree of hopelessness ($\beta = -.42, p < .001$). As expected, depression was significantly related to hopelessness ($\beta = .41, p < .001$). In addition, both depression ($\beta = .40, p < .001$) and hopelessness ($\beta = .33, p < .001$) were significantly associated with current level of suicidal ideation.
Discussion

The present study examined various aspects of social relatedness, including perceived sense of belonging, social support, and features of social networks among a large \((n = 116)\) sample of depressed, psychiatric outpatients at a Veterans Affairs Medical Center. Study participants reported a significant degree of psychopathology, demonstrating moderate levels of depression and high severity of hopelessness. Mean scores on the Beck Hopelessness Scale (BHS) were notably elevated \((M = 10.61)\). BHS scores of 9 or greater are predictive of completed suicide, and thus indicative of increased risk for suicide (Beck, Brown, Berchick, Stewart, & Steer, 1990). In addition, almost half \((n = 50)\) of the sample disclosed a history of at least one prior suicide attempt. Prior history of inpatient psychiatric hospitalization was also reported by just under half of participants \((n = 51)\). Greater than 80\% of the veterans indicated long-standing histories of episodic and chronic depression. Frequently occurring psychiatric comorbidities, such as substance use disorders, PTSD, and other anxiety disorders, contributed to the significant complexity of psychopathology that was present in this population.

The Sense of Belonging Instrument- Psychological Experience (SOBI-P) displayed strong psychometric properties with the present clinical sample. Consistent with previous findings (Bailey & McLaren, 2005; Sargent, Williams, Hagerty, Lynch-Sauer, & Hoyle, 2002; Van Orden, Witte, Gorden, Bender, & Joiner, 2008), deficits in perceived sense of belonging were significantly associated with greater severity of depression, hopelessness, and current suicidal thoughts. Similarly, a lower sense of belonging was related to a greater number of prior suicide attempts and psychiatric inpatient hospitalizations. Previous research has demonstrated significant associations
between sense of belonging and history of psychiatric treatment, suicidal thoughts, and suicide attempts (Hagerty, Williams, Coyne, & Early, 1996). In the present sample, lack of perceived belonging was also significantly related to smaller social networks, fewer reported confidants, and a decreased perception of social support from others. Present findings support previous research demonstrating a strong association between sense of belonging and perceived social support (Handley et al., 2011; Turner & McLaren, 2011).

Overall, significant positive correlations between the SOBI-P, measures of perceived social support, and size of social networks provide evidence for the validity of sense of belonging as a unique construct.

The present research hypothesized that sense of belonging would demonstrate a significant relationship with indicators of suicidality after controlling for a number of known risk factors. Contrary to the hypothesis, sense of belonging did not demonstrate a significant relationship with suicidal ideation after controlling for severity of depression, degree of hopeless thoughts, measure of life stress, degree of perceived social support, and marital status. Although various researchers have examined the correlation between sense of belonging and suicidal thoughts (Bailey & McLaren, 2005; Hagerty et al., 1996; Sargent et al., 2002), few have utilized more sophisticated analyses that account for covariates. The present findings are consistent with previous research that showed that sense of belonging did not independently predict suicidal ideation beyond depression severity (Joiner et al., 2009; Van Orden, Witte, Gorden, Bender, & Joiner, 2008). However, a few studies have provided support for the interpersonal-psychological theory of suicidal behavior, which includes a sense of belonging (Joiner et al., 2009; Van Orden et al., 2008). More specifically, research has demonstrated that the joint presence of
thwarted belongingness and perceived burdensomeness were significantly related to suicidal ideation after accounting for depression severity (Joiner et al., 2009; Van Orden et al., 2008). It is important to note that Joiner and colleagues (2009) failed to use validated measures of sense of belonging in their study, thus weakening the potential validity of their findings. In one of their studies, Joiner and colleagues (2009) utilized a “proxy measure” (family social support) for sense of belonging, despite conceptual differences in the constructs.

Individuals with a history of at least one prior suicide attempt demonstrated significantly lower levels of belonging than individuals with no reported history of suicide attempt(s). Previous research has demonstrated a correlation between sense of belonging and history of suicide attempts (Hagerty, Williams, Coyne, & Early, 1996). In the present study, it was hypothesized that sense of belonging would demonstrate a significant relationship with suicide history, even after controlling for known risk factors. Individuals were classified into one of two groups: those who reported one or more prior suicide attempts and those who reported no prior suicide attempts. However, sense of belonging was not significantly related to the presence of prior suicide attempt(s) after controlling for severity of depression, degree of hopeless thoughts, measure of life stress, degree of perceived social support, and marital status. Similar to the present study, research with active duty Airmen (Air Force) found that sense of belonging did not add to the explanation of past suicidal behavior beyond a measure of negative affect and acquired capability for suicide (Bryan, Morrow, Anestis, & Joiner, 2010). However, present findings contradict one previous study in which low sense of belonging distinguished previous opiate-dependent suicide attempters from non-attempters, after
controlling for severity of depression and hopelessness (Conner, Britton, Sworts, & Joiner, 2007).

Despite a lack of significant findings for the main hypotheses regarding sense of belonging and suicide risk, several variables were significantly related to suicidality. Not surprisingly, degree of current and lifetime stressors was strongly associated with present level of suicidal ideation and history of suicide attempt(s). Extensive research has demonstrated the link between degree of life stress and suicidal behavior (Wilcox & Fawcett, 2012), including suicidal ideation (Monroe, Harkness, Simons, & Thase, 2001) suicide attempts (Weyrauch, Roy-Byrne, Katon, & Wilson, 2001), and completed suicide (Foster, 2011).

Depression severity was also significantly related to current level of suicidal ideation. The link between depression and suicidal ideation has been replicated repeatedly (Bostwick & Pankratz, 2000; Nock, Hwang, Sampson, & Kessler, 2010). The strong association between depression and suicidal ideation is not surprising given that 60-70% of depressed individuals experience suicidal ideation (Möller, 2003). However, current findings failed to demonstrate a significant association between depression severity and past suicide attempts, after controlling for marital status, perceived social support, and life stress. Although Major Depressive Disorder (MDD) is consistently a strong predictor of suicidal ideation, MDD does not predict suicide plans or attempts (Nock et al., 2010). Nonetheless, depression is present in more than 90% of individuals who die by suicide (Henriksson et al., 1993) and is an important part of suicide prevention.
Lastly, hopelessness was strongly related to current level of suicidal ideation and history of suicide attempt(s) in the present study. Hopelessness captures the extreme to which an individual internalizes negative and pessimistic views about the future. Individuals with hopeless attitudes and beliefs often believe their lives are unbearable and cannot be changed. Hopelessness is consistently regarded as one of the best predictors of suicidal thoughts (Beevers & Miller, 2004; Konick & Gutierrez, 2005; Smith, Alloy, & Abramson, 2006; Troister & Holden, 2010), suicide attempts (Weishaar & Beck, 1992), and completed suicide (Beck, Brown, Berchick, Stewart, & Steer, 1990; Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001).

Sense of belonging did not contribute to our understanding of suicidality above and beyond known demographic and cognitive risk factors. Nonetheless, a perceived sense of belonging may be an important construct in understanding depression severity and hopeless thoughts. In the present sample, sense of belonging demonstrated a significant relationship with depression, even after controlling for degree of life stress and perceived social support. Similar research has shown that sense of belonging is strongly related to depression, even when controlling for the effects of stress, social support, and spousal support (Hagerty & Williams, 1999). Additionally, sense of belonging is predictive of depression severity in individuals with significant histories of depression but who are not currently experiencing significant symptoms (Choenarom, Williams, & Hagerty, 2005). Lower sense of belonging may contribute to an individual’s vulnerability to depression (Choenarom et al., 2005).

In the present sample, sense of belonging was also strongly related to level of hopelessness, even after controlling for degree of life stress, perceived social support, and
depression severity. Although minimal research has examined the relationship between sense of belonging and hopelessness, there is some evidence to support the current findings (Rankin, Saunders, & Williams, 2000). Van Orden and colleagues (2010) have hypothesized an important relationship between sense of belonging and hopelessness. More specifically, Van Orden and colleagues (2010) suggest suicidal desire is established when perceived burdensomeness, thwarted belongingness, and hopelessness about one’s interpersonal connections combine. It seems possible that lacking an interpersonal connection to foster a sense of feeling accepted, valued, and needed by others would influence one’s overarching belief system about the future. For many individuals, low levels of perceived belonging are likely to be chronic and persist over time. Years of low sense of belonging may provide depressed individuals with repeated (often false) evidence that one’s interpersonal world will not get better.

Interpretation of the post-hoc path analysis can be used to summarize the relationships between sense of belonging, depression, hopelessness, and suicidal ideation. Sense of belonging was significantly associated with depression and hopelessness. Depression was significantly related to hopelessness, and both depression and hopelessness were related to suicidal ideation. Thus, sense of belonging appears to be directly related to depression and hopelessness, while indirectly related to suicidal ideation. Although causality was not examined in the present study, it seems possible that an individual’s perceived lack of belonging can exacerbate a depressive episode and/or degree of hopeless thoughts, which often develop prior to the onset of suicidal ideation.

Lack of evidence for sense of belonging as a key factor in understanding suicidal ideation and the presence of prior suicide attempt(s) may be due in part to the
predominantly male sample utilized in the current study. Despite the potential importance of exploring gender differences in sense of belonging, gender differences were not examined due to the small number of women in the present sample ($n = 7$). Women typically report having larger social networks and being more emotionally involved in those networks (McLaughlin, Vagenas, Pachana, Begum, & Dobson, 2010). Further, emotionally supportive social relationships are significantly more protective against major depression for women than for men (Kendler, Myers, & Prescott, 2005). Thus, examination of the relationship between belonging and suicide risk in a larger sample of women may reveal different results than the current study.

Other demographic variables may partially account for the non-significant relationships between sense of belonging and suicidal behaviors after controlling for known risk factors. For example, about 60% of the sample was African American. Although rates of suicidal behavior among African-Americans have increased in recent years (Joe & Kaplan, 2001), African Americans have consistently demonstrated one of the lowest suicide rates across racial groups (Kung, Hoyert, Xu, & Murphy, 2008). Additionally, suicide risk factors among African Americans differ from Caucasians. Younger generations of African Americans are at significantly higher risk of attempted suicide compared to older generations (Joe, Baser, Breeden, Neighbors, & Jackson, 2006). Mean age of study participants was 53.60 years, meaning that the African Americans who may be at greatest risk for suicide comprised a very small percentage of the current sample.

Present findings may also be explained by the dearth of research on the construct of belonging and inherent limitations in the literature. A lack of clear definitions and
distinctions between social relatedness constructs (Berkman, Glass, Brissette, & Seeman, 2000) may contribute to negligible findings. In the present study, some participants expressed uncertainty with regard to completing the SOBI-P because they did not have friends or loved ones in their lives and the questions seemed inapplicable. Some individuals expressed a lack of interest in having a social network. Thus, a desire to belong may be a necessary prerequisite to assessing one’s perceived sense of belonging. Others have asserted that the discrepancy between an individual’s need to belong and the degree to which the individual is satisfied with his or her degree of belonging is crucial in understanding the impact of belonging on well-being (Mellor, Stokes, Firth, Hayashi, & Cummins, 2008). The Sense of Belonging Instrument-Antecedents (SOBI-A: Hagerty & Patusky, 1995) attempts to assess an individual’s motivation for belonging. However, the SOBI-A was not included in the present study due to weak psychometrics. It is possible that measurement of an individual’s desire and ability to develop a sense of belonging, as well as an individual’s perceived sense of belonging could help to more accurately understand the relationship between sense of belonging and suicide risk.

According to the interpersonal theory of suicide (Joiner, 2005), a thwarted sense of belonging is only one of three factors that are necessary in order to cultivate a desire and potential for suicide. Joiner (2005) argues that serious suicide attempts and completed suicide only occur in the presence of thwarted belongingness, perceived burdensomeness, and acquired capability for suicide. More specifically, the combination of thwarted belongingness and perceived burdensomeness contribute to an individual’s desire for suicide rather than the ability to carry out the lethal event (Joiner, 2005). Preliminary support for the theory (Joiner et al., 2009; Van Orden et al., 2008) suggests
that a lack of perceived belonging will only predict suicidal behavior in the presence of additional psychological factors. Joiner’s theory is one attempt to explain and predict the complex psychological processes that lead to suicide. However, the assertion that perceived sense of belonging is one of multiple important factors that are likely to be present in completed suicide is supported by the present research.

Examination of individuals’ social networks revealed some important findings regarding the role of confidants in depressed individuals’ lives. Participants who reported the absence of even a single confidant in their lives demonstrated lower sense of belonging, more severe depression, greater hopelessness, and more intense suicidal thoughts than individuals who reported the presence of one or more confidants in their lives. When participants were classified according to three groups, results showed that participants who reported the absence of a single confidant demonstrated significantly lower levels of belonging than individuals who reported two or more confidants. However, in contrast to the hypothesis, there was no difference in perceived sense of belonging between individuals who reported zero confidants and individuals who reported one confidant. There was also no difference between individuals who reported one confidant and individuals who reported two or more confidants. These findings would suggest that the presence of one confidant may not be “enough” to foster one’s sense of being accepted, valued, and needed. In contrast, participants who reported the lack of even a single confidant displayed significantly greater severity of depression than individuals who reported having one confidant and individuals who reported having two or more confidants. There was no difference in depression severity between individuals with one confidant and individuals who reported having two or more confidants.
The lack of difference in depression severity between individuals who reported one confidant versus more than one confidant highlights the significance of just one intimate, confiding relationship. Brown and Harris (1978) first provided evidence for the significant role of a single confidant by demonstrating that women who report the presence of one confiding relationship are four times less likely to develop clinical depression after a severe loss than those who report no confiding relationships or are in contact with a confidant less than weekly. The presence of at least one confidant is protective of depression in women (Brown & Harris, 1978), single mothers (Brown, Andrews, Harris, Adler, & Bridge, 1986), older adults (Hays et al., 1998), and women post childbirth (Dennis et al., 2009). Additionally, some evidence of the protective role of confiding relationships in the development of depression has expanded to non-Western cultures (Broadhead, Abas, Khumalo Sakutukwa, Chigwanda, & Garura, 2001).

To date, it is unclear if anyone has systematically examined the resources and interpersonal mechanisms that are needed to foster a sense of belonging among depressed individuals. However, a randomized controlled trial demonstrated that volunteer “befriending” has a greater impact on reduction of depressive symptoms than a control intervention (Harris, Brown, & Robinson, 1999). In the study design, befriending was defined as meeting and talking with the depressed individual one hour per week, acting as a “friend”, listening, and being there for the individual, with an emphasis on facilitating confiding discussions. Research that examines the efficacy of a befriending intervention and systematically measures sense of belonging may shed some light on the potential protective role of sense of belonging in developing and recovering from depression.

Although depression severity distinguishes individuals with one confidant and no
confidant, it is possible that a sense of belonging failed to make this same distinction because sense of belonging is only one aspect of what a confiding relationship provides for depressed individuals. Nonetheless, establishment of a “buddy system” in outpatient treatment programs may be a simple way to facilitate confiding relationships among peers with similar psychological struggles.

The present findings should be considered in light of potential limitations. First, the research relied primarily on self-report assessments. Retrospective self-report assessment is prone to significant errors and biases that stem from the characteristics of autobiographical memory (Shiffman & Stone, 1998). In addition, the opportunity for response bias and social desirability bias contributes to the potential limitations of self-report assessment methods (McGrath, Mitchell, Kim, & Hough, 2010). The self-report version of the Beck Scale for Suicide Ideation was the primary measure of suicide risk in this study. Use of semi-structured interviews and clinician-administered suicide assessments can significantly improve accurate classification of individuals at risk for suicide (Bongiovi-Garcia et al., 2009). Second, many of the participants demonstrated low levels of suicidal ideation, resulting in a skewed distribution on the Beck Scale for Suicide Ideation, which may have disrupted the parametric statistics. However, low levels of suicidal ideation were expected given the outpatient psychiatric treatment setting. Third, despite using a well-validated semi-structured diagnostic interview (SCID) to assess for the presence of DSM-IV Axis I clinical disorders, current resources did not allow the research team to measure inter-rater diagnostic agreement. Nonetheless, 105 of the 116 participants included in the data analyses were interviewed by the author, thus limiting the probability of significant problems related to between-rater reliability. SCID
diagnosis matched chart diagnosis for all participants recruited from day hospital \((n = 32)\). Due to variability in diagnostic training obtained by outpatient providers (i.e. psychologist, psychiatrist, social worker, clinical nurse) and methods of assessment utilized by providers, SCID agreement with chart diagnosis was not examined for participants recruited from outpatient mental health clinics. In addition, some participants recruited for the study had not attended a mental health appointment in recent months, making examination of diagnostic agreement impossible. Fourth, the methodology used in this study was not predictive in nature. Longitudinal follow-up would allow us to examine the protective nature of sense of belonging and its relationship with depression and suicide over time.

The current sample presents some potential limitations. Participants consisted predominantly of male veterans, and thus generalizability is limited. In a few rare cases, research participants were pursuing psychiatric disability status from the government as a result of their psychiatric diagnoses. Participation of compensation-seeking veterans may result in symptom overreporting and distortion, impeding accurate assessment of depression (Frueh, Gold, & de Arrellano, 1997). However, extensive efforts were made during the detailed consent process to explain that research participation would have no bearing on psychiatric disability evaluations. Additionally, participants in the present sample displayed high comorbidity with substance use disorders. The majority of participants reported a history of substance use disorders \((n = 89)\) and were often poor historians of their mental health history. Often times, it was difficult to accurately assess number and duration of previous depressive episodes.
Measurement of social relationships is a continuously evolving area that lacks a gold standard. Despite years of theoretical developments and empirical research, many terms, such as social networks, social support, social integration, social belonging and social ties are used interchangeably (Berkman, Glass, Brissette, & Seeman, 2000; Fiala, Bjork, & Gorsuch, 2002). Some social support researchers have called for abandonment of a global concept of social support and have encouraged investigation of more precise concepts and greater understanding of mechanisms (Lakey & Cohen, 2000). The current study employed an objective measure of belonging that was derived from a cohesive theory (Hagerty & Patusky, 1995). However, theoretical and methodological inconsistencies within the literature present a continual challenge in making far-reaching conclusions about various interpersonal constructs. Clarification and unification of constructs related to social relationships within the field is largely warranted.

Improvement of an individual’s sense of belonging may be an important aspect of treatment for depression and hopeless thoughts. Maladaptive social functioning plays a significant role in the understanding and treatment of depression (Overholser, 1995). Present findings suggest that a healthy sense of belonging is likely to play an important role in the recovery from depression. Thus, improving an individual’s sense of belonging may be one target in the treatment of depression aimed at cultivating healthy interpersonal functioning. Thorough assessment of an individual’s interpersonal functioning, including perceived sense of belonging, availability of supports and an intimate confidant, as well as desire to maintain strong interpersonal connections should precede intervention. A variety of tailored therapeutic approaches are often necessary to improve a client’s social functioning in an effort to reduce depressive symptoms.
(Overholser, 1995). Further, sense of belonging is a construct that consists of cognitive, affective, and behavioral components. Thus, the multifaceted nature of the construct and treatment of depression calls for an approach to intervention that integrates cognitive, behavioral, and interpersonal components.

A lack of perceived belonging is often the result of a cognitive distortion (Anestis, Bryan, Cornette, & Joiner, 2009). One example of a potentially risky distortion is the belief that an individual could disappear for days and no one would notice or care. Thus, it may be helpful for therapists to work with patients to elicit cognitive distortions related to interpersonal issues and belonging. When depressed individuals demonstrate distorted beliefs about belonging, they are likely to lack evidence for the beliefs and may demonstrate thought patterns that involve mindreading or filtering of positive information. Depressed individuals often demonstrate depressive styles of thinking and negative beliefs about themselves and others (Haaga, Dyck, & Ernst, 1991), which may influence the way they view their interpersonal relationships. Fortunately, cognitive improvement has consistently predicted improvement in depressive symptoms (Garratt, Ingram, Rand, & Sawalani, 2007). Thus, therapists should work with patients to challenge maladaptive thoughts about interpersonal relationships and belonging by recognizing different types of cognitive distortions, examining the evidence for their beliefs, and restructuring faulty cognitions.

A number of behavioral strategies may be useful in improving a depressed individual’s sense of belonging. For some individuals, a social skills deficit may hinder the ability to develop and maintain interpersonal relationships. Social skills training can teach patients skills to help build and retain social and interpersonal relationships,
through which a healthy sense of belonging can develop. Social skills training for individuals with depression involves instructions, role-playing, feedback, modeling, and positive reinforcement from the therapist (Hersen, Bellack, & Himmelhoch, 1980). Social skills training is an effective treatment for individuals with mild to moderate depression (Bellack, Hersen, & Himmelhoch, 1981; Cuijpers, van Straten, Andersson, & van Oppen, 2008).

In some cases, low sense of belonging may be the result of strained familial or spousal relationships. Interpersonal Psychotherapy (IPT) is used to treat depression and was developed under the assumption that depression always occurs in the context of interpersonal stress (Klerman, Weissman, Rounsaville, & Chevron, 1984). One main focus of Interpersonal Therapy for depression is the identification and resolution of potential “role disputes” that occur between the patient and significant others (Klerman et al., 1984). For individuals who lack meaningful relationships, IPT also addresses interpersonal deficits with the goal of reducing patients' social isolation (Klerman et al., 1984). The efficacy of IPT for depression has been established (Reynolds et al., 1999). Further, IPT is equally as effective in improving role disputes as the more long-standing interpersonal deficits (Levenson et al., 2010). Given that IPT reduces depressive symptoms by helping patients resolve interpersonal problems (Markowitz, Bleiberg, Christos, & Levitan, 2006), it is likely that depression treatment focused on various interpersonal problems will improve an individual’s sense of belonging. However, in some cases, family or couples therapy may be warranted in order to increase communication and gain an accurate picture of the interpersonal difficulties. In other cases, therapists can help clients identify an individual who is capable of functioning as a
potential confidant and help facilitate the client’s relationship with this person (Overholser, 1995).

For depressed individuals, engagement in social activities and interpersonal relationships may serve an antidepressant function. Behavioral activation is a highly effective treatment for depression (Dimidjian et al., 2006), and it often includes strategies that increase positive interactions between individuals and their environments. Behavioral activation targets the reduction of avoidance behaviors (Dimidjian et al., 2006), which may include interpersonal situations for individuals with low sense of belonging. Group interventions may be one type of pleasant activity that also provides an accepting environment for depressed individuals with low sense of belonging. Individuals who lack a sense of belonging can identify with others and discover that they are not unique in their struggles. In addition to providing structured therapeutic opportunities, clinicians can assist patients in identifying community self-help groups and local organizations. Such groups may help to foster a sense of belonging among individuals who have similar interests or struggles.

The potential for increasing sense of belonging with the veteran population is especially great. Military participation often facilitates the formation of strong bonds and camaraderie among veterans who served together and those who endured similar military experiences (Selby et al., 2010). Military training may promote one’s ability to establish and maintain healthy relationships both in and outside of the military (Selby et al., 2010). Thus, veterans who have returned from combat and experience a lack of belonging may be especially likely to benefit from group therapeutic settings.
In conjunction with therapeutic interventions, the therapeutic relationship may contribute to an individual’s improved sense of belonging. By providing a warm, accepting environment and utilizing basic, alliance-building principles, including empathy (Bohart, Elliott, Greenberg, & Watson, 2002) and unconditional positive regard (Farber & Lane, 2002), therapists can communicate to patients a sense of being accepted and valued in the therapeutic setting. Within Interpersonal Psychotherapy (IPT) for depression, the therapeutic relationship is directly utilized by the therapist. The therapist is able to learn about a patient’s relational style, identify problematic behaviors, and model appropriate problem solving for the patient so that the patient is then able to replicate the style of intimate relating to other relationships (Klerman et al., 1984). Cognitive Behavioral Analysis System of Psychotherapy (CBASP; McCullough, 2000) for chronic depression aims specifically at overcoming interpersonal, cognitive–emotive and other maturational deficits which resulted from early maltreatment by focusing directly on the therapeutic relationship (Schramm et al., 2011). Interventions that directly utilize the therapeutic relationship are likely to positively impact a patient’s sense of belonging as rapport builds and the work deepens.

Incorporating the assessment and modification of low sense of belonging into the treatment of depression is likely to improve outcomes and indirectly contribute to suicide prevention. Future research could assess the utility of the Sense of Belonging Instrument as a therapeutic assessment and treatment planning tool. Additionally, future research could explore the efficacy of the various cognitive, behavioral, and interpersonal interventions aimed at increasing sense of belonging as one component to the treatment of depression.
Sense of belonging plays a significant role in our understanding of depression, hopelessness, and suicide risk. The perception that individuals feel accepted, valued, and needed by people in their social environments is one important aspect of overall social functioning. Further, sense of belonging displays a significant relationship with depression and hopelessness and is likely to play a critical role in both the development and recovery from depression. The presence of an intimate, confiding relationship is likely to be another important aspect of interpersonal functioning. Most importantly, a deficit in sense of belonging provides an important target for intervention in the treatment of depression. Through the use of measures such as the Sense of Belonging Instrument, accurate assessment can help identify deficits in perceived belonging. Cognitive, behavioral, and interpersonal interventions, such as social skills training, Interpersonal Psychotherapy, and reduction of cognitive distortions, may help to improve an individual’s sense of belonging and decrease symptoms of depression and hopelessness.
Table 1

*Demographic Variables and Measures of Mood, Sense of Belonging, and Social Support among Depressed Outpatients and Day Hospital Patients*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Outpatients ($n = 84$)</th>
<th>Day Hospital Patients ($n = 32$)</th>
<th>Significance Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, $M (SD)$</td>
<td>53.68 (8.78)</td>
<td>53.41 (9.77)</td>
<td>$t (114) = 0.15$</td>
</tr>
<tr>
<td>Gender (% Male)</td>
<td>96.40</td>
<td>84.40</td>
<td>$\chi^2 (1) = 6.05^*$</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td>$\chi^2 (2) = 11.62^{**}$</td>
</tr>
<tr>
<td>% White</td>
<td>28.60</td>
<td>59.40</td>
<td></td>
</tr>
<tr>
<td>% African-American</td>
<td>69.00</td>
<td>34.40</td>
<td></td>
</tr>
<tr>
<td>Marital Status (% Married)</td>
<td>20.50</td>
<td>16.70</td>
<td>$\chi^2 (1) = 0.21$</td>
</tr>
<tr>
<td>Employment (% employed)</td>
<td>23.20</td>
<td>6.20</td>
<td>$\chi^2 (1) = 4.39^*$</td>
</tr>
<tr>
<td>Suicide History (% ever attempted)</td>
<td>36.90</td>
<td>59.40</td>
<td>$\chi^2 (1) = 4.77^*$</td>
</tr>
<tr>
<td>Psychiatric Hospitalizations (% yes)</td>
<td>38.60</td>
<td>59.40</td>
<td>$\chi^2 (1) = 4.06^*$</td>
</tr>
<tr>
<td>Measure</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>t (df)</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>--------------</td>
</tr>
<tr>
<td># Previous Suicide Attempts, $M (SD)$</td>
<td>0.85 (1.72)</td>
<td>1.16 (1.37)</td>
<td>$t (114) = 0.92$</td>
</tr>
<tr>
<td># of Reported Confidants, $M (SD)$</td>
<td>0.66 (0.79)</td>
<td>0.84 (1.42)</td>
<td>$t (107) = 0.85$</td>
</tr>
<tr>
<td># Psychiatric Hospitalizations, $M (SD)$</td>
<td>1.30 (2.36)</td>
<td>1.41 (1.72)</td>
<td>$t (113) = 0.23$</td>
</tr>
<tr>
<td>Beck Depression Inventory, $M (SD)$</td>
<td>27.65 (10.75)</td>
<td>30.22 (13.80)</td>
<td>$t (114) = 1.06$</td>
</tr>
<tr>
<td>Beck Hopelessness Scale, $M (SD)$</td>
<td>9.86 (6.14)</td>
<td>12.63 (6.48)</td>
<td>$t (113) = 2.11^*$</td>
</tr>
<tr>
<td>Beck Scale for Suicide Ideation, $M (SD)$</td>
<td>4.94 (7.13)</td>
<td>9.31 (10.41)</td>
<td>$t (107) = 2.49^*$</td>
</tr>
<tr>
<td>Sense of Belonging Instrument, $M (SD)$</td>
<td>44.28 (12.70)</td>
<td>39.86 (12.17)</td>
<td>$t (114) = 1.70$</td>
</tr>
<tr>
<td>Multidimensional Scale of Perceived Social Support, $M (SD)$</td>
<td>52.45 (16.35)</td>
<td>46.81 (20.77)</td>
<td>$t (114) = 1.54$</td>
</tr>
<tr>
<td>Social Support Questionnaire-Number score, $M (SD)$</td>
<td>9.85 (9.18)</td>
<td>8.04 (9.78)</td>
<td>$t (99) = 0.86$</td>
</tr>
<tr>
<td>Social Support Questionnaire-Satisfaction score, $M (SD)$</td>
<td>26.76 (8.93)</td>
<td>22.76 (10.63)</td>
<td>$t (99) = 1.89$</td>
</tr>
</tbody>
</table>

*p ≤ .05. **p < .0001
<table>
<thead>
<tr>
<th>Measure</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>BDI-II</th>
<th>BHS</th>
<th>BSSI</th>
<th>SOBI</th>
<th>MSPSS</th>
<th>SSQ-SFN</th>
<th>SSQ-SFS</th>
<th>PoC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory- II (BDI-II)</td>
<td>116</td>
<td>28.36</td>
<td>11.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Beck Hopelessness Scale (BHS)</td>
<td>115</td>
<td>10.61</td>
<td>6.32</td>
<td>.67**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Scale for Suicide Ideation (BSSI)</td>
<td>109</td>
<td>6.10</td>
<td>8.31</td>
<td>.62**</td>
<td>.60**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sense of Belonging Instrument (SOBI)</td>
<td>116</td>
<td>43.06</td>
<td>12.66</td>
<td>-.62**</td>
<td>-.68**</td>
<td>-.48**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Multidimensional Scale of Perceived Social Support (MSPSS)</td>
<td>116</td>
<td>50.90</td>
<td>17.77</td>
<td>-.55**</td>
<td>-.50**</td>
<td>-.50**</td>
<td>.54**</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Social Support Questionnaire- Short Form, Number score (SSQ-SFN)</td>
<td>101</td>
<td>9.36</td>
<td>9.33</td>
<td>-.33**</td>
<td>-.34**</td>
<td>-.36**</td>
<td>.40**</td>
<td>.56**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Support Questionnaire- Short Form, Satisfaction score (SSQ-SFS)</td>
<td>101</td>
<td>25.69</td>
<td>9.53</td>
<td>-.34**</td>
<td>-.30**</td>
<td>-.21*</td>
<td>.42**</td>
<td>.58**</td>
<td>.53**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Confidant(s) (PoC)</td>
<td>110</td>
<td>0.49</td>
<td>0.50</td>
<td>-.33**</td>
<td>-.30**</td>
<td>-.25**</td>
<td>.26**</td>
<td>.51**</td>
<td>.28**</td>
<td>.43**</td>
<td></td>
</tr>
</tbody>
</table>

Note. Presence of Confidant(s) was measured by item #3 of the Social Network Questions.

*p < .05. **p ≤ .01.
Table 3

Hierarchical Multiple Regression Analysis Predicting Beck Scale for Suicidal Ideation Score in Depressed Patients (N = 116)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>R²</th>
<th>R² change</th>
<th>F change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>-2.41</td>
<td>1.75</td>
<td>-.12</td>
<td>-1.37</td>
<td>.263</td>
<td>.263</td>
<td>18.69***</td>
</tr>
<tr>
<td>Perceived social support (MSPSS)</td>
<td>-0.22</td>
<td>0.04</td>
<td>-.47</td>
<td>-5.49***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life stress (MLES)</td>
<td>0.23</td>
<td>0.09</td>
<td>0.22</td>
<td>2.54*</td>
<td>0.305</td>
<td>0.043</td>
<td>6.43*</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Depression Inventory-II</td>
<td>0.33</td>
<td>0.06</td>
<td>0.47</td>
<td>5.31***</td>
<td>0.455</td>
<td>0.149</td>
<td>28.21***</td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Hopelessness Scale</td>
<td>0.44</td>
<td>0.13</td>
<td>0.33</td>
<td>3.41**</td>
<td>0.510</td>
<td>0.056</td>
<td>11.59**</td>
</tr>
<tr>
<td>Step 5</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of Belonging Instrument</td>
<td>0.05</td>
<td>0.07</td>
<td>0.08</td>
<td>0.81</td>
<td>0.514</td>
<td>0.003</td>
<td>0.65</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001.
### Table 4

**Hierarchical Logistic Regression Analysis Predicting History of Suicide Attempts in Depressed Patients (N = 113)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Wald’s $\chi^2$</th>
<th>Odds Ratio</th>
<th>Cox &amp; Snell $R^2$</th>
<th>Nagelkerke $R^2$</th>
<th>$\chi^2$ (Step)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Marital Status</td>
<td>-.40</td>
<td>.53</td>
<td>0.56</td>
<td>0.54</td>
<td></td>
<td></td>
<td>11.69**</td>
</tr>
<tr>
<td>Perceived social support (MSPSS)</td>
<td>-.04</td>
<td>.01</td>
<td>8.73**</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life stress (MLES)</td>
<td>.15</td>
<td>.04</td>
<td>15.71***</td>
<td>1.17</td>
<td>.254</td>
<td>.340</td>
<td>21.35***</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Depression Inventory-II</td>
<td>-.01</td>
<td>.02</td>
<td>0.07</td>
<td>0.99</td>
<td>.254</td>
<td>.340</td>
<td>0.07</td>
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<tr>
<td><strong>Step 4</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Hopelessness Scale</td>
<td>.12</td>
<td>.05</td>
<td>5.65*</td>
<td>1.13</td>
<td>.292</td>
<td>.392</td>
<td>5.95*</td>
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<td><strong>Step 5</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of Belonging Instrument</td>
<td>-.02</td>
<td>.03</td>
<td>0.84</td>
<td>0.98</td>
<td>.298</td>
<td>.399</td>
<td>0.85</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001.
### Table 5

**Series of One-Way Between Groups Analysis of Variance Tests Examining the Impact of Number of Confidants on Sense of Belonging and Measures of Depression, Hopelessness, and Suicidal Ideation**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Group</th>
<th>ANOVA Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No confidants (n = 56)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 confidant (n = 39)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 1 confidant (n = 15)</td>
<td></td>
</tr>
<tr>
<td>Sense of Belonging Instrument</td>
<td>39.92 (12.35)^A</td>
<td>110, 2, 107, 4.16, .018</td>
</tr>
<tr>
<td></td>
<td>45.72 (13.34)^A,B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.77 (11.23)^B</td>
<td></td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>32.45 (12.02)^A</td>
<td>110, 2, 107, 6.63, .002</td>
</tr>
<tr>
<td></td>
<td>24.72 (10.00)^B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24.63 (10.64)^B</td>
<td></td>
</tr>
<tr>
<td>Beck Hopelessness Scale</td>
<td>12.26 (6.49)^A</td>
<td>109, 2, 106, 5.14, .007</td>
</tr>
<tr>
<td></td>
<td>8.41 (6.18)^B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.63 (4.69)^A,B</td>
<td></td>
</tr>
<tr>
<td>Beck Scale for Suicide Ideation</td>
<td>8.44 (9.92)</td>
<td>104, 2, 101, 3.52, .033</td>
</tr>
<tr>
<td></td>
<td>4.38 (6.06)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.67 (6.21)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Different superscripts indicate significant differences between groups using Tukey’s post hoc comparisons with *p* < .05.
Figure 1. Predictors of current suicidal ideation.

Note. $\chi^2 (3, N = 116) = 0.73$, $p = .87$, $\chi^2/df = 0.24$, NFI = .997, CFI = 1.000, RMSEA = .000, PCLOSE = .907.

*p < .05. **p < .01. ***p < .001.
References


