THE ROLE OF OPTIMISM IN THE INTERPERSONAL PSYCHOLOGICAL THEORY OF SUICIDAL BEHAVIOR

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Bachelor of Arts

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San Bernardino, California

2006

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
December, 2009

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ACKNOWLEDGMENTS

The author would like to thank her thesis committee, LaRicka Wingate, Ph.D., Thad Leffingwell, Ph.D., and Edward Burkley, Ph.D., for their guidance, suggestions, and patience. The author would also like to thank Melissa Burkley, Ph.D. for PsychData access and DeMond Grant, Ph.D. for his guidance in statistical methods.

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CHAPTER I

INTRODUCTION

Suicide is a significant, yet preventable, problem in the United States. In 2006 alone, over 33,000 people died by suicide in this country, while 395,320 people received hospital emergency room treatment for self-inflicted injuries (Centers for Disease Control and Prevention [CDC], 2007a; McCaig & Nawar, 2006). In addition, the suicide rate for individuals aged 10-24 increased by 8.0% from 2003 to 2004, the largest single year increase recorded over a 14 year period (CDC, 2007b). Suicide attempts, as opposed to completed suicides, are also a significant problem in this country, with an estimated ratio of 100-200 attempts for each completed suicide amongst young people age 15-24 (Goldsmith, Pellmar, Kleinman, & Bunney, 2002). Thus, it seems particularly important to research risk factors for suicidal behavior, as well as factors that may protect against suicidal behavior, with the ultimate goal of preventing needless injuries and deaths.

One relatively new theory that proposes a model of suicide risk is Joiner's (2005) interpersonal-psychological theory of suicidal behavior. Joiner proposed that there are three primary risk factors, thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury, each of which is a necessary, but not sufficient element contributing to the overall risk of suicidal behavior. Thwarted belongingness refers to a lack of connection with other people, such as having few friends or family members to turn to in time of need. Indeed, numerous studies have

demonstrated that a lack of social connection has a strong correlation with suicidal behavior (Joiner, 2005). Perceived burdensomeness refers to the perception, albeit generally a mistaken perception, that one's existence has somehow created a burden on others (Joiner, 2005). Joiner posited that a feeling of perceived burdensomeness arises when one feels ineffective or incompetent in one's actions, and in turn believes this ineffectiveness or incompetence creates a burden for others. The acquired capability to engage in self-injury can refer not only to intentional acts of self-injury, but also to any of a variety of experiences that can lead to increased tolerance for pain or a lack of fear of pain, such as sports injuries or medical conditions. Early research has yielded results supporting Joiner's (2005) interpersonal-psychological theory of suicidal behavior, but much work remains to be done.

In contrast to identifying risk factors, another approach that deserves further attention in the study of suicidal behavior is the positive psychology approach of identifying factors that may protect against suicidal behavior (Wingate et al., 2006). Suicide is, after all, an act from which there is no return; thus identifying factors that might serve to protect individuals from committing that final act would seem of utmost importance. Moreover, given the relatively low, albeit too high, number of individuals engaging in suicidal behavior, exploring what factors might serve to protect those who do not engage in such behavior would seem a potentially more fruitful approach than focusing on risk factors alone. In addition, given the relatively low number of individuals engaging in suicidal behavior, using a positive psychology approach has the advantage of allowing the study of a greater number of individuals in the search for protective factors (Wingate et al., 2006). Although relatively few individuals attempt or complete suicide, many

individuals experience thoughts of suicide that are never acted upon. Beck, Kovacs, and Weissman (1979) describe suicidal ideation as the logical precedent of suicidal behavior and deemed it to be a useful indicator of the potential for future suicidal behavior. Thus, exploring factors that might lessen the occurrence of suicidal ideation seems a logical approach toward identifying factors that may prevent suicidal behavior. Indeed, many researchers have approached the study of suicidal behavior by studying its more common predecessor, suicidal ideation.

Suicide is an act of an individual who sees no chance for a brighter future; thus the future-oriented positive psychology construct of optimism warrants investigation as a possible protective factor against suicidal ideation and behavior. Scheier and Carver (1985) conceptualized optimism as a general expectation of good things happening in one's future. Optimists, as defined by Scheier and Carver (1985), do not differentiate how they expect these good things to come about; rather, they have a more general expectation of good things happening whether it be through their own actions, the actions of others, or through outside forces. Since the introduction of a measure of optimism, the Life Orientation Test (LOT), by Scheier and Carver in 1985 numerous studies have demonstrated the beneficial role optimism plays in both physical and mental health (Scheier & Carver, 1992). Given the inclusion of the role of others in the optimism construct and the role that relations with others plays in suicidal thoughts and behavior, optimism would seem particularly worthy of investigation into its role as a protective factor against suicide, yet very little research has been done in this area. Indeed, Wingate and colleagues (2006) noted the wealth of research relating optimism to other forms of

psychopathology, yet noted the dearth of research exploring the relation of optimism to suicidal behavior.

The purpose of the present study was to explore the role of the positive psychology construct of optimism as a protective factor against suicidal ideation. A possible relationship between Joiner's interpersonal-psychological theory of suicidal behavior and the construct of optimism was investigated by examining the ability of optimism to act as buffer against perceived burdensomeness, thwarted belongingness, and acquired capability to engage in self-injury in the prediction of suicidal ideation. An additional purpose was to provide a further test of the roles of thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury as risk factors for suicidal ideation.

It was hypothesized that optimism would be negatively correlated with suicidal ideation, thwarted belongingness and perceived burdensomeness, while optimism would be positively correlated with the acquired capability to engage in self-injury. Further, it was hypothesized that optimism would continue to negatively predict suicidal ideation even after controlling for the effects of symptoms of depression. It was also hypothesized that optimism would act as a buffer of the relationship between each construct of the interpersonal-psychological theory and suicidal ideation, such that optimism would reduce the risk of suicidal ideation in those experiencing thwarted belongingness, perceived burdensomeness, or the acquired capability to engage in self-injury. Finally, it was also hypothesized that thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury would positively predict suicidal ideation.

CHAPTER II

REVIEW OF LITERATURE

Suicide has been the subject of much research, dating back to Durkheim's (1897) landmark treatise, which was perhaps the first statistically methodical study of the phenomenon of suicide. Yet, despite this long history of research, suicide continues to be a problem in our society. Suicide was the eleventh ranked cause of death in the United States in 2006, taking the lives of over 33,000 people, which averages to a rate of 91 suicides each day (CDC, 2007a). The overall rate of completed suicide is approximately four times higher for males than it is for females (CDC, 2007a). However, although more males than females die by suicide, the rate of attempted suicide is approximately two to three times higher for females than it is for males (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Suicide attempts, as opposed to completed suicides, also occur at a much higher rate in certain age groups, with an estimated ratio of 100-200 attempts for each completed suicide in young people age 15-24, as compared to approximately four attempts for each completed suicide in adults over age 65 (Goldsmith, et al., 2002). Across all age groups, 395,320 people received hospital emergency room treatment for self-inflicted injuries in 2006 (McCaig & Nawar, 2006). Research has shown that a history of self-injurious behavior or previous suicide attempts are significant risk factors for both future suicide attempts and suicide completion (Hawton, Zahl, & Weatherall, 2003; CDC, 2007a). Just as suicide attempts are a risk factor for future completed

suicide, Beck and colleagues (1979) described suicidal ideation as the logical precedent of suicidal behavior and deemed it to be a useful indicator of the potential for future suicidal behavior. Thus, many researchers have approached the study of suicidal behavior by studying its more common predecessor, suicidal ideation.

A wealth of research assessing suicide risk factors has found strong support for the roles of depression and hopelessness in contributing to suicidal thoughts and behavior. Of these two constructs, hopelessness has been shown to be the stronger predictor of suicidal thoughts and behavior in clinical samples (Brown, Beck, Steer, & Grisham, 2000; Glanz, Haas, & Sweeney, 1995). However, depression has been shown to be the stronger predictor of suicidal thoughts and behavior in non-clinical samples. For example, a study by Rudd (1990) found depression to be a stronger predictor of suicidal ideation than hopelessness in a sample of 737 university students, a finding that was later replicated by Konick and Gutierrez (2005). These findings may be due to the restricted range of hopelessness in a non-clinical population, an idea first posited by Durham (1982) when he found the Beck Hopelessness Scale to be considerably less reliable in a college student sample than in a clinical sample, with Kuder-Richardson reliabilities of .65 and .86 respectively. Thus, it seems likely that measures other than hopelessness may prove more useful in assessing suicide risk in a non-clinical population.

The Interpersonal-Psychological Theory of Suicidal Behavior

A recent theory that proposed a model of suicide risk is Joiner's (2005) interpersonal-psychological theory of suicidal behavior. Joiner proposed that there are three primary risk factors for suicide, each of which is a necessary, but not sufficient element contributing to the overall risk of suicidal behavior. According to the interpersonal-

psychological theory of suicidal behavior, these three risk factors are thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury. Joiner posited that although each of these constructs represents a risk factor that could lead to suicidal thoughts or behavior, it is the combination of all three that forms the most lethal risk.

The construct of thwarted belongingness refers to a lack of connection with other people, such as having few friends or family members to turn to in time of need. Historically, numerous studies have demonstrated that a lack of social connection has a strong correlation with suicidal behavior and suicide is more likely to occur in individuals with little social support or few family connections. Indeed, as long ago as 1897, Durkheim found an increased incidence of suicide in unmarried adults as well as in individuals who were not integrated into a social network. In a review of empirical research, Conner, Duberstein, Conwell, Seidlitz, and Caine (2001) found social disengagement to be one of the five most consistent predictors of suicide, along with depression, hopelessness, impulsivity, and anxiety. Further, a study by Duberstein, Conwell, Conner, Eberly, Evinger, and Caine (2004) showed that social disconnection contributed to an increased risk of suicide beyond the risk associated with the presence of depression. Duberstein and colleagues (2004) also found being unmarried or having no children was associated with a higher risk of suicide.

A series of studies by Baumeister, DeWall, Ciarocco, and Twenge (2005) demonstrated that social rejection, or a thwarted need to belong, can result in a diminished ability to resist engaging in potentially negative or harmful behaviors and lead individuals to give up more quickly when engaged in a challenging task. Baumeister and

Leary (1995) proposed that belongingness is a basic human need, and Joiner (2005) extended this proposition by positing that if the need to belong is not met it can create a sense of disconnection and social isolation that can lead to suicidal behavior. Joiner (2005) posited that the need to belong is so strong that if one does feel a sense of belongingness, it can override the risk created by any other distress in an individual's life.

The construct of perceived burdensomeness refers to the perception that one's existence has somehow created a burden on others (Joiner, 2005). It is important to note that this perception of being a burden is often a mistaken perception, an inflated sense of the burden one's existence places on others. A survey of psychiatrists by O'Reilly, Truant, and Donaldson (1990) found that the perception of being a burden to others was commonly present in their patients who ultimately completed suicide. Support for the role of perceived burdensomeness in suicidal behavior was also demonstrated by de Catanzaro (1995), who found significant correlations between social isolation, perceived burdensomeness, and suicidal ideation. As a result of these findings, de Catanzaro proposed an evolutionary model of suicidal behavior, wherein a perception of being a burden on one's relatives can lead to a perception of reduced fitness, which in turn can lead to suicidal thoughts. In a test of this evolutionary model in a college student sample, Brown, Dahlen, Mills, Rick, and Biblarz (1999) found the perception of being a burden in one's relationships to be significantly correlated with depression and hopelessness, as well as with suicidal ideation and behavior.

Joiner (2005) posited that a sense of perceived burdensomeness arises when one feels ineffective or incompetent in one's actions, and in turn believes this ineffectiveness or incompetence is creating a burden for others. Some individuals feel overwhelmed by the

demands life has placed on them, which may create a greater sense of dependence on others and a subsequent perception of incompetence or of being a burden. Joiner asserted that the risk posed by a sense of perceived burdensomeness reaches its peak when the individual can foresee no change in his or her level of effectiveness or competence, and thus interprets being a burden as a stable and permanent condition.

Joiner (2005) acknowledged that some may question how an individual might perceive being a burden on others if that individual does not feel some connection to those others. However, he noted that one need only feel a minimal connection to others to perceive oneself as a burden to them. Perhaps more importantly, Van Orden, Merrill, and Joiner (2005) asserted that the need to belong is not being met in a relationship in which one perceives oneself as a burden. Joiner also posited that perceived burdensomeness and thwarted belongingness may be interconnected in that the sense of ineffectiveness associated with perceiving oneself as a burden may lead to withdrawal from others, which can exacerbate a feeling of thwarted belongingness. Overall, Joiner's theory proposed that it is the combination of perceived burdensomeness and thwarted belongingness that can lead to a wish to end one's life. However, the wish to die is not sufficient to lead one to suicide unless one has acquired the capability to carry out the act, which is the third element of Joiner's interpersonal-psychological theory of suicidal behavior.

The acquired capability to engage in self-injury does not necessarily refer only to intentional acts of self-injury, but rather to any of a variety of experiences that can lead to an increased tolerance for pain or a lack of fear of pain. Experiences of pain or injury that may lead to an acquired capability to engage in self-injury can obviously occur by

methods such as intentionally cutting or burning oneself. However, experiences that involve pain or injury can also occur without intent, such as from medical conditions or as a result of regular activities, such as athletic injuries. Joiner (2005) posited that whether the experience of pain or injury occurs intentionally or unintentionally, it can lead to a reduced sensitivity to pain. He further posited this reduced sensitivity to pain can diminish the inherent fear of harm that a person generally experiences, and thus make it easier for that individual to acquire the ability to engage in self-injury, which can be a precursor to suicidal behavior. Indeed, past research has shown previous self-injury and suicide attempts to be strong predictors of suicidal behavior. In a follow-up study of 11,583 patients who had been treated at a hospital for self-injury, Hawton and colleagues (2003) found a markedly increased occurrence of suicide in the first year following the patient's release; a risk that was 66 times the risk of suicide in the general population. Hawton and colleagues also found that subsequent acts of self-injury often involved more lethal means of self-injury than the initial act, such as hanging following an attempted overdose, providing evidence that the capability to engage in self-injury is acquired.

In order to examine Joiner's (2005) interpersonal-psychological theory of suicidal behavior Van Orden and colleagues (2005) developed the Interpersonal Needs Questionnaire (INQ) as a measure of the constructs of thwarted belongingness and perceived burdensomeness. The original 12-item INQ was later expanded to18 items by Van Orden, Witte, Gordon, Bender, and Joiner (2008) in order to better measure these constructs. Internal consistency has been shown to be good for both perceived burdensomeness and thwarted belongingness, with alpha values of .89 and .85 respectively. Van Orden and colleagues (2005) also created the Acquired Capability for

Suicide Scale (ACSS) as a measure of the acquired capability to engage in self-injury. Van Orden and colleagues (2008) later expanded the original 5-item ACSS to a 20-item measure in order to better tap in to the many different nuances of the acquired capability to engage in self-injury. Internal consistency has been found to be adequate, with an alpha of .67, and correlations with other measures indicate good discriminant validity.

In examining Joiner's interpersonal-psychological theory of suicidal behavior, Van Orden, Lynam, Hollar, and Joiner (2006) demonstrated that perceived burdensomeness remained as a significant predictor of suicidal ideation and past suicide attempts in an outpatient sample, even after accounting for the effects of hopelessness. A later study by Van Orden and colleagues (2008) also found a significant main effect for perceived burdensomeness in predicting suicidal ideation in a college student sample after accounting for symptoms of depression. Although Van Orden and colleagues (2008) did not find a significant main effect for thwarted belongingness, their findings did show a significant interaction effect between perceived burdensomeness and thwarted belongingness in predicting suicidal ideation. Van Orden and colleagues (2008) also showed a relation between the acquired capability to engage in self-injury and past suicide attempts, as well as an interaction effect of between acquired capability to engage in self-injury and perceived burdensomeness in predicting clinician rated risk assessment of suicidal behavior. A recent study by Davidson, Wingate, Rasmussen, and Slish (2009) also found support for each of the elements of Joiner's theory predicting suicidal ideation. Although much work remains to be done in substantiating Joiner's theory, research thus far provides support for thwarted belongingness, perceived burdensomeness, and

acquired capability to engage in self-injury as indicators of risk for suicidal ideation and behavior.

Optimism and the Positive Psychology Approach

Seligman and Csikszentmihalyi (2000) introduced a framework for studying psychology from a positive perspective as opposed to the traditional focus on psychopathology. Recently, the concept of positive psychology has been receiving increasing attention as a way of adding to our knowledge and understanding of human behavior. Moreover, positive psychology research has grown to include studying psychopathology from a positive psychology perspective by exploring what serves to protect some individuals from experiencing psychological distress. For example, Tugade and Fredrickson (2004) showed that positive emotions can hasten recovery from negative events. Given the inherent risks involved in suicidal thoughts and behavior, utilizing a positive psychology approach of identifying factors which might serve to protect individuals from experiencing suicidal thoughts or behavior seems particularly important.

Suicide is an act of an individual who sees no chance for a brighter future; thus the future-oriented positive psychology construct of optimism warrants investigation as a possible protective factor against suicidal ideation and behavior. Optimism, as conceptualized by Scheier and Carver (1985), is defined as the expectation that good things will happen in one's future and that one will meet one's goals. Thus, the optimism construct consists of a general expectancy of success, be it through the efforts of the self, others, or outside forces (Carver & Scheier, 2002; Magaletta & Oliver, 1999). To date, very little research has been done exploring the role of optimism as a protective factor against suicidal thoughts and behavior. Given the role that social relations play in suicidal

thoughts and behavior, and the inclusion of the role of others in the optimism construct, optimism seems particularly worthy of investigation as a possible protective factor against suicidal thoughts and behavior.

Optimism, as defined by Scheier and Carver (1985), has its roots in the control theory model of self-regulation. Carver and Scheier (1982) described the control theory model of self-regulation as first consisting of a hierarchy of discrepancy-reducing feedback loops which an individual uses to regulate or guide behavior. As illustrated in Figure 1, each feedback loop consists of an input function, which is the perception of the present condition; a comparator, which compares the present condition to some reference value or goal and determines if there is any discrepancy between the present condition and the goal; an output function, which is the behavior enacted in order to reduce any perceived discrepancy or maintain the status quo; and finally, the resulting impact of that behavior on the individual's environment. The impact of the resulting behavior then becomes the input function for the next cycle of the feedback loop. It should be noted that an individual's behavior is not the only thing that can affect the feedback loop; disturbances such as other people or outside forces can also create an impact on the environment, which can influence any perception of discrepancy between the present condition and the goal. Thus, the direct purpose of the feedback loop is not to initiate behavior, but rather to minimize any perception of discrepancy between the present condition and the goal. Controlling the hierarchy of discrepancy-reducing feedback loops is a system that regulates the loops in accordance with the individual's current focus of attention.

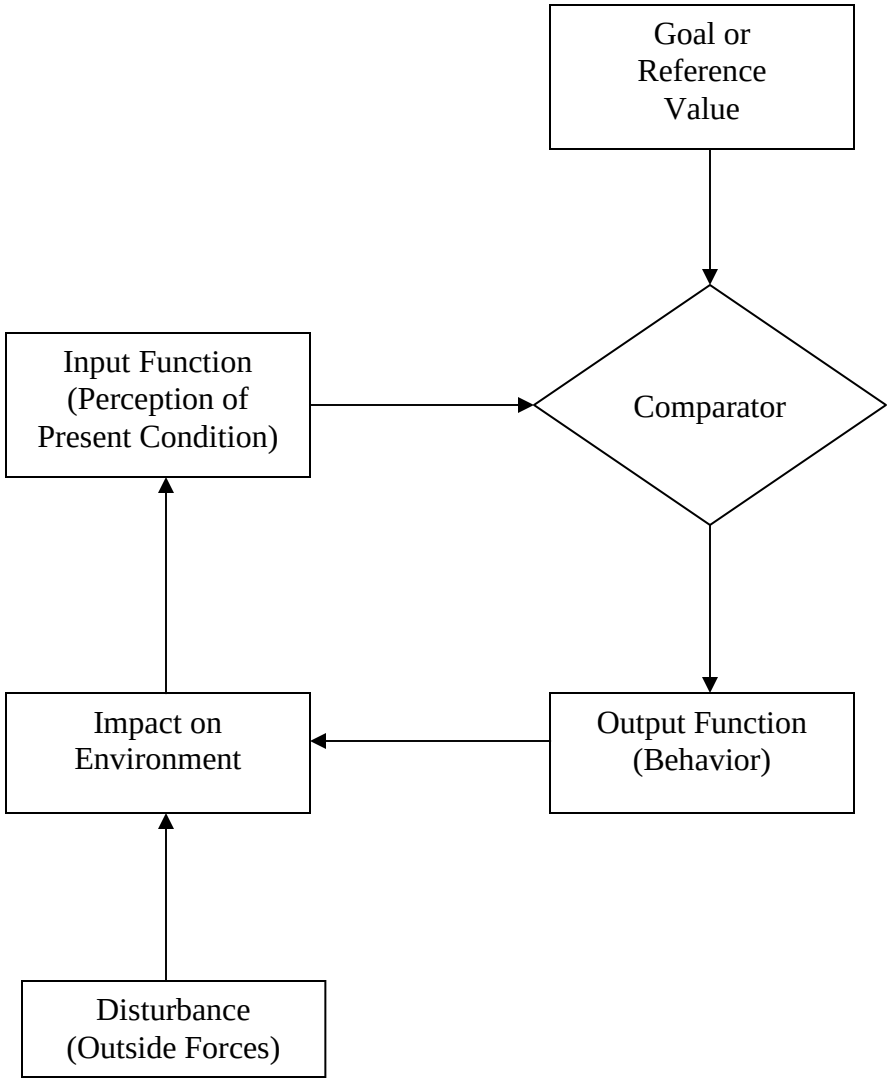

Figure 1. The Discrepancy Reduction Feedback Loop. (Adapted from Carver and Scheier, 1982.)

If obstacles to discrepancy reduction are encountered, then the process may change to a separate process of expectancy assessment (Carver & Scheier, 1982). The expectancy assessment process combines information from a variety of sources, such as the resources or desire to potentially achieve a goal. As illustrated in Figure 2, the expectancy assessment process is similar to the discrepancy reducing process in that it involves a comparison between the current condition and the desired outcome. However, the expectancy assessment process differs in that it also results in a yes/no decision that may lead to either attempting to continue toward the goal or disengaging from the attempt. In other words, if the expectancy assessment process leads to confidence in reaching the goal, then a process of discrepancy reduction may be invoked and efforts to reach the goal may be enhanced. In contrast, if the expectancy assessment process yields a lack of confidence in reaching the goal, then one may disengage completely and cease the attempt to reach the goal. Following the development of this theory, numerous lab-based studies demonstrated support for the concept of outcome expectancies related to specific tasks influencing behavior, which led Scheier and Carver to develop a more general measure of an individual's general outcome expectancy, or what they termed dispositional optimism (Scheier & Carver, 1985).

Scheier and Carver (1985) sought to create a measure of an individual's general expectation that good things will happen without reference to a specific task, goal, or cause of the outcome and subsequently developed the Life Orientation Test (LOT). An initial item pool was developed and administered to college students, followed by a principal-factors factor analysis and a subsequent oblique rotational technique. Items were added, discarded, rewritten, and retested accordingly until the final version was

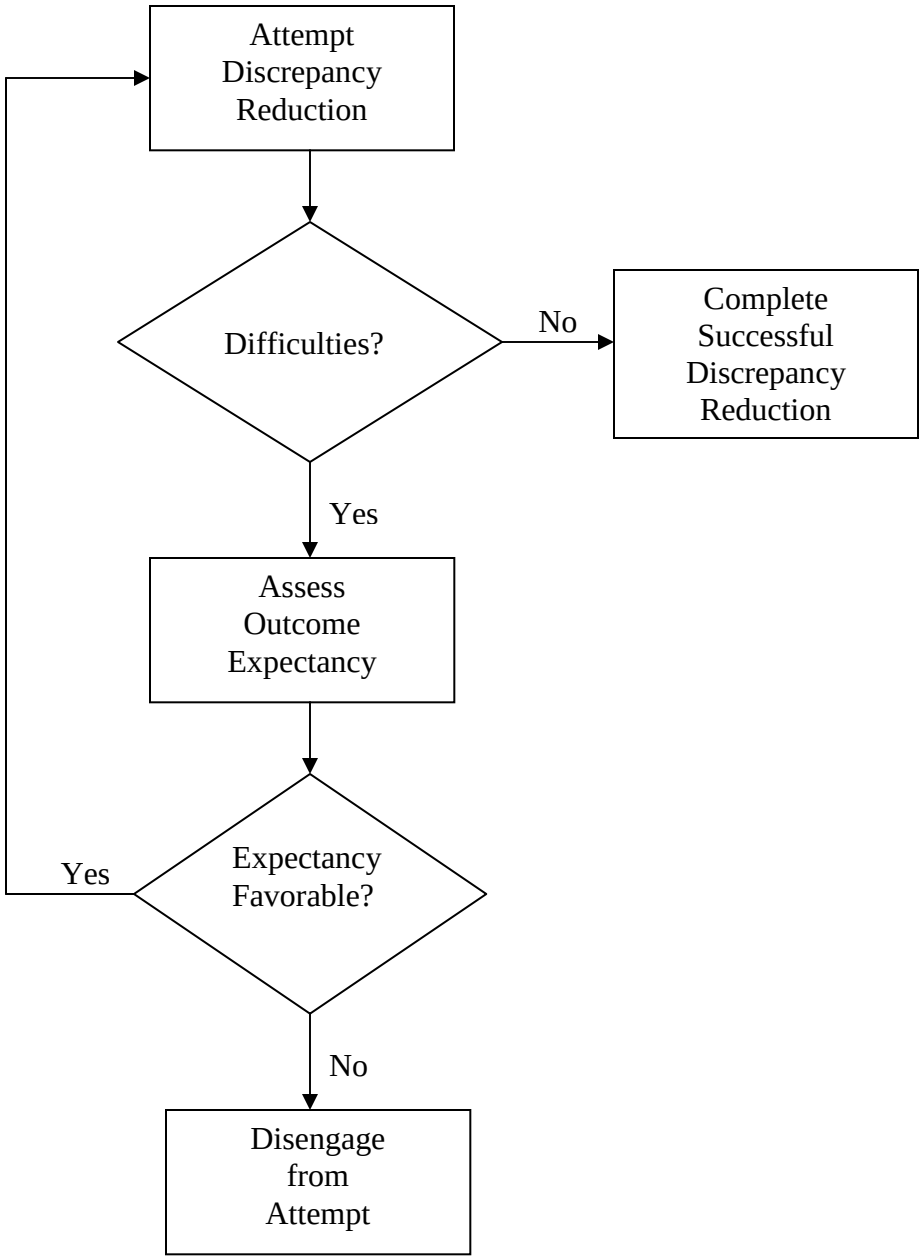

Figure 2. The Expectancy Assessment Process. (Adapted from Carver and Scheier, 1982.)

obtained. The final version of the LOT consisted of 8 items, 4 items keyed positively and 4 items keyed negatively. Each item was scored on a 5 point scale ranging from strongly agree to strongly disagree. Internal consistency was acceptable, with a Cronbach's alpha of .76. Test-retest reliability was .79 at 4 weeks, indicating relative stability over time. Correlations with other measures, including measures of self-esteem, locus of control, hopelessness, depression, perceived stress, social desirability, self-consciousness, alienation, and social anxiety showed convergence where expected, but not so strong as to indicate a lack of discriminant validity. An initial 4 week longitudinal study showed that optimism, as measured by the LOT, significantly predicted the reporting of fewer physical symptoms, such as dizziness, muscle soreness, and fatigue. Optimism as measured by the LOT has been described as dispositional optimism, a specifically future-oriented form of optimism, which can be described as general and stable positive outcome expectancies. Scheier and Carver (1985) noted that much past research had focused on unfavorable outcome expectancies, such as learned helplessness, as opposed to the favorable outcome expectancies of optimism and concluded the LOT had much to offer researchers.

Following the introduction of the LOT, numerous studies demonstrated the beneficial role optimism plays in physical health and coping with stress (Scheier & Carver, 1987). However, Smith, Pope, Rhodewalt, and Poulton (1989) questioned the discriminant validity of the LOT as compared to measures of neuroticism. They asserted that neuroticism, like optimism, is a stable trait which has been linked to reporting of physical symptoms and style of coping with stress, and found the LOT to be correlated with measures of neuroticism to a sufficient degree to limit its discriminant validity. In

response to the findings of Smith and colleagues (1989) and others, Scheier, Carver, and Bridges (1994) noted that the construct of neuroticism has many factors, one of which is pessimism, thus there is a conceptual link and some correlation between the constructs would be expected. Data accumulated from various studies with a total of 4,309 participants was then used by Scheier and colleagues (1994) to reexamine the LOT as related to trait anxiety, neuroticism, self-mastery, and self-esteem in predicting coping strategies, physical symptoms, and depression. Although results supported the LOT as having discriminant and predictive validity, Scheier and colleagues also noted results of studies showing coping had often been found as a mediator between optimism and symptoms, and concluded that two items on LOT were problematic in this regard. Thus, a revised version of the measure was created, the LOT-R.

Subsequent evaluation of the psychometric properties of the LOT-R using principal components factor analyses and Varimax final rotation technique as well as oblique rotation technique yielded a one factor solution. Confirmatory factor analyses showed both single factor and two factor solutions to reasonably fit to the data. Internal consistency was acceptable for the LOT-R, and very similar to original LOT, with a Cronbach's alpha of .78. Test-retest reliability was also acceptable, with values ranging from .56 to .79 at intervals ranging from 4 to 28 months. LOT-R correlated at $r = .95$ to the original LOT, indicating consistency between the two versions. Correlations to measures of trait anxiety, self-mastery, self-esteem, and neuroticism were modest, indicating acceptable convergent and discriminant validity.

Many studies examining optimism have focused on its association with various coping strategies and physical or psychological symptoms. For example, Carver and

colleagues (1993) conducted a longitudinal study of breast cancer patients and found optimism to be significantly negatively correlated with psychological distress at all time points, even when controlling for prior distress. Optimism was also positively linked to active coping, planning, and acceptance, whereas it was negatively related to avoidance coping, denial and behavioral disengagement. Carver and colleagues (1993) concluded that optimists were less likely to give up or experience helplessness and were more likely to stay engaged with their goals.

Brissette, Scheier, and Carver (2002) noted the importance of social support in psychological health and examined whether optimists adjust to stressful events better because they have more extensive and supportive social networks than pessimists. Brisette and colleagues noted that previous research had raised the question as to whether optimism led to developing more supportive social networks or resulted from being in a supportive social network. In a longitudinal study of first semester college students, they found optimism was positively correlated with perceived social support. Optimism was also a prospective predictor of increases in perceived social support, as well as predicting smaller increases in both stress and depression. Mediation analyses showed increased social support mediated the effect of optimism on stress and depression. Brisette and colleagues concluded the increase in social support associated with optimism led to lower levels of stress and depression. Findings such as these raise the question as to whether the higher levels of perceived social support associated with optimism might also serve to protect against a sense of thwarted belongingness and thus reduce the risk of suicidal thoughts and behaviors.

In describing expectancy assessment, Carver and Scheier (1982) noted that the act of withdrawing or disengaging from an attempt to reach a goal may produce a focus on one's inability to reach that goal, which can cause distress in the individual. Indeed, Scheier and Carver (1987) asserted that disengagement may not always take the form of a passive process of withdrawal and that suicide can be viewed as an extreme act of disengagement. Optimism may provide some protection, however, as study by Scheier, Weintraub, and Carver (1986) found that optimists were less likely to use disengagement from goals as a coping strategy. Thus, it seems likely that optimism may provide a buffer against suicidal ideation and behavior.

Despite the many studies investigating optimism and its relation to various forms of distress, only a few recent studies have begun to explore the role of optimism in suicidal thoughts and behavior. Hirsch, Conner, and Duberstein (2007) found that optimism negatively predicted suicidal ideation in a college student sample, after accounting for the effects of both depression and hopelessness. Hirsch and colleagues then concluded that cultivating positive outcome expectancies may be useful as a suicide prevention approach. In a related study using the same data, Hirsch and Conner (2006) noted no significant interaction effect between dispositional optimism and hopelessness in predicting suicidal ideation. In contrast, a study by Hirsch, Wolford, LaLonde, Brunk, and Morris (2007) found a significant moderating effect between optimism and negative life events, such that higher levels of optimism provided individuals with less protection against suicidal ideation and attempts as the number of negative life events increased. Hirsch, Wolford and colleagues concluded that the optimist's increased likelihood to stay

engaged in an effort in the face of obstacles may be counter-productive in the face of extreme stress.

The purpose of the present study was to explore the role of optimism as a protective factor against suicidal ideation. A possible relationship between Joiner's interpersonal-psychological theory of suicidal behavior and the construct of optimism was investigated by examining the ability of optimism to act as a moderator of perceived burdensomeness, thwarted belongingness, and acquired capability to engage in self-injury in the prediction of suicidal ideation. An additional purpose was to provide a further test of the roles of thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury as risk factors for suicidal ideation.

It was hypothesized that optimism would be negatively correlated with suicidal ideation, thwarted belongingness and perceived burdensomeness, while optimism would be positively correlated with the acquired capability to engage in self-injury. Further, it was hypothesized that optimism would continue to negatively predict suicidal ideation after controlling for the effects of depression. It was also hypothesized that optimism would act as a buffer of the relationship between each construct of the interpersonal-psychological theory and suicidal ideation, such that optimism would reduce the risk of suicidal ideation in those experiencing thwarted belongingness, perceived burdensomeness, or the acquired capability to engage in self-injury. Also, consistent with previous literature, the same analyses were conducted while controlling for the effects of symptoms of depression. It was hypothesized that results would follow the same pattern of significance even after accounting for the influence of symptoms of depression. Finally, it was also hypothesized that thwarted belongingness, perceived

burdensomeness, and acquired capability to engage in self-injury would positively predict suicidal ideation.

CHAPTER III

METHODOLOGY

Participants

Participants in the current study were 452 undergraduate students attending Oklahoma State University who received course credit for their participation. The participants ranged in age 18 to 47 (*M* = 19.87, *SD* = 3.12); 34.4% were male and 65.6% were female. Regarding ethnicity, 81.9% self-identified as Caucasian, 8.6% as Native American, 3.3% as African American, 2.4% as Asian American, 2.2% as Hispanic, .4% as Biracial, and 1.1% as Other. Additional demographic information can be found in Appendix XXI.

Measures

Participants completed a demographics form and the following questionnaires:

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). Scores on this measure served to represent the construct of depression. The CES-D is a 20-item self-report measure of depressive symptoms experienced in the past week, designed for use in the general population. Items are rated on a 4-point response scale ranging from 0 = "rarely or none of the time" to 3 = "most or all of the time" and item responses are summed to compute the total score. Total scores ranging from 0 to 60 are possible, with higher scores indicating greater severity of depressive symptoms. Internal consistency has been shown to be good (α = .85). Test-retest reliability has been variable, as would be

expected in a measure of transient symptoms, ranging from .48 to .67 over periods of 2 weeks to 12 months, generally with stronger correlations found in the shorter time frames. The CES-D has shown excellent ability to discriminate between non-clinical and clinical samples, with a mean of 9.25 (*SD* = 8.58) for a non-clinical sample and a mean of 24.42 (*SD* = 13.51) for a clinical sample. Reliability for the current sample was found to be good (α = .91)

Revised Life Orientation Test (LOT-R; Scheier, et al. 1994). Scores on this measure served to represent the construct of optimism. The LOT-R is a 10-item self-report measure of dispositional optimism. Items are rated on a 5-point response scale ranging from 0 = "strongly disagree" to 4 = "strongly agree". Three of the items are keyed in the positive direction, 3 items are keyed in the negative direction, and 4 items are filler items which are not included in the scoring. Included item responses are summed, such that total optimism scores can range from 0 to 24, with higher scores indicating higher levels of optimism. Internal consistency has been found to be acceptable (α = .78). Test-retest reliability has also been acceptable, with values ranging from .56 to .79 at intervals ranging from 4 to 28 months. Correlations to measures of trait anxiety, self-mastery, self-esteem, and neuroticism have been found to be modest, indicating acceptable convergent and discriminant validity. Reliability for the current sample was acceptable (α = .78).

Interpersonal Needs Questionnaire (INQ; Van Orden et al. 2008). Scores of the two subscales of this measure served to represent the constructs of perceived burdensomeness and thwarted belongingness. The INQ is an 18-item self-report measure designed to measure the constructs of perceived burdensomeness and thwarted belongingness. Items are rated on a 7-point response scale ranging from 1 = "not at all true for me" to 7 =

"very true for me". Participants rate the items according to how they have felt recently. Nine items pertain to each construct and 8 items are reverse scored. Mean scores are calculated for each construct, such that final scores for each construct can range from 1 to 7, with higher scores indicating higher levels of perceived burdensomeness or thwarted belongingness. Internal consistency has been shown to be good for both perceived burdensomeness (α = .89) and thwarted belongingness (α = .85). Reliability was also found to be good in the current sample, with alphas of .89 for perceived burdensomeness and .90 for thwarted belongingness.

Acquired Capability for Suicide Scale (ACSS; Van Orden et al. 2008). Scores on this measure served to represent the construct of the acquired capability to engage in self-injury. The ACSS is a 20-item self-report measure designed to measure an individual's lack of fear regarding injury or harm. Items are rated on a 5-point response scale ranging from 0 = "not at all like me" to 4 = "very much like me". Seven items are reversed scored. Mean scores are calculated for the measure, such that the final score can range from 0 to 5, with a higher score indicating a higher level of acquired capability to engage in self-injury. Internal consistency has been shown to be adequate (α = .67) and correlations with other measures indicate good discriminant validity. Reliability for the current sample was good (α = .83).

Depressive Symptom Inventory-Suicidality Subscale (DSI-SS; Metalsky & Joiner, 1991; Metalsky & Joiner, 1997). Scores on this measure served to represent the construct of suicidal ideation. The DSI-SS is a 4-item self-report measure designed to assess suicidal ideation in the past two weeks. The DSI-SS is a subscale of the larger Hopelessness Depression Symptom Questionnaire developed by Metalsky and Joiner

(1991). Response items range from 0 to 3 and the corresponding responses vary for each item. Item responses are summed and total scores can range from 0 to 12, with higher scores indicating higher levels of suicidal ideation. Metalsky and Joiner (1997) found internal consistency for the subscale to be good (α = .86). Reliability in the current sample was also good (α = .90).

In addition to the above measures, data was also collected using the following measures, which were not analyzed as part of the current study:

Hope Scale (Snyder, et al. 1991). The Hope Scale is s 12-item self-report measure of trait hope. Items are rated on an 8-point response scale ranging from 1 = "definitely false" to 8 = "definitely true". There are two subscales, termed pathways and agency, consisting of 4 items each, plus 4 filler items which are not included in the scoring. Internal consistency has been shown to be acceptable, with Cronbach's alphas ranging from .74 to .84. Test-retest reliability has also been acceptable, with values ranging from .73 to .85 at intervals ranging from 3 to 10 weeks. Correlations with the LOT ranged from .50 to .60.

Revised Trait Hope Scale (HS-R2; Shorey & Snyder, 2004). The HS-R2 is an 18-item self-report measure of hope. Items are rated on an 8-point response scale ranging from 1 = "definitely false" to 8 = "definitely true". The measure consists of three 6-item subscales, termed goals, pathways, and agency, with half of the items reverse scored. Overall scale reliabilities ranged from .86 to .88 in college student samples.

Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). The PSS is a 14-item self-report measure designed to measure the level of stress an individual has experienced in the last month. Items are rated on a 5-point response scale, ranging from 0 = "never" to 4 = "very often". Seven of the items are reverse scored. Scale reliability

ranged from .84 to .86 in three samples. Test-retest reliability ranged from .85 at a 2-day interval to .55 at a 6-week interval, an expected level of variation for a state measure.

Self-Rating Anxiety Scale (SAS; Zung, 1971). The SAS is a 20-item self-report measure designed to measure feelings of anxiety in the last week. Items are rated on a 4-point response scale ranging from 1 = "none or a little of the time" to 4 = "most of the time".

Self Control Scale (SCS; Tangney, Baumeister, & Boone, 2004). The SCS is a 36-item self-report measure designed to assess an individual's capacity for self-control. Items are rated on a 5-point response scale ranging from 1 = "not at all like me" to 5 = "very much like me". Twenty-four of the items are reverse scored. Internal consistency has been shown to be good (α = .89). Test-retest reliability has also been good, with a value of .89 over a 3 week interval.

Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). The BHS is a 20-item self-report measure designed to assess an individual's level of hopelessness. Items are rated as either true or false. Nine items are reverse scored. Total scores range from 0 to 20, with higher scores indicating higher levels of hopelessness. Internal consistency has been shown to be good, with a reliability coefficient of .93 and inter-item correlations ranging from .39 to 76.

Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1989). The SIAS is a 20-item self-report measure designed to assess the level of anxiety an individual experiences when interacting in social situations. Items are rated on a 5-point response scale ranging from 0 = "not at all characteristic or true of me" to 4 = "extremely characteristic or true of me". Three items are reversed scored. Total scores range from 0 to 80, with higher

scores indicating higher levels of anxiety. Internal consistency has been found to be good, with Cronbach's alphas ranging from .88 to .93. Test-retest reliability has also been shown to be good, with values over .90 at 1 month and 3 month intervals.

State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Luschene, 1970). The STAI is a 40-item self-report measure with two subscales. The State subscale consists of 20 items designed to assess the level of an individual's current, or state, anxiety. Items are rated on a 4-point response scale ranging from 1 = "not at all" to 4 = "very much so". The Trait subscale consists of 20 items designed to assess the level of an individual's general, or trait, anxiety. Items are rated on a 4-point response scale ranging from 1 = "almost never" to 4 = "almost always".

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). The ERQ is a 10-item self-report measure designed to assess how one controls or regulates one's emotions. Items are rated on a 7-point response scale ranging from 1 = "strongly disagree" to 7 = "strongly agree". Six items assess emotion reappraisal and 4 items assess emotion suppression. Internal consistency has been found to be acceptable, with an alpha of .79 for the reappraisal subscale and .73 for the suppression subscale. Test-retest reliability has also been acceptable, with a value .69 for both subscales at a 3 month interval.

Procedure

The current study received approval from the Institutional Review Board (IRB) of Oklahoma State University prior to being conducted. The study was conducted online using the PsychData website, which provided a secure data collection environment. Participants signed up on Sona, the university subject pool website. After signing up, they were given the URL to the webpage for the study, where they were provided with an

informed consent form to read and accept, after which they were directed to the survey questions. Upon completion of the survey, all participants were provided with a resource list of psychological services via the PsychData website.

Power Analysis

A power analysis was conducted to determine the necessary sample size. Using an estimated R^2 value of .03 and an adjusted α value of .01 to account for multiple tests yielded a required sample size of 381 to achieve a power of .80. Thus, participants were planned to be a minimum of 381 students drawn from the Sona research participation system.

Preliminary Data Analyses

Initial examination of the data revealed missing data values ranging from 2.7% to 7.7% per scale, resulting in a total of 18%, or 83 out of 452 participants, with at least one missing data point. Closer examination revealed that of these cases, 72 of them were missing the answer to only a single question. In addition, no more than three of those 72 participants, or less than 1% of the total number of participants, skipped the same individual question. Thus, for those cases missing only one item on a questionnaire, the value for that item was imputed using the mean of all participants for that specific item (Tabachnick and Fidell, 2007), resulting in a total of 438 of 452 cases with complete data. As further recommended by Tabachnick and Fidell (2007), all analyses were run on both the original data set and the data set with the imputed values; results are reported for the more complete data set. A comparison of the results revealed one minor difference in the analysis involving the acquired capability to engage in self-injury, which is noted in the report of the findings.

Due to the number of analyses conducted, an adjusted significance value of .01 was used for all analyses in order to reduce the chances of a Type I error. It should also be noted that suicidal ideation was positively skewed; a square root transformation improved the distribution significantly. However, the transformation did not appreciably affect any of the results; thus results are reported using the untransformed values for ease of interpretation.

Statistical Analyses

First, relations between variables were assessed using a two-tailed bivariate correlation analysis. To test the hypothesis that optimism would continue to negatively predict suicidal ideation even after controlling for the effects of symptoms of depression, a hierarchical regression analysis was conducted with suicidal ideation as the outcome variable. Symptoms of depression were entered in the first step of the regression, followed by optimism in the second step.

To test the hypotheses that optimism would act as a buffer against the effects of thwarted belongingness, perceived burdensomeness, or the acquired capability to engage in self-injury, three separate hierarchical regression analyses were conducted, one for each construct in Joiner's (2005) theory. Suicidal ideation was the outcome variable for all three regression equations. For each analysis, a single construct of the interpersonal psychological theory was entered in the first step of the regression. Optimism was then entered in the second step of the regression in order to examine the ability of optimism to reduce the risk of suicidal ideation. Additional analyses were conducted to examine whether optimism would act as a moderator in any of the relationships by entering the interaction term of each respective construct of Joiner's theory and optimism in a final

step of each regression. Each of the predictor variables was centered on its respective grand mean prior to being entered into the regression in order to prevent problems caused by multicollinearity of variables when analyzing for interaction effects (Aiken & West, 1991). Consistent with previous literature, the same analyses were also conducted while controlling for the effects of symptoms of depression by inserting a new first step into each analysis with depression as the predictor variable, followed by the steps as previously conducted.

In order to replicate the findings regarding the interpersonal psychological theory, a hierarchical multiple regression analysis was conducted with perceived burdensomeness, thwarted belongingness, and acquired capability to engage in self-injury as predictor variables and suicidal ideation as the outcome variable. Again, all predictor variables were centered prior to being entered into the regression. The individual centered predictor variables were each entered in the first step of the regression, followed by entering each two-way interaction term (thwarted belongingness by perceived burdensomeness, thwarted belongingness by acquired capability to engage in self-injury, and perceived burdensomeness by acquired capability to engage in self-injury) in the second step, and finally, the three-way interaction term of thwarted belongingness by perceived burdensomeness by acquired capability to engage in self-injury was entered in the third step.

CHAPTER IV

FINDINGS

Means, standard deviations, and correlation coefficients of study variables are presented in Table 1. The mean score for depression of 13.50 (*SD* = 9.96) was slightly higher than would be expected relative to the norm for a non-clinical sample of 9.25 (*SD* = 8.58) given by Radloff (1977); however, it was still well below the clinical sample norm of 24.42 (*SD* = 13.51). The current sample mean of .31 (*SD* = 1.05) for suicidal ideation was comparable to the mean score of .40 (*SD* = 1.25) established by Metalsky and Joiner (1997). Similarly, the mean score for optimism of 15.22 (*SD* = 3.97) was comparable to Scheier and Carver's (1994) norm for a college student sample of 14.33 (*SD* = 4.28). Mean scores for thwarted belongingness (*M* = 2.24, *SD* = 1.06) and perceived burdensomeness (*M* = 1.73, *SD* = .85) were also comparable to those found by Van Orden and colleagues (2008), which were (*M* = 2.18, *SD* = 1.15) and (*M* = 1.70, *SD* = .94), respectively.

As hypothesized, optimism was significantly negatively correlated with suicidal ideation, thwarted belongingness, and perceived burdensomeness. However, contrary to hypothesis, optimism was not significantly correlated with the acquired capability to engage in self- injury. To test the hypothesis that optimism would continue to negatively predict suicidal ideation after controlling for the effects of symptoms of depression, a hierarchical regression analysis was conducted with suicidal ideation as the outcome

Table 1

Means, Standard Deviations, and Correlation Coefficients of Study Variables

	Depression	Optimism	Burden	Th. Belong	Acq. Cap.	Suic. Idea
Depression	---	-.462*	.567*	.585*	-.119	.432*
Optimism		---	-.432*	-.506*	.088	-.309*
Burden			---	.725*	-.071	.345*
Th. Belong				---	-.053	.381*
Acq. Cap					---	-.023
Suic. Idea						---
Mean	13.50	15.22	1.73	2.24	2.02	.31
SD	9.96	3.97	.85	1.06	.63	1.05

Note. N = 452. Burden = Perceived Burdensomeness, Th. Belong = Thwarted Belongingness, Acq. Cap. = Acquired Capability to Engage in Self-Injury, Suic. Idea. = Suicidal Ideation
*$p < .001$

variable. As shown in Table 2, results were as hypothesized, with symptoms of depression accounting for 18.7% of the variance in suicidal ideation in step 1 ($\beta = .432$, $t(441) = 10.06$, $p < .001$). In step 2, optimism accounted for an additional 1.5% of the variance in suicidal ideation after controlling for the effects of depression ($\beta = -.139$, $t(440) = -2.90$, $p = .004$).

Three separate hierarchical regression analyses were conducted to test the hypotheses that optimism would act as a buffer against the effects of each construct of Joiner's (2005) interpersonal-psychological theory of suicidal behavior in predicting suicidal ideation. Each of these analyses was followed up with an additional hierarchical regression of the same constructs while controlling for symptoms of depression. Results for the regression of thwarted belongingness and optimism as predictors of suicidal ideation are shown in Table 3. Consistent with the hypothesis, thwarted belongingness showed a significant main effect on suicidal ideation in step 1, ($\beta = .381$, $t(445) = 8.70$, $p < .001$); the addition of optimism in step 2 also showed a significant main effect, ($\beta = -.157$, $t(444) = -3.13$, $p = .002$). Moreover, there was a significant interaction effect of thwarted belongingness and optimism ($\beta = -.217$, $t(443) = -4.64$, $p < .001$). To examine the interaction, the recommendations of Aiken and West (1991) were followed, and regression lines of the variables at values one standard deviation above and below the mean were plotted. As can be seen in Figure 3, high levels of thwarted belongingness significantly predicted suicidal ideation for individuals low in optimism, while high levels of optimism reduced the effect of thwarted belongingness on suicidal ideation to non-significance.

Table 2

Hierarchical Regression Analysis of Depressive Symptoms and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.187	1, 441	101.11					
Depression				.046	.005	.432	10.06	< .001
Step 2	.015	2, 440	55.61					
Optimism				-.037	.013	-.139	-2.90	.004

Table 3

Hierarchical Regression Analysis of Thwarted Belongingness and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.145	1, 445	75.61					
Th. Belong				.379	.044	.381	8.70	< .001
Step 2	.018	2, 444	43.46					
Optimism				-.042	.013	-.157	-3.13	.002
Step 3	.039	3, 443	37.49					
Th. Belong x Optimism				-.048	.010	-.217	-4.64	< .001

Note. Th. Belong = Thwarted Belongingness

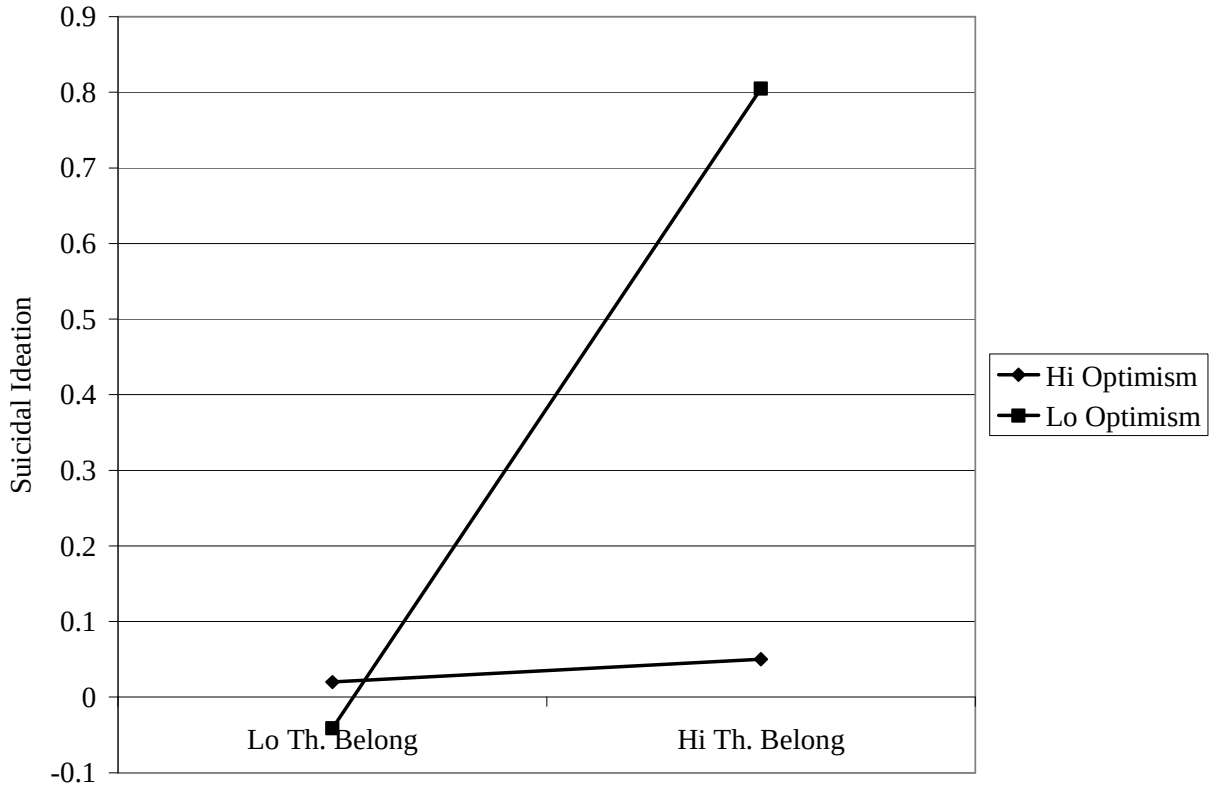

Figure 3. Optimism as a Moderator of Thwarted Belongingness on Suicidal Ideation.

Counter to expectations, the significant main effect of optimism was eliminated when controlling for depression in the regression of thwarted belongingness and optimism as predictors of suicidal ideation, as shown in Table 4. Depression significantly predicted suicidal ideation in step 1, ($\beta = .432$, $t(441) = 10.06$, $p < .001$), while thwarted belongingness showed a significant main effect in step 2 ($\beta = .199$, $t(440) = 3.81$, $p < .001$). The addition of optimism did not significantly add to the prediction, ($\beta = -.090$, $t(439) = -1.79$, $p = .075$). However, there was a significant interaction effect of thwarted belongingness and optimism ($\beta = -.205$, $t(438) = -4.49$, $p < .001$), such that high levels of thwarted belongingness significantly predicted suicidal ideation for individuals low in optimism, while high levels of optimism reduced the effects of thwarted belongingness on suicidal ideation to non-significance, as depicted in Figure 4.

Results for the regression of perceived burdensomeness and optimism on suicidal ideation are shown in Table 5. As hypothesized, perceived burdensomeness showed a significant main effect on suicidal ideation in step 1, ($\beta = .345$, $t(445) = 7.75$, $p < .001$); the addition of optimism in step 2 also showed a significant main effect, ($\beta = -.197$, $t(444) = -4.08$, $p < .001$). In addition, there was a significant interaction effect of perceived burdensomeness and optimism ($\beta = -.233$, $t(443) = -5.08$, $p < .001$). The graph of the interaction is shown in Figure 5, indicating that high levels of perceived burdensomeness significantly predicted suicidal ideation for individuals low in optimism, while high levels of optimism reduced the effects of perceived burdensomeness on suicidal ideation to non-significance.

Table 4

Hierarchical Regression Analysis of Depression, Thwarted Belongingness, and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.187	1, 441	101.11					
Depression				.046	.005	.432	10.06	< .001
Step 2	.026	2, 440	59.36					
Th. Belong				.199	.052	.199	3.81	< .001
Step 3	.006	3, 439	40.84					
Optimism				-.024	.013	-.090	-1.79	.075
Step 4	.034	4, 438	37.00					
Th. Belong x Optimism				-.046	.010	-.205	-4.49	< .001

Note. Th. Belong = Thwarted Belongingness

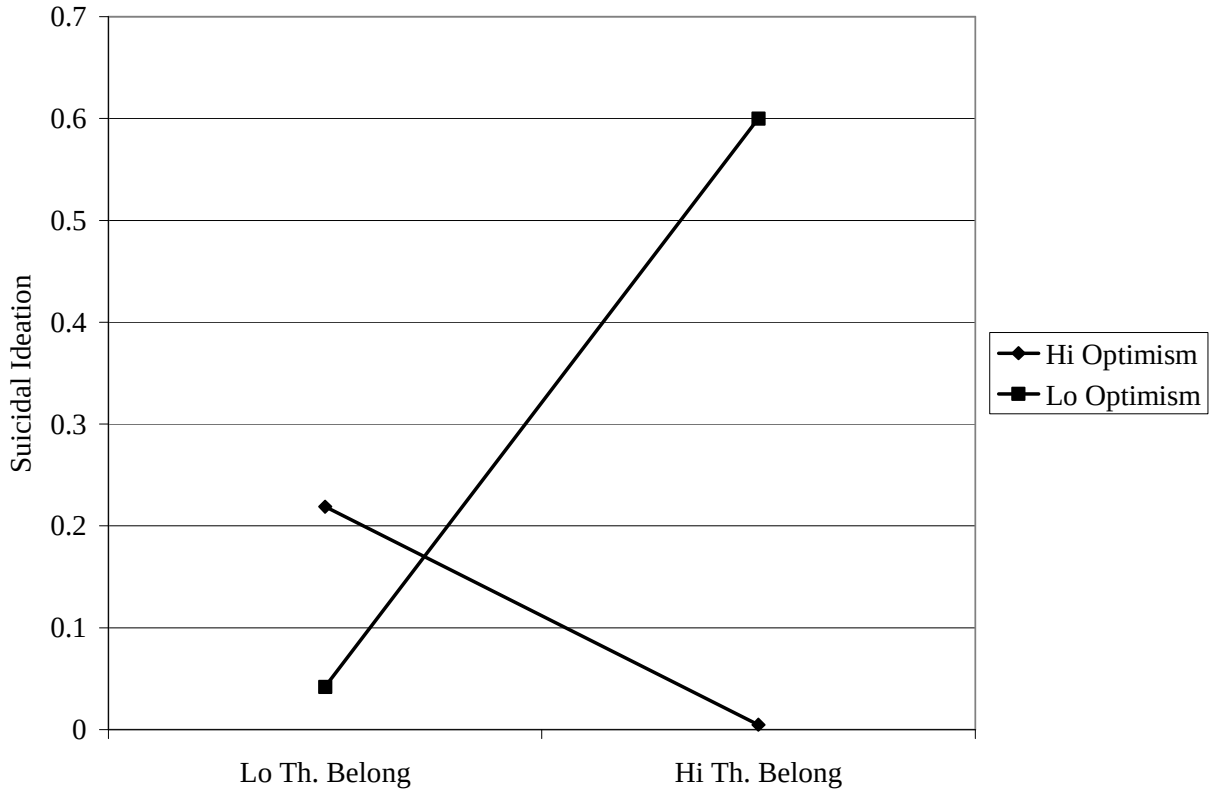

Figure 4. Optimism as a Moderator of Thwarted Belongingness on Suicidal Ideation after Controlling for Depression.

Table 5

Hierarchical Regression Analysis Perceived Burdensomeness and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.119	1, 445	60.12					
Burden				.424	.055	.345	7.75	< .001
Step 2	.042	2, 444	39.44					
Optimism				-.052	.013	-.197	-4.08	< .001
Step 3	.047	3, 443	36.35					
Burden x Optimism				-.063	.012	-.233	-5.08	< .001

Note. Burden = Perceived Burdensomeness.

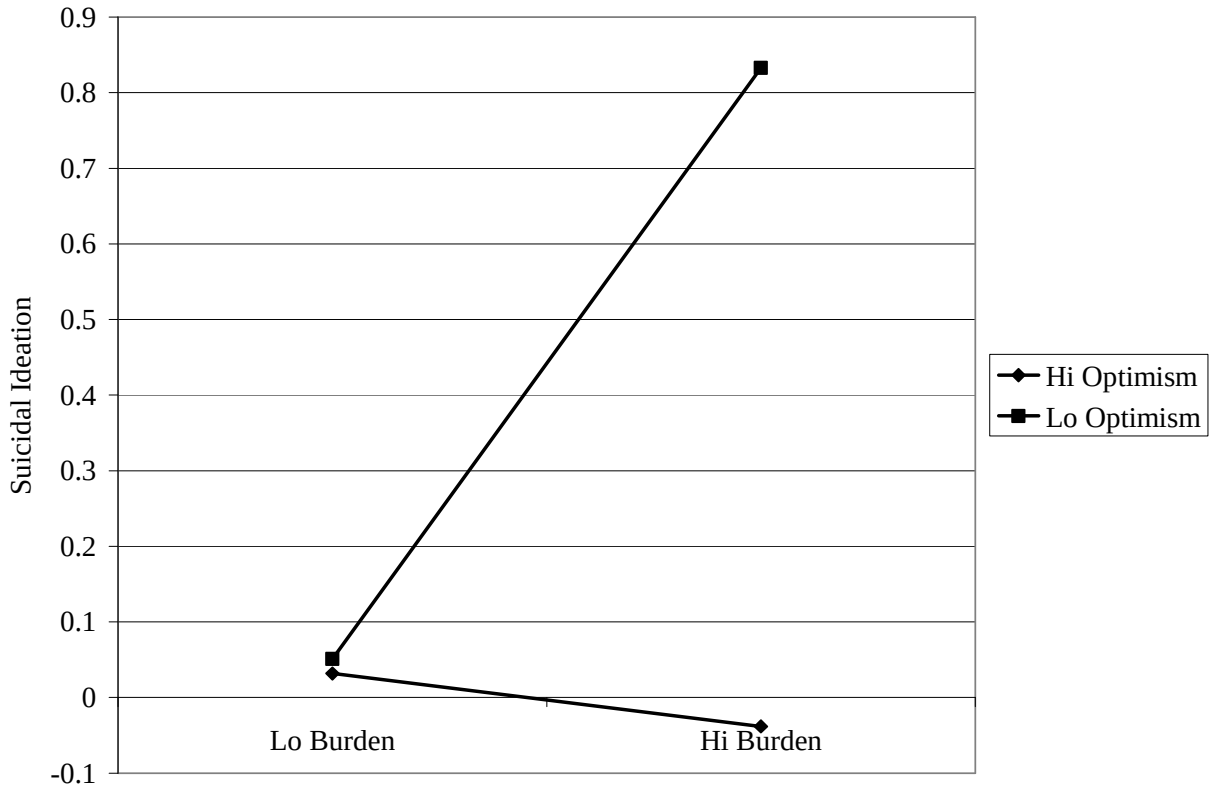

Figure 5. Optimism as a Moderator of Perceived Burdensomeness on Suicidal Ideation.

Similar to the results for optimism and thwarted belongingness, the significant main effect of optimism was eliminated when controlling for depression in the regression of perceived burdensomeness and optimism as predictors of suicidal ideation. As shown in Table 6, depression significantly predicted suicidal ideation in step 1, (β = .432, $t(441)$ = 10.06, $p < .001$), while perceived burdensomeness added a significant main effect in step 2 (β = .154, $t(440)$ = 2.98, p = .003). Using the adjusted alpha value for multiple tests, the addition of optimism in step 3 did not significantly add to the effect, (β = -.112, $t(439)$ = -2.29, p = .023). However, there was a significant interaction effect of perceived burdensomeness and optimism (β = -.214, $t(438)$ = -4.78, $p < .001$), such that high levels of perceived burdensomeness significantly predicted suicidal ideation for individuals low in optimism, while high levels of optimism reduced the effects of perceived burdensomeness on suicidal ideation to non-significance, as depicted in Figure 6.

Results for the regression of acquired capability to engage in self-injury and optimism on suicidal ideation are shown in Table 7. Contrary to hypothesis, acquired capability to engage in self-injury did not significantly predict suicidal ideation in step 1(β = -.038, $t(439)$ = -.47, p = .636), while the addition of optimism in step 2 negatively predicted suicidal ideation, (β = -.309, $t(438)$ = -6.77, $p < .001$). The interaction effect of acquired capability to engage in self-injury and optimism was also not significant (β = -.309, $t(437)$ = -1.57, p = .117). As shown in Table 8, when controlling for depression, depression significantly predicted suicidal ideation in step 1, (β = .433, $t(438)$ = 10.04, $p < .001$); however, acquired capability to engage in self-injury in step 2 did not add to the prediction (β = .049, $t(437)$ = .66, p = .508). The addition of optimism in step 3 showed a

Table 6

Hierarchical Regression Analysis of Depression, Perceived Burdensomeness, and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.187	1, 441	101.11					
Depression				.046	.005	.432	10.06	< .001
Step 2	.016	2, 440	55.89					
Burden				.191	.064	.154	2.98	.003
Step 3	.009	3, 439	39.36					
Optimism				-.030	.013	-.112	-2.29	.023
Step 4	.039	4, 438	36.70					
Burden x Optimism				-.058	-.012	-.214	-4.78	< .001

Note. Burden = Perceived Burdensomeness.

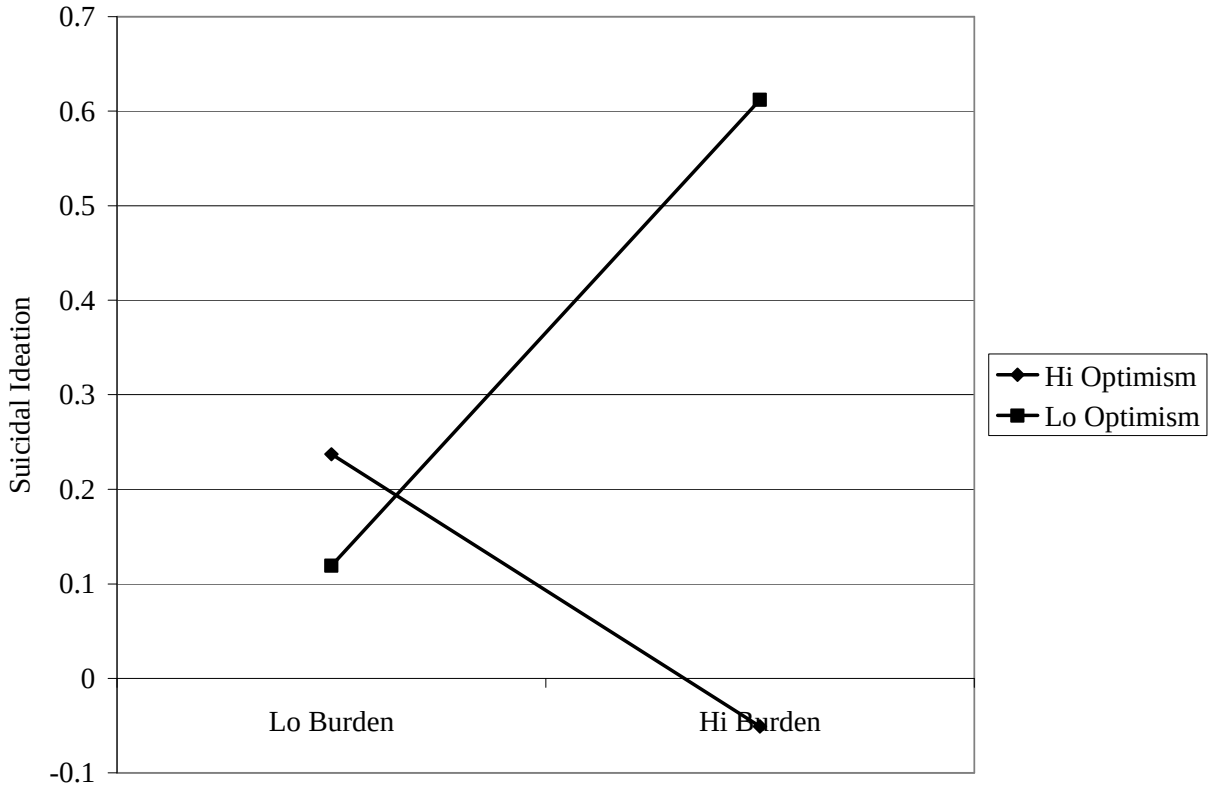

Figure 6. Optimism as a Moderator of Perceived Burdensomeness on Suicidal Ideation after Controlling for Depression.

Table 7

Hierarchical Regression Analysis of Acquired Capability and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.001	1, 439	.22					
Acq. Cap.				-.038	.081	-.023	-.47	.636
Step 2	.095	2, 438	23.03					
Optimism				-.082	.012	-.309	-6.77	< .001
Step 3	.005	3, 437	16.23					
Acq. Cap. x Optimism				.029	.019	.072	1.57	.117

Note. Acq. Cap. = Acquired Capability to Engage in Self-Injury.

Table 8

Hierarchical Regression Analysis of Acquired Capability and Optimism as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.187	1, 438	100.85					
Depression				.046	.005	.433	10.04	< .001
Step 2	.001	2, 437	50.58					
Acq. Cap.				.049	.073	.029	.66	.508
Step 3	.016	3, 436	37.13					
Optimism				-.037	.013	-.140	-2.91	.004
Step 4	.002	4, 435	28.05					
Acq. Cap. x Optimism				.016	.018	.040	.92	.360

Note. Acq. Cap. = Acquired Capability to Engage in Self-Injury.

significant main effect on suicidal ideation, (β = -.140, $t(436) = -2.91$, $p = .004$), while the interaction effect of acquired capability to engage in self-injury and optimism was not significant. It should be noted that in this analyses using the data set with no imputed values, the main effect of optimism was reduced to a significance level of $p = .023$; no other significant differences in results were noted.

A final hierarchical regression analysis was conducted to provide further support of the roles of thwarted belongingness, perceived burdensomeness, and acquired capability to engage in self-injury as risk factors for suicidal ideation; results are shown in Table 9. The constructs of Joiner's (2005) interpersonal-psychological theory of suicidal behavior, thwarted belongingness, perceived burdensomeness and acquired capability to engage in self-injury, were entered in the first step, with results indicating support for this model, $F(3, 437) = 27.24$, $p < .001$. Results continued to show support for the model following the addition of each two-way interaction term (thwarted belongingness by perceived burdensomeness, thwarted belongingness by acquired capability to engage in self-injury, and perceived burdensomeness by acquired capability to engage in self-injury) in the second step, $F(6, 434) = 15.42$, $p < .001$. Finally, the three-way interaction term of thwarted belongingness by perceived burdensomeness by acquired capability to engage in self-injury was entered in the third step, with results continuing to show support for the model $F(7, 433) = 14.26$, $p < .001$.

Table 9

Hierarchical Regression Analyses of Perceived Burdensomeness, Thwarted Belongingness, and Acquired Capability as Predictors of Suicidal Ideation

	ΔR^2	*df*	*F*	*B*	*SE B*	β	*t*	*p*
Step 1	.158	3, 437	27.24					
Burden				.185	.079	.149	2.35	.019
Th. Belong				.276	.063	.276	4.35	< .001
Acq. Cap.				.004	.074	.002	.06	.956
Step 2	.018	6, 434	15.42					
Burden x Th. Belong				.133	.048	.171	2.79	.006
Burden x Acq. Cap.				.062	.121	.032	.51	.611
Th. Belong x Acq. Cap.				-.111	.100	-.067	-1.12	.264
Step 3	.012	7, 433	14.26					
Burden x Th. Belong x Acq. Cap.				-.181	.073	-.151	-2.49	.013

Note. Burden = Perceived Burdensomeness, Th. Belong = Thwarted Belongingness, and Acq. Cap. = Acquired Capability to Engage in Self-Injury

CHAPTER V

CONCLUSION

The purpose of the present study was to explore the role of the positive psychology construct of optimism as a protective factor against suicidal ideation. A possible relationship between Joiner's interpersonal-psychological theory of suicidal behavior and the construct of optimism was investigated by examining the ability of optimism to act as a buffer against perceived burdensomeness, thwarted belongingness, and acquired capability to engage in self-injury in the prediction of suicidal ideation. Results were mainly consistent with hypotheses, with the most notable exceptions being that acquired capability to engage in self-injury was not associated with optimism, nor did it predict suicidal ideation.

As hypothesized, optimism was negatively correlated with suicidal ideation, thwarted belongingness and perceived burdensomeness. In line with the findings of Davidson and colleagues (2009), which showed that the construct of hope was positively associated with the acquired capability to engage in self-injury, it was expected that optimism would also be positively correlated with the acquired capability to engage in self-injury. The lack of association may be indicative of the difference between the constructs of hope and optimism. Hope is related to goals, and Davidson and colleagues posited that more challenging goals may be associated with an increased capability to endure pain. In

contrast, optimism is related to positive expectations for the future, which may be associated with an expectation of a reduced experience of pain in one's future.

Results were consistent with the hypothesis that optimism would continue to negatively predict suicidal ideation after controlling for the effects of depression. This finding is also consistent with the findings of Hirsch, Conner, and Duberstein (2007), adding further support to the idea that optimism can be a protective factor against suicidal ideation, even in the face of depression. Overall results also supported the hypotheses that optimism would serve as a buffer against the effects of thwarted belongingness and perceived burdensomeness in the prediction of suicidal ideation; however, similar results were not found regarding the acquired capability to engage in self-injury.

As hypothesized, and in line with Joiner's (2005) theory, high levels of thwarted belongingness significantly predicted suicidal ideation, even when controlling for depression. Numerous studies have shown that social connection and social support can serve as protective factors against suicidal thoughts and behavior (e.g., Conner et al. 2001; Duberstein et al. 2004). The concept of thwarted belongingness implies a lack of social connection to others, which can contribute to a desire to end one's life. Carver and Scheier (2002) noted that the efforts of others can play a role in the optimist's positive expectancies, thus an optimist who is experiencing a sense of thwarted belongingness may be better able to hold to the belief that this is a temporary occurrence, and expect that social connection and a feeling of belongingness will return. Indeed, optimism did add a significant element of protection against the effect of thwarted belongingness.

Although the main effect of optimism was diminished when controlling for depression, the interaction effect of thwarted belongingness and optimism remained the

same, and underscored the importance of the role of optimism as a protective factor against suicidal ideation. For individuals experiencing low levels of thwarted belongingness, optimism had no significant effect on suicidal ideation. However, for individuals experiencing high levels of thwarted belongingness, those who were also high in optimism showed a significantly lower level of suicidal ideation than individuals who were less optimistic. Thus, even when experiencing symptoms of depression, an individual who is able to maintain an optimistic outlook toward the future may be able to hold to the belief that a sense of thwarted belongingness is temporary, and in turn maintain the expectation that a feeling of belongingness will return, thus alleviating any thoughts of suicide.

As hypothesized, high levels of perceived burdensomeness also significantly predicted suicidal ideation, both with and without controlling for depression. Again, optimism showed a protective element against the effect of perceived burdensomeness, although the main effect of optimism was not significant when controlling for depression. However, as with thwarted belongingness, the interaction effect of perceived burdensomeness and optimism supported the role of optimism as a protective factor against suicidal ideation, both with and without controlling for depression. In individuals experiencing low levels of perceived burdensomeness, optimism had no significant effect on suicidal ideation. However, for individuals experiencing high levels of perceived burdensomeness, those who were also high in optimism showed a significantly lower level of suicidal ideation than did individuals who were less optimistic. Joiner (2005) noted that an individual who does not expect any future change in his or her perceived lack of effectiveness or competence is likely to experience higher levels of perceived

burdensomeness. Results of the current study suggest that one who expects the future to hold a positive change in effectiveness, i.e. the optimist, is less likely to experience suicidal ideation in the face of perceived burdensomeness.

In contrast to the results for thwarted belongingness and perceived burdensomeness, the acquired capability to engage in self-injury did not significantly predict suicidal ideation, which may be due to inherent differences between the constructs. As noted by Joiner (2005), thwarted belongingness and perceived burdensomeness are associated with a desire for death, whereas the acquired capability to engage in self-injury is associated with the ability to carry out the suicidal act. Thus, thwarted belongingness and perceived burdensomeness may be more strongly associated with suicidal ideation, while the acquired capability to engage in self-injury may only be associated with actual suicidal behavior, such as acts of self-harm or suicide attempts.

Finally, results supported the overall model of Joiner's interpersonal-psychological theory of suicidal behavior. The process of entering the individual constructs in the first step of the regression followed by the interaction terms in subsequent steps were as suggested by T. E. Joiner Jr. (personal communication, June 10, 2008). Although the overall model maintained statistical significance, it should be noted that the individual coefficients that included the acquired capability to engage in self-injury did not reach statistical significance. Again, this may be due to an acquired capability to engage in self-injury being associated with suicidal behavior as opposed to suicidal thoughts.

Clinical Implications

The results of the current study provide evidence for the potential protective power of optimism against suicidal ideation. These findings support the use of therapeutic methods

designed to enhance or instill optimism into clients who are at risk for, or may be experiencing, suicidal thoughts. A wealth of research supports the use of cognitive and behavioral therapy techniques to alleviate depressive symptoms. Techniques of cognitive restructuring aimed at challenging negative future expectations and replacing them with a more positive future oriented outlook hold promise for countering the negative effects of thwarted belongingness or perceived burdensomeness and alleviating thoughts of suicide. Indeed, research has shown that therapeutic programs aimed at instilling a more optimistic explanatory style have been successful in alleviating symptoms of depression in school children (Gillham, Reivich, Jaycox, & Seligman, 1995; Jaycox, Reivich, Gillham, & Seligman, 1994); results of the current study suggest such efforts may be beneficial in adults as well.

As noted by Joiner (2005), the sense of perceived burdensomeness is actually a misperception, a cognitive distortion precipitated by the individual's internal attributions of ineffectiveness and incompetence. Therefore, cognitive therapy techniques could be used to engage the client in examining the evidence behind this distorted thinking in order to elicit more realistic thinking and reduce suicidal ideation. Similarly, cognitive therapy techniques could also be used to examine the evidence behind the sense of thwarted belongingness. In addition to cognitive techniques, behavioral therapy techniques aimed at increasing positive interactions with others could be utilized to alleviate the lack of social connection associated with thwarted belongingness.

Limitations and Future Directions

One limitation to the current study is the use of a cross-sectional design, which precludes any causal inference. Future research would benefit from the use of a

longitudinal design in order to clarify causal relationships between the variables. An additional limitation was that the sample in this study was ethnically homogenous, future studies utilizing more diverse samples are necessary to examine whether the findings are consistent across different groups. In addition, the use of a college student sample may limit the generalizability of the results, as the number of participants experiencing suicidal thoughts was relatively low. However, the use of participants in this age group could also be considered a strength of this study, in that suicide is the third leading cause of death amongst those aged 15-24 (CDC, 2007a) and suicide attempts are at the highest level amongst this age group (Goldsmith et al., 2002); thus any knowledge that can be gained toward possibly reducing suicidal ideation or behavior in this group is particularly important. Future research to determine whether the same relationship between variables exists in a clinical population would be informative. Moreover, future clinical outcome studies examining the effects of cognitive therapy aimed at instilling optimism would provide more concrete evidence as to the effectiveness of such a treatment in achieving a reduction in suicidal thoughts and behaviors.

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APPENDICES

APPENDIX I

IRB APPROVAL

Oklahoma State University Institutional Review Board

Date:	Monday, June 08, 2009
IRB Application No	AS0940
Proposal Title:	Mood, Mental Health Symptoms and Attitudes About the Future
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 6/7/2010

Principal Investigator(s):

Kathy A. Rasmussen
116 N. Murray
Stillwater, OK 74078

LaRicka R. Wingate
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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

APPENDIX II

DEMOGRAPHICS FORM

Please answer the following questions:

1. What is your sex? _____Male _____Female

2. What is your age? _____

3. What is your marital status?

_____Never Married _____Married _____Cohabitating

_____Divorced _____Separated _____Widowed

4. Are you currently involved in an exclusive romantic/dating relationship or marriage?

_____Yes _____No

5. If yes, how long have you been in this relationship? _____

6. How many (if any) children do you have? _____

7. What is your ethnicity?

_____Caucasian/White _____American Indian/Native American

_____African-American/Black _____Asian/Asian-American

_____Hispanic/Latino _____Biracial _____Other

8. Individuals are sometimes involved in peer groups. Please indicate if you are involved in any of the following groups:

_____Sorority or Fraternity (Greek) _____Athletic team

_____Religious group (e.g., Bible study, focus group)

_____Boy Scouts or Girl Scouts _____Other

9. What is your current grade level? (Select one)

_____Freshman _____Sophomore

_____Junior _____Senior _____Graduate

10. Please estimate your family's annual income:

_____$0 - $10,000 _____$10,000 - $20,000

_____$20,000 - $30,000 _____$30,000 - $40,000

_____$40,000 - $50,000 _____$50,000 - $60,000

_____$60,000 - $70,000 _____$70,000 - $80,000

_____$80,000 – $90,000 _____$90,000 - $100,000

_____$100,000-$110,000 _____Over $110,000

11. What is the highest level of education that your father completed?

_____Some Grade School _____Grade School

_____Some Junior High School _____Junior High School

_____Some High School _____High School

_____Some College _____College

_____Advanced Degree (Master's, Ph.D., Ed.D., M.D., J.D., etc.)

_____Some Professional or Technical School

_____Professional or Technical School

12. What is the highest level of education that your mother completed?

_____Some Grade School _____Grade School

_____Some Junior High School _____Junior High School

_____Some High School _____High School

_____Some College _____College

_____Advanced Degree (Master's, Ph.D., Ed.D., M.D., J.D., etc.)

_____Some Professional or Technical School

_____Professional or Technical School

APPENDIX III

CES-D

Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way in the past week.

DURING THE PAST WEEK

Rarely or none of the time (less than 1 day)	Some or a little of the time (1 – 2 days)	Occasionally or a moderate amount of time (3 – 4 days)	Most or all of the time (5 – 7 days)
0	**1**	**2**	**3**

_____ 1. I was bothered by things that usually don't bother me.

_____ 2. I did not feel like eating; my appetite was poor.

_____ 3. I felt that I could not shake off the blues even with help from my family or friends.

_____ 4. I felt I was just as good as other people.

_____ 5. I had trouble keeping my mind on what I was doing.

_____ 6. I felt depressed.

_____ 7. I felt that everything I did was an effort.

_____ 8. I felt hopeful about the future.

_____ 9. I thought my life had been a failure.

_____ 10. I felt fearful.

_____ 11. My sleep was restless.

_____ 12. I was happy.

_____ 13. I talked less than usual.

_____ 14. I felt lonely.

_____ 15. People were unfriendly.

_____ 16. I enjoyed life.

_____ 17. I had crying spells.

_____ 18. I felt sad.

_____ 19. I felt that people dislike me.

_____ 20. I could not get "going."

APPENDIX IV

INQ

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Using the full rating scale below, find the number that best matches how you feel and write that number next to the question. There are no right or wrong answers: we are interested in what *you* think and feel.

1	2	3	4	5	6	7
Not at all true for me			Somewhat true for me			Very True for me

_____ 1. These days, the people in my life would be better off if I were gone.

_____ 2. These days, the people in my life would be happier without me.

_____ 3. These days, I think I have failed the people in my life.

_____ 4. These days I think I am a burden on society.

_____ 5. These days I think I contribute to the well-being of the people in my life.

_____ 6. These days I feel like a burden on the people in my life.

_____ 7. These days I think the people in my life wish they could be rid of me.

_____ 8. These days I think I make things worse for the people in my life.

_____ 9. These days I think I matter to the people in my life.

_____ 10. These days, other people care about me.

_____ 11. These days, I feel like I belong.

_____ 12. These days, I rarely interact with people who care about me.

_____ 13. These days, I am fortunate to have many caring and supportive friends.

_____ 14. These days, I feel disconnected from other people.

_____ 15. These days, I often feel like an outsider in social gatherings.

_____ 16. These days, I feel that there are people I can turn to in times of need.

_____ 17. These days, I am close to other people.

_____ 18. These days, I have at least one satisfying interaction every day.

APPENDIX V

ACSS

Please read each item below and indicate to what extent you feel the statement describes you. Rate each statement using the scale below and indicate your responses next to each statement.

0	1	2	3	4
Not at all like me		Somewhat like me		Very much like me

_____ 1. Things that scare most people do not scare me.

_____ 2. The sight of my own blood does not bother me.

_____ 3. I avoid certain situations (e.g., certain sports) because of the possibility of injury.

_____ 4. I can tolerate a lot more pain than most people.

_____ 5. People describe me as fearless.

_____ 6. The sight of blood bothers me a great deal.

_____ 7. The fact that I am going to die does not affect me.

_____ 8. The pain involved in dying frightens me.

_____ 9. Killing animals in a science course would not bother me.

_____10. I am very much afraid to die.

_____11. It does not make me nervous when people talk about death.

_____12. The sight of a dead body is horrifying to me.

_____13. The prospect of my own death arouses anxiety in me.

_____14. I am not disturbed by death being the end of life as I know it.

_____15. I like watching the aggressive contact in sports games.

_____16. The best parts of hockey games are the fights.

_____17. When I see a fight, I stop to watch.

_____18. I prefer to shut my eyes during the violent parts of movies.

_____19. I am not at all afraid to die.

_____ 20. I could kill myself if I wanted to. (Even if you have never wanted to kill yourself, please answer this question.)

APPENDIX VI

LOT-R

Please indicate the extent to which you agree with each item according to the following scale:

0	1	2	3	4
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

_____ 1. In uncertain times, I usually expect the best.

_____ 2. It's easy for me to relax.*

_____ 3. If something can go wrong for me, it will.

_____ 4. I'm always optimistic about my future.

_____ 5. I enjoy my friends a lot.*

_____ 6. It's important for me to keep busy.*

_____ 7. I hardly ever expect things to go my way.

_____ 8. I don't get upset too easily.*

_____ 9. I rarely count on good things happening to me.

_____ 10. Overall, I expect more good things to happen to me than bad.

* Filler item.

APPENDIX VII

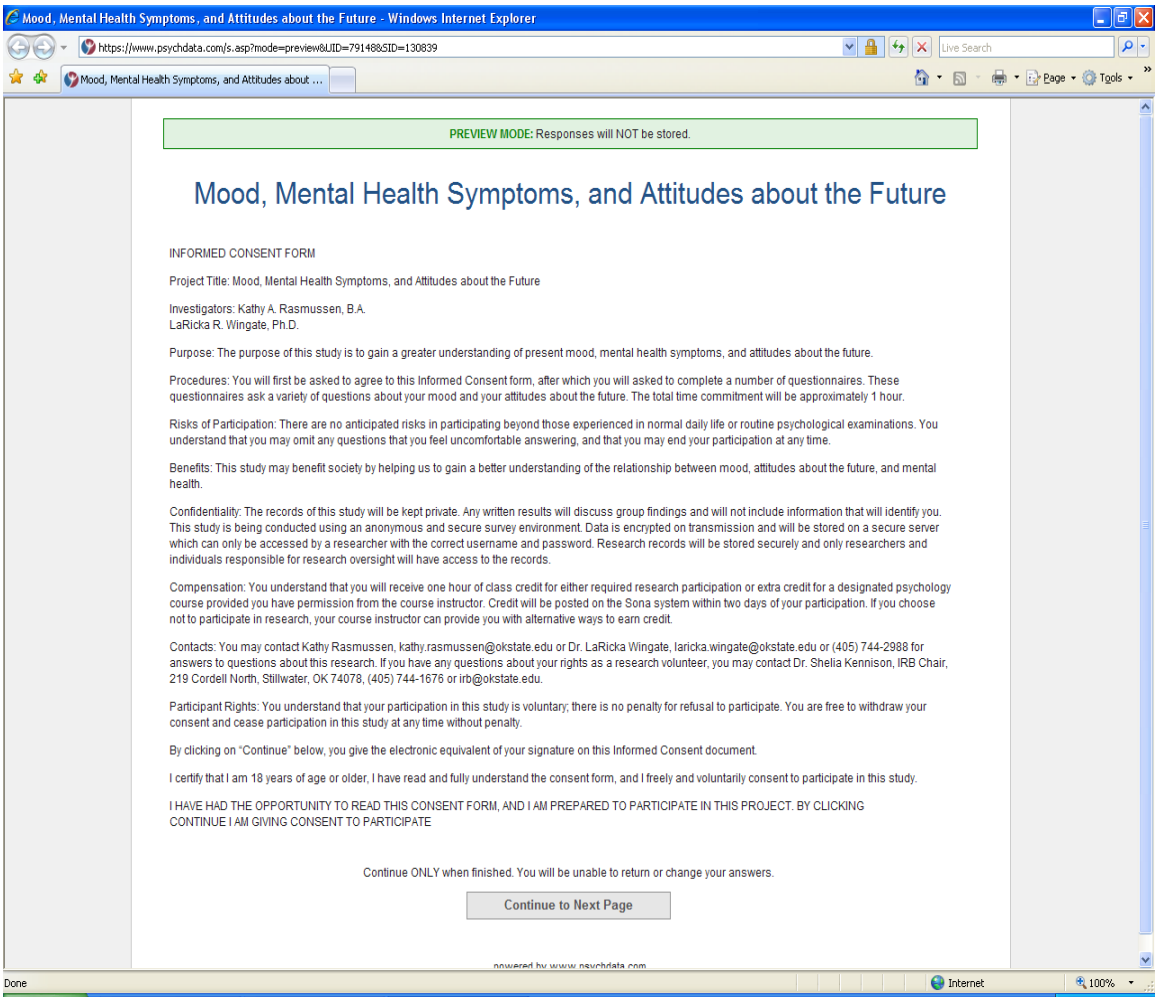
DSI-SS

Instructions: on this questionnaire are groups of statements. Please read all of the statements in a given group. Pick out and circle the one statement in each group that describes you best for the past *two weeks*. If several statements in a group seem to apply to you, pick the one with the higher number. *Be sure to read all of the statements in each group before making your choice.*

(A)	0	I do not have thoughts of killing myself.
	1	Sometimes I have thoughts of killing myself.
	2	Most of the time I have thoughts of killing myself.
	3	I always have thoughts of killing myself.
(B)	0	I am not having thoughts about suicide.
	1	I am having thoughts about suicide but have not formulated any plans.
	2	I am having thoughts about suicide and am considering possible ways of doing it.
	3	I am having thoughts about suicide and have formulated a definite plan.
I	0	I am not having thoughts about suicide.
	1	I am having thoughts about suicide but have these thoughts completely under my control.
	2	I am having thoughts about suicide but have these thoughts somewhat under my control.
	3	I am having thoughts about suicide but have little or no control over these thoughts.
(D)	0	I am not having impulses to kill myself.
	1	In some situations I have impulses to kill myself.
	2	In most situations I have impulses to kill myself.
	3	In all situations I have impulses to kill myself.

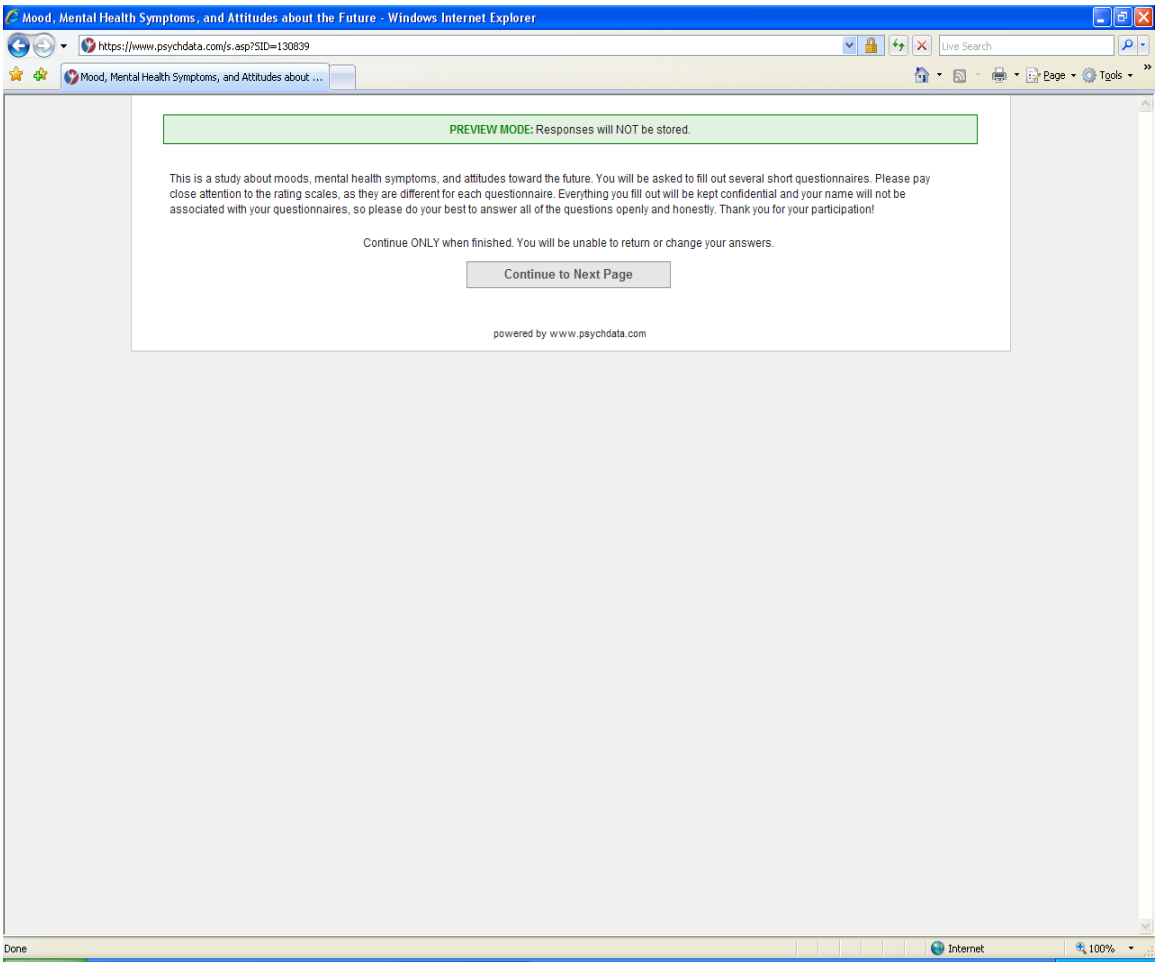
APPENDIX VIII

SCREEN CAPTURE OF INFORMED CONSENT



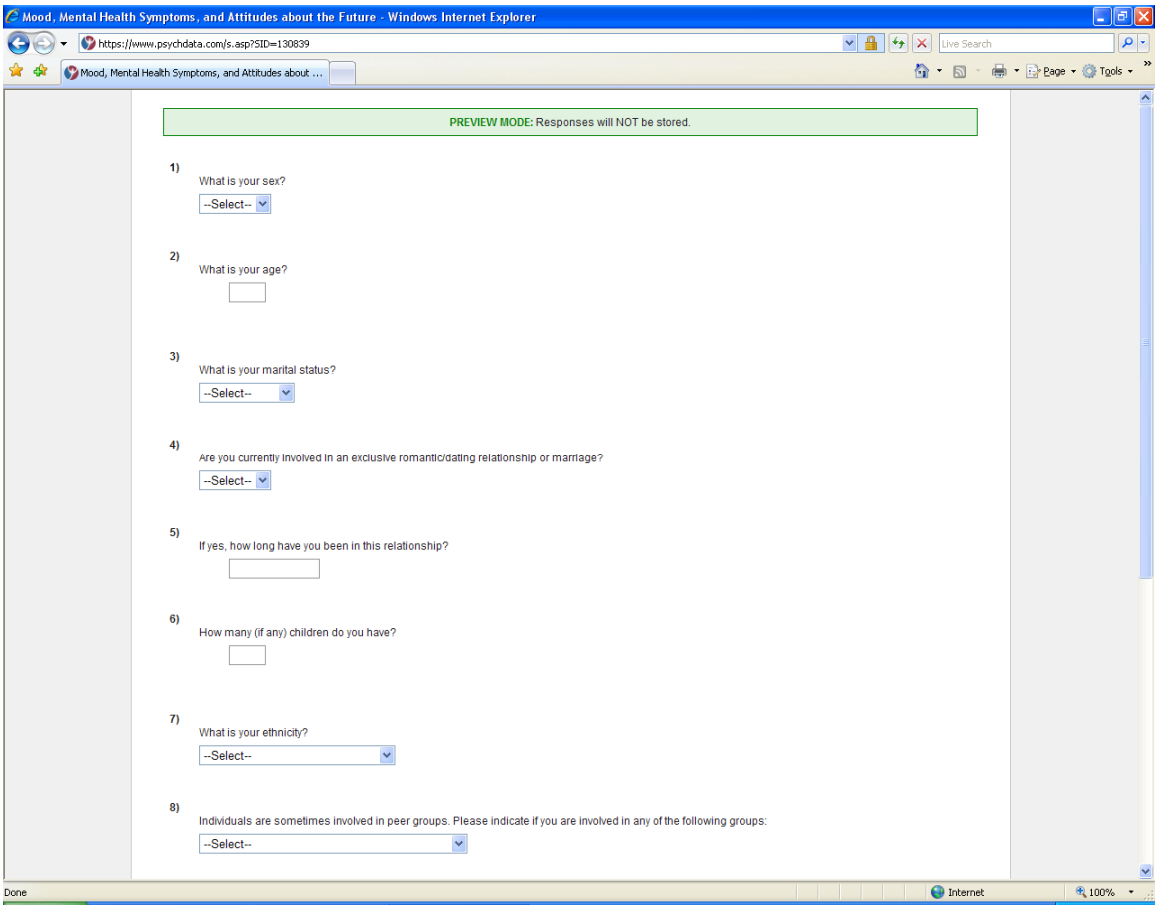
APPENDIX IX

SCREEN CAPTURE OF INTRODUCTION TO STUDY



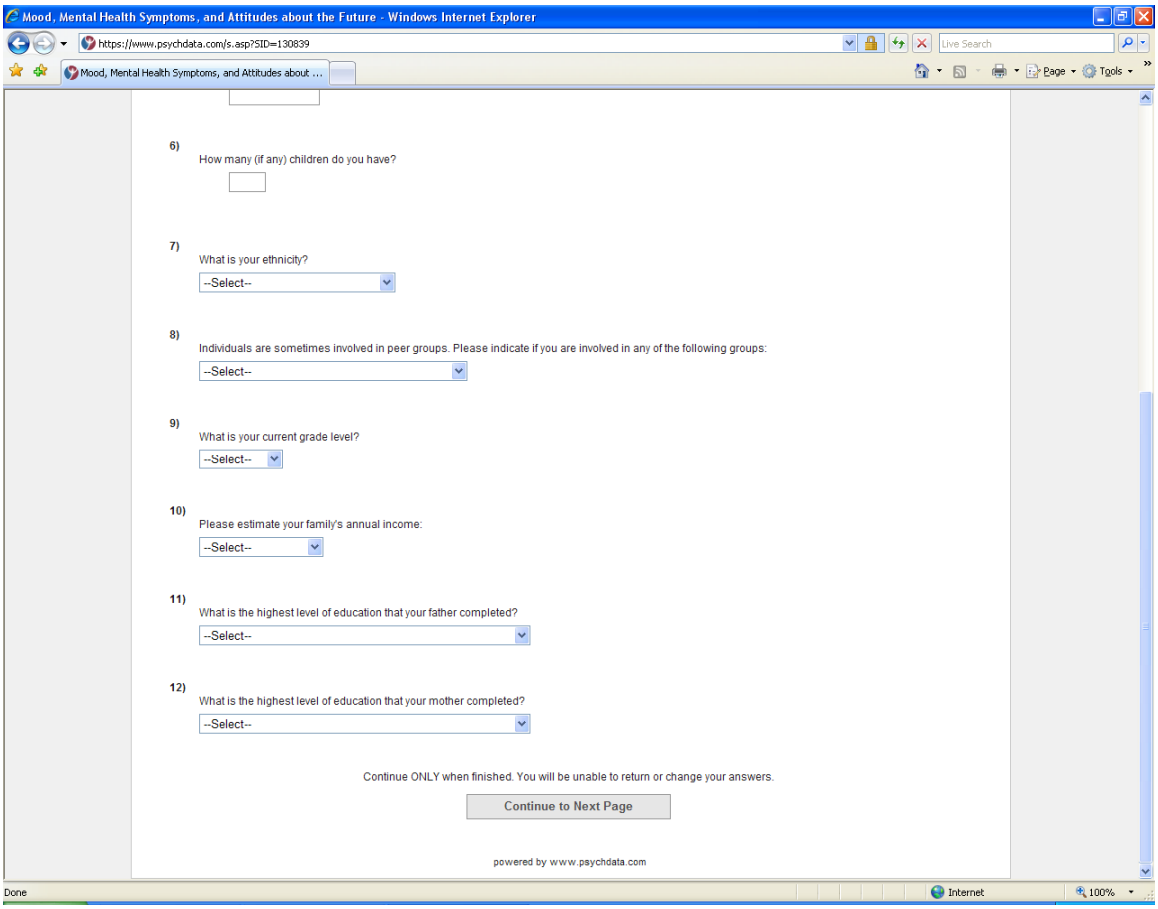
APPENDIX X

SCREEN CAPTURE OF TOP PORTION OF DEMOGRAPHICS SCREEN



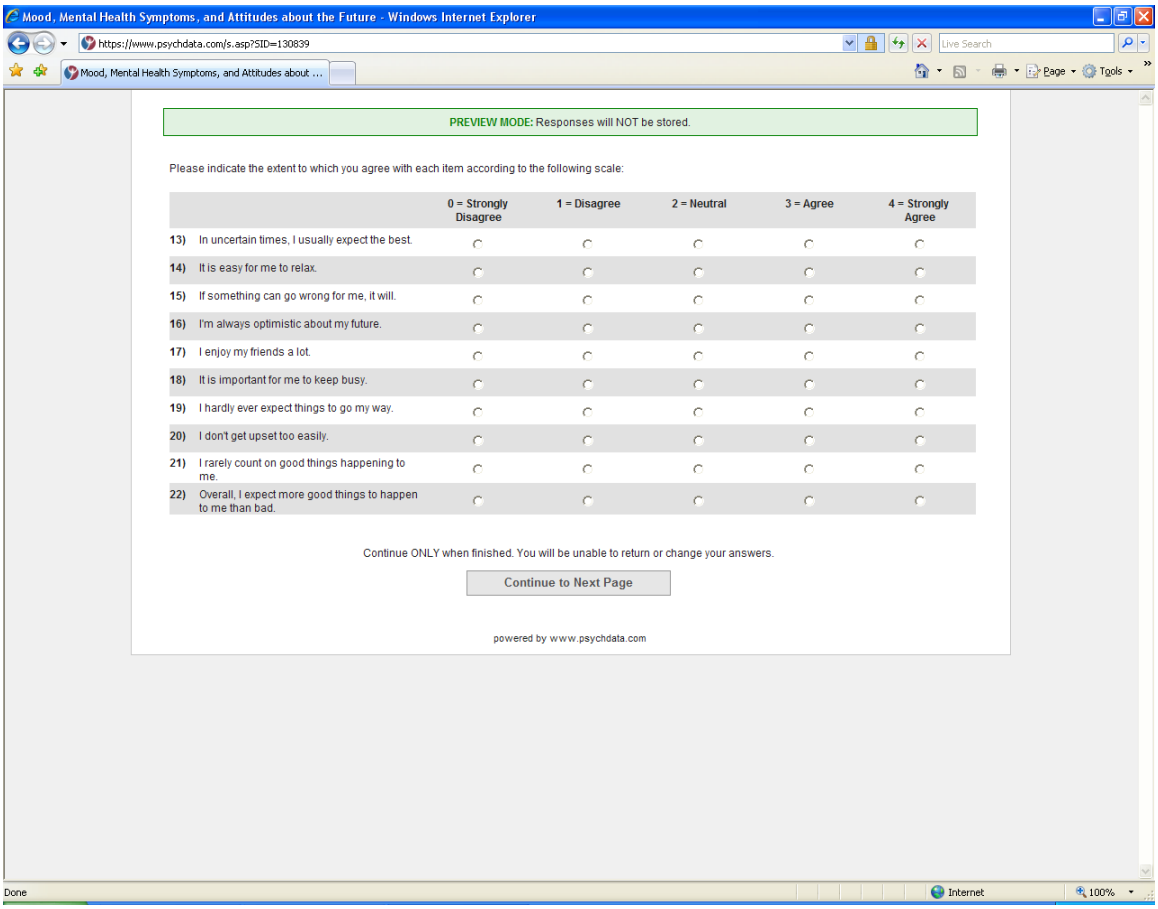
APPENDIX XI

SCREEN CAPTURE OF BOTTOM PORTION OF DEMOGRAPHICS SCREEN



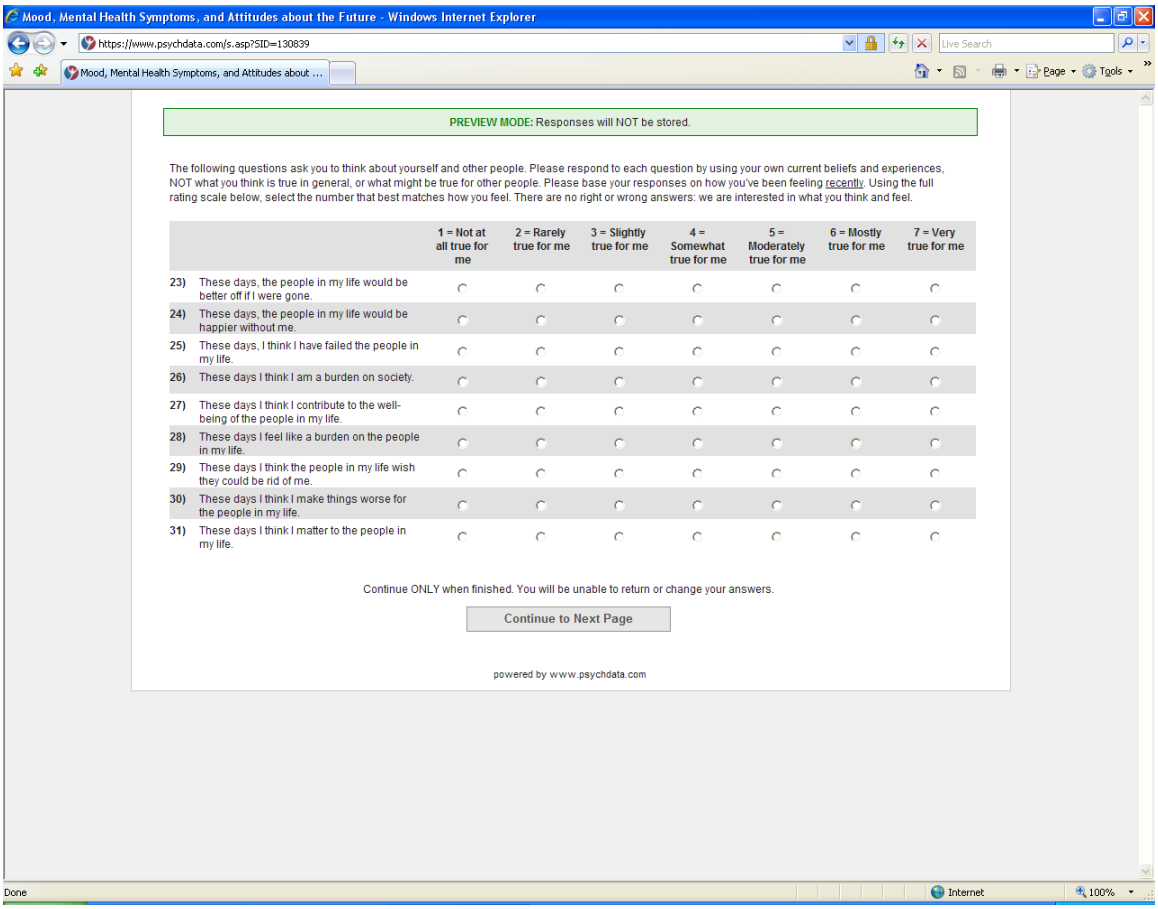
APPENDIX XII

SCREEN CAPTURE OF LOT-R



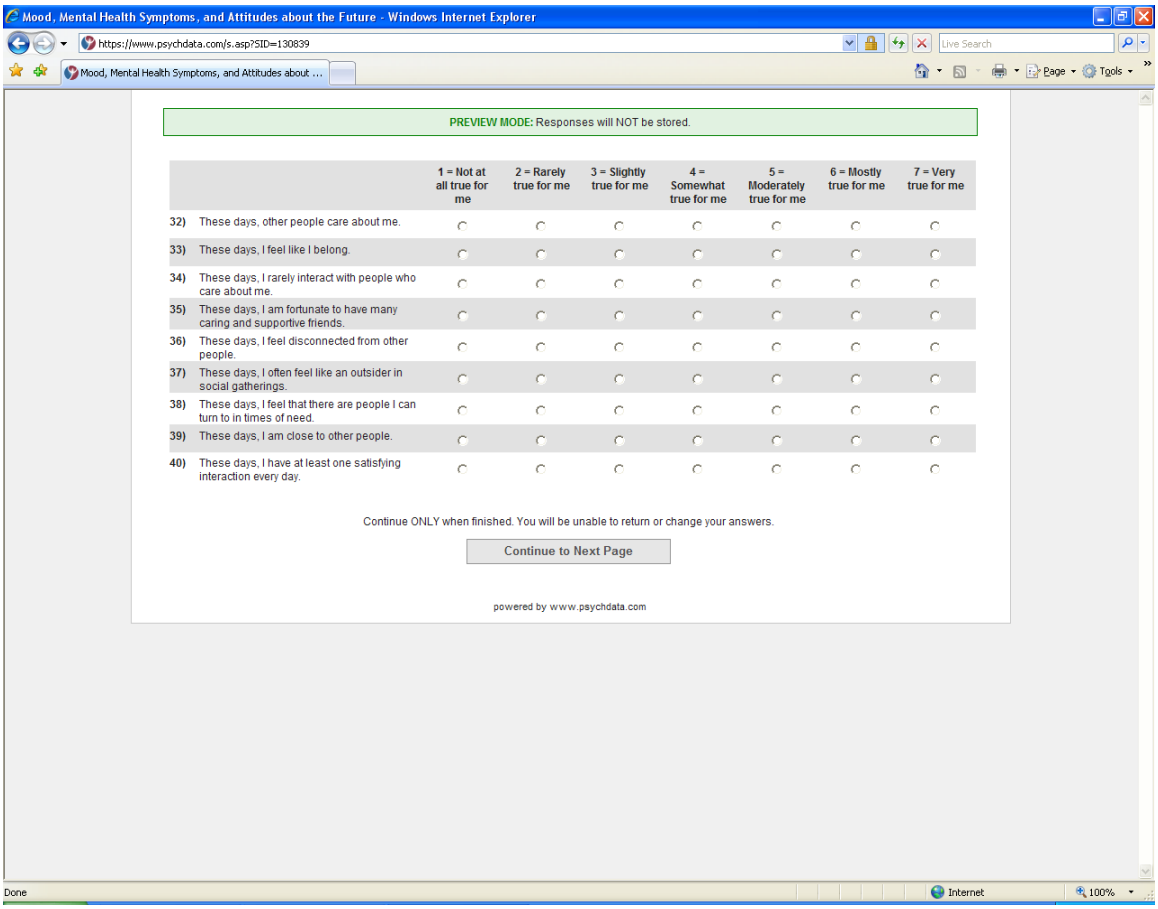
APPENDIX XIII

SCREEN CAPTURE OF INQ ITEMS 1 – 9



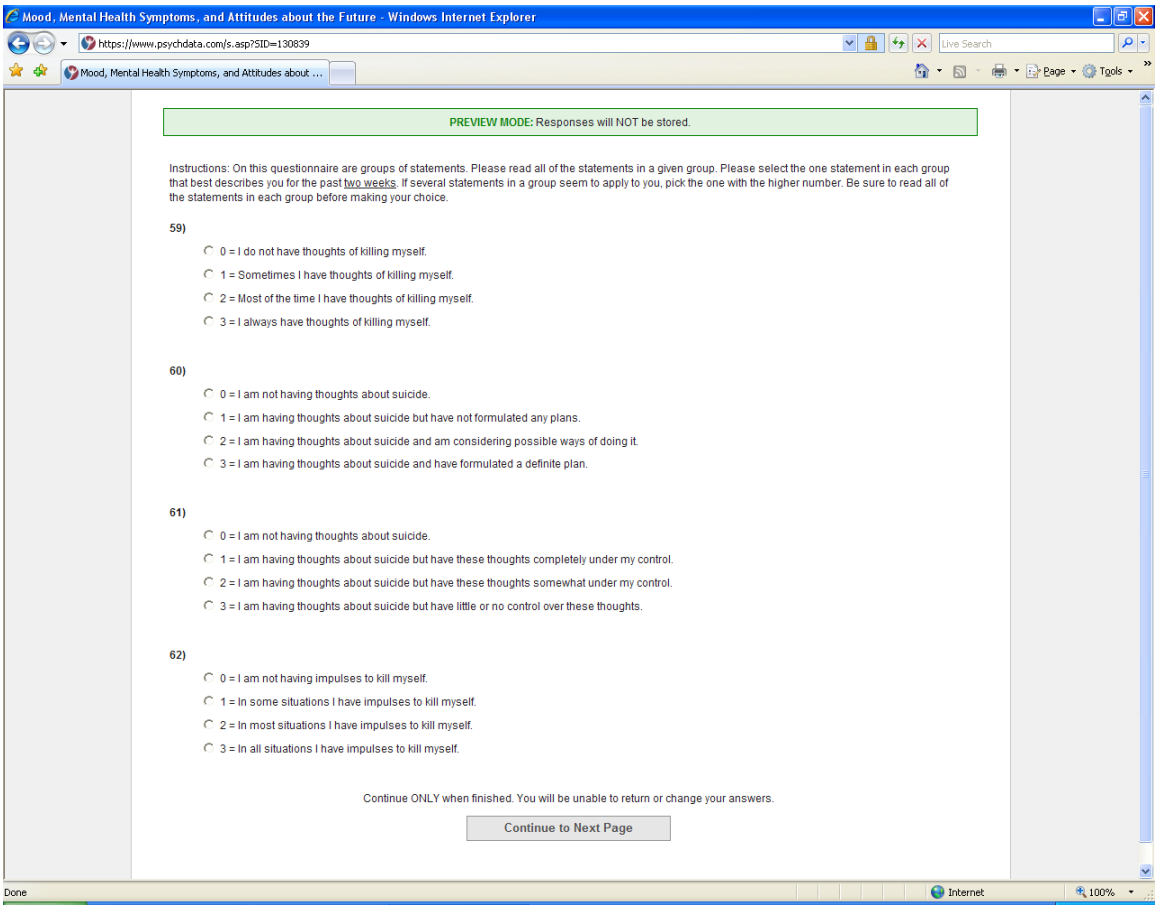
APPENDIX XIV

SCREEN CAPTURE OF INQ ITEMS 10 – 18



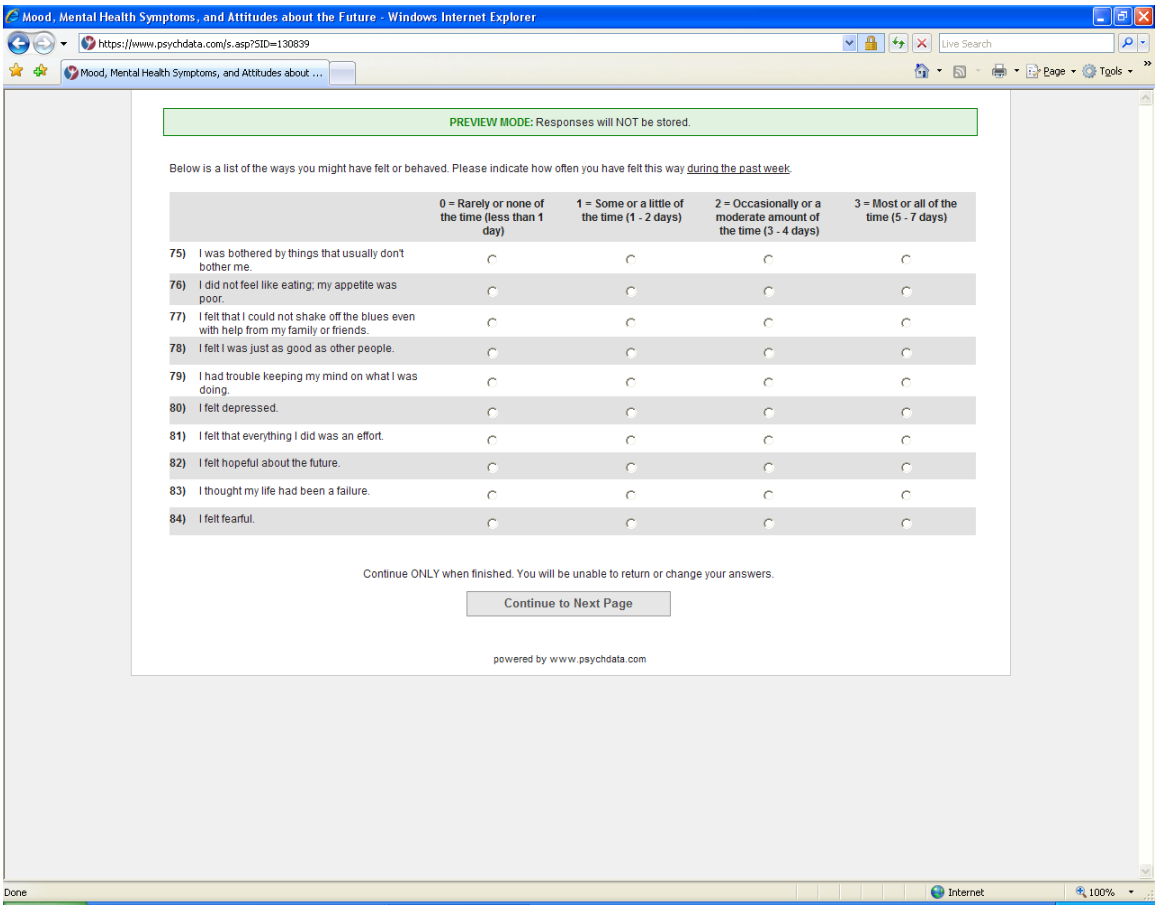
APPENDIX XV

SCREEN CAPTURE OF DSI-SS



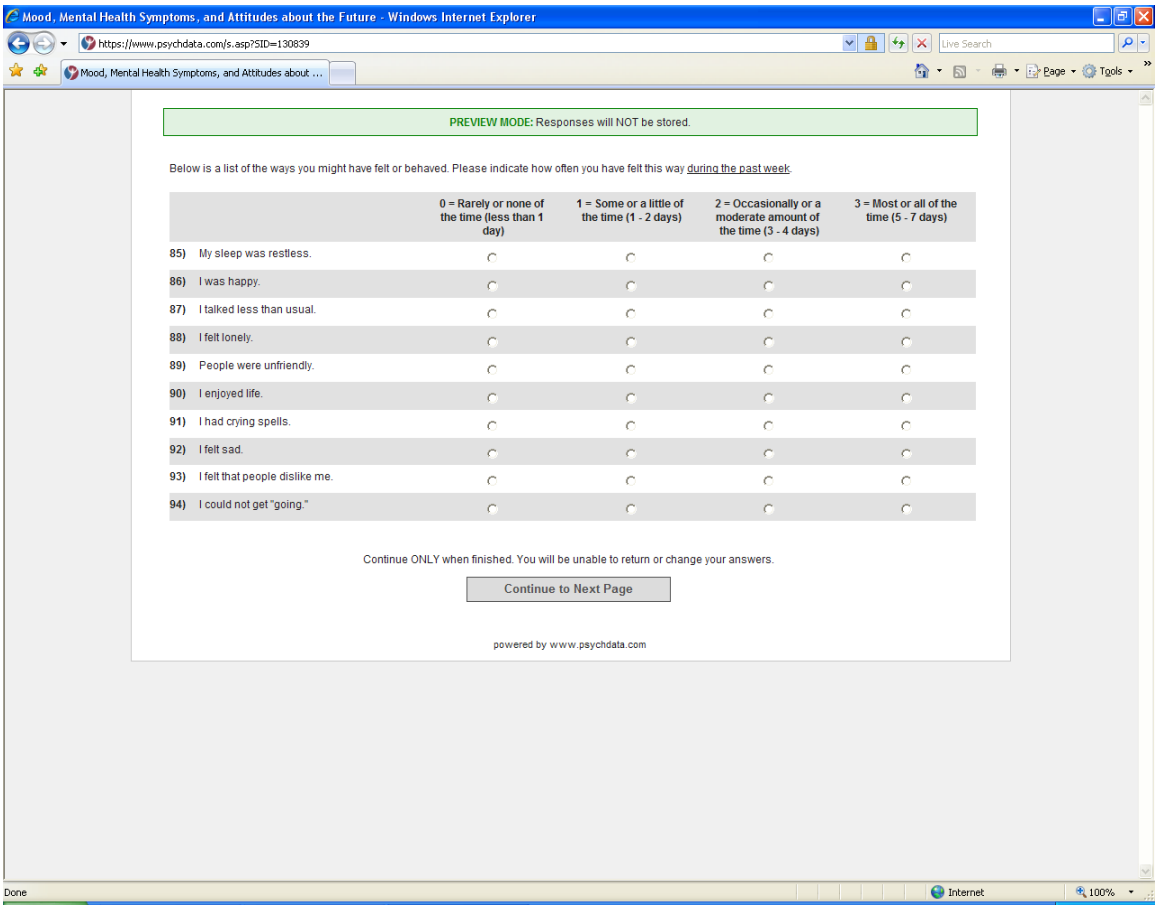
APPENDIX XVI

SCREEN CAPTURE OF CES-D ITEMS 1 – 10



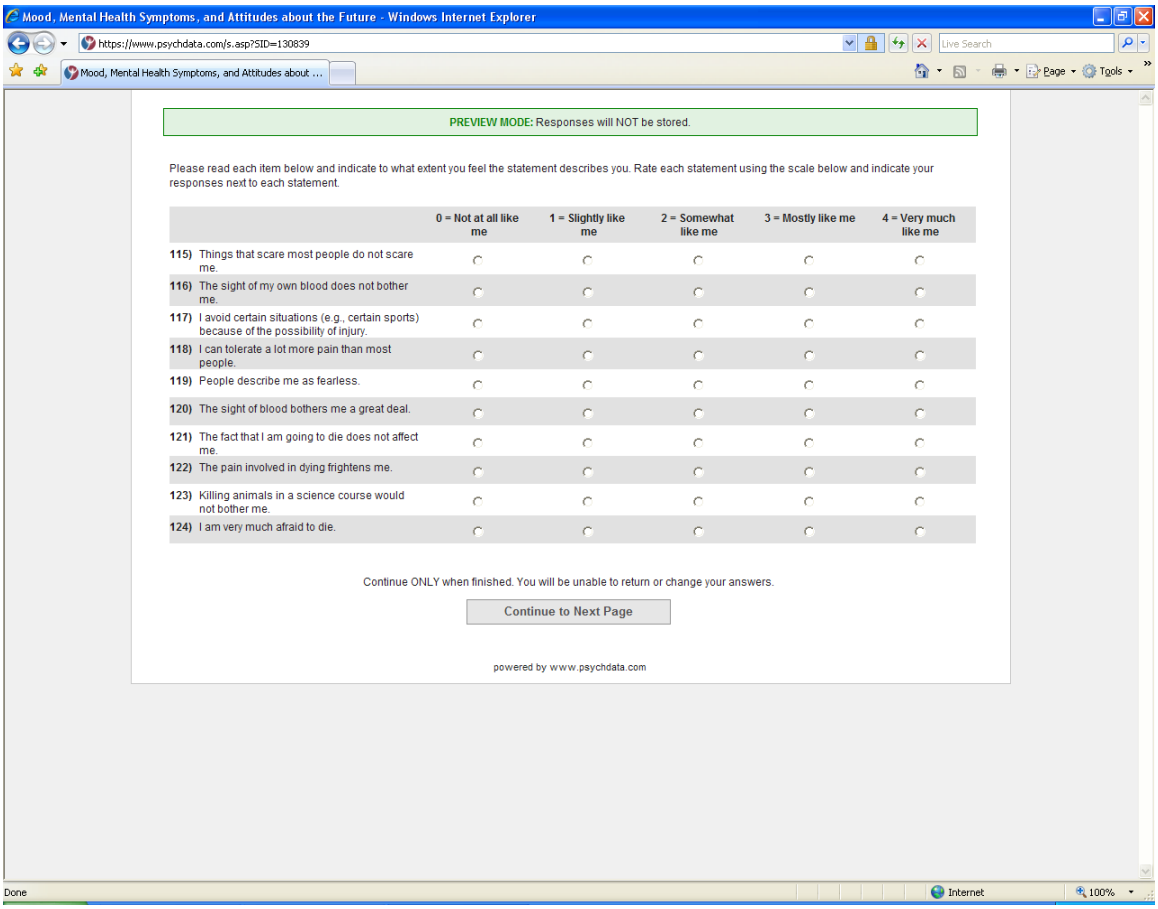
APPENDIX XVII

SCREEN CAPTURE OF CES-D ITEMS 11 – 20



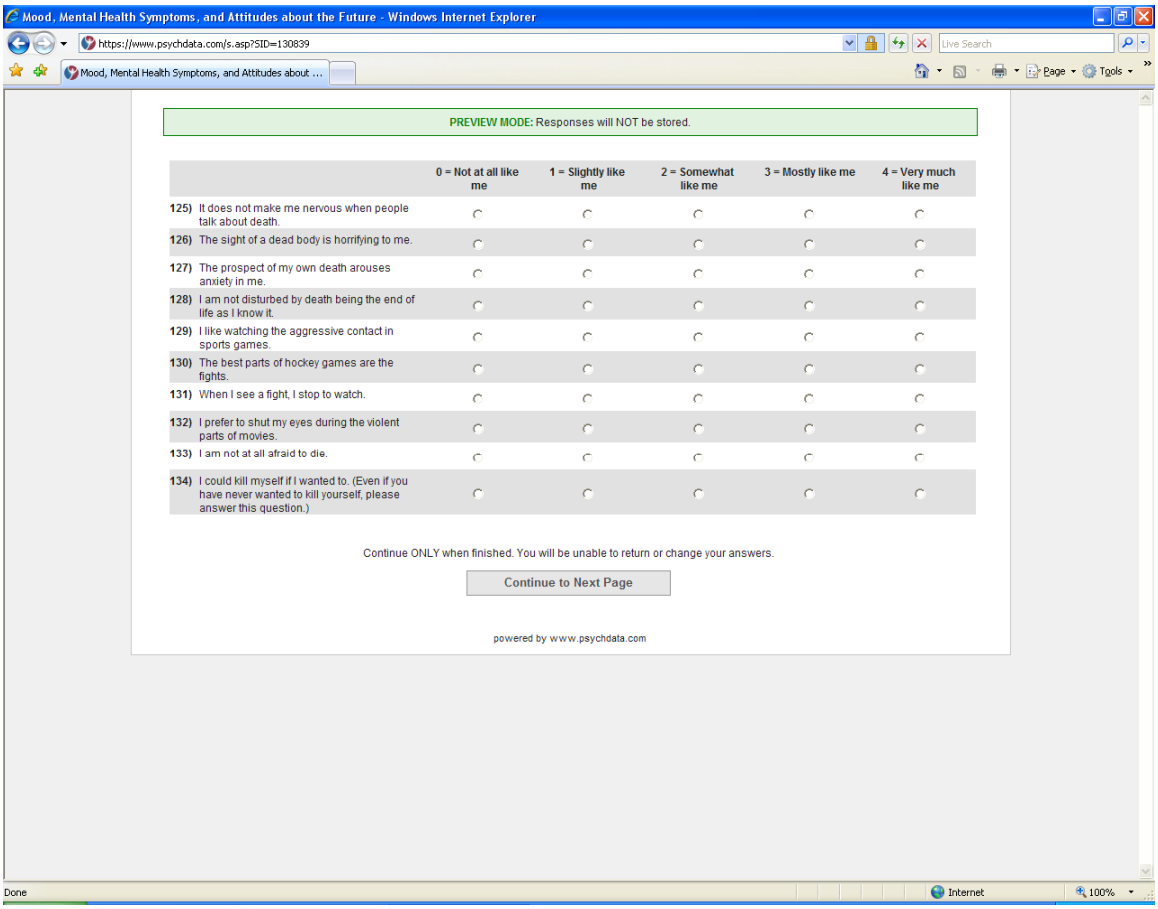
APPENDIX XVIII

SCREEN CAPTURE OF ACSS ITEMS 1 – 10



APPENDIX XIX

SCREEN CAPTURE OF ACSS ITEMS 11 – 20



APPENDIX XX

SCREEN CAPTURE OF RESOURCE LIST

APPENDIX XXI

SUPPLEMENTAL DEMOGRAPHIC INFORMATION

Marital status:

89.2%	Never Married	4.0%	Married	4.7%	Cohabitating
0.9%	Divorced	0.2%	Separated		

Currently in an exclusive relationship:

54.0%	Yes	45.8%	No

Number of children:

84.7%	None	0.2%	One	0.9%	Two
0.7%	Three	0.2%	Four	0.4%	Five or more

Group involvement:

20.8%	Sorority or Fraternity (Greek)	6.4%	Athletic team
13.3%	Religious group (e.g., Bible study, focus group)		
1.1%	Boy Scouts or Girl Scouts	32.1%	Other

Current grade level:

32.5%	Freshman	35.4%	Sophomore		
20.6%	Junior	10.6%	Senior	0.7%	Graduate

Estimated annual family income:

4.9%	$0 - $10,000	4.6%	$10,000 - $20,000
5.3%	$20,000 - $30,000	8.8%	$30,000 - $40,000
8.2%	$40,000 - $50,000	11.7%	$50,000 - $60,000
8.4%	$60,000 - $70,000	7.5%	$70,000 - $80,000
5.3%	$80,000 – $90,000	7.5%	$90,000 - $100,000
6.2%	$100,000-$110,000	19.7%	Over $110,000

Parent's highest level of education:

Father:	Mother:	
0.2%	---	Some Grade School
0.7%	0.2%	Grade School
0.4%	---	Some Junior High School
1.1%	0.2%	Junior High School
2.9%	2.0%	Some High School
21.0%	19.0%	High School
17.9%	20.8%	Some College
33.8%	39.8%	College
17.0%	13.3%	Advanced Degree (Masters, Ph.D., Ed.D., M.D., J.D., etc.)
0.7%	1.1%	Some Professional or Technical School
3.6%	3.1%	Professional or Technical School

Note: Some percentages may not add up to 100% due to missing values.

VITA

Kathy Ann Rasmussen

Candidate for the Degree of

Master of Science

Thesis: THE ROLE OF OPTIMISM IN THE INTERPERSONAL PSYCHOLOGICAL THEORY OF SUICIDAL BEHAVIOR

Major Field: Psychology

Biographical:

Education: Bachelor of Arts in Psychology from California State University, San Bernardino in June, 2006.
Completed the requirements for the Master of Science in Psychology at Oklahoma State University, Stillwater, Oklahoma in December, 2009.

Experience: Suicide and Depression Lab of LaRicka Wingate, Ph.D., Department of Psychology, Oklahoma State University
Graduate Teaching Assistant, Abnormal Psychology, Introductory Psychology, Experimental Psychology, Oklahoma State University
Associate, Psychological Services Center, Oklahoma State University
College of Social and Behavioral Sciences, California State University, San Bernardino, Assisted professors writing research grant applications.
Honors Thesis, Department of Psychology, California State University, San Bernardino, *Sociotropy and Autonomy as Vulnerabilities to Depression and Anxiety*
Research Assistant, Psychophysiology Lab of Christine D. Scher, Ph.D. Department of Psychology, California State University, San Bernardino

Professional Memberships: American Psychological Association
Association for Behavioral and Cognitive Therapies
Western Psychological Association
Psi Chi, The National Honor Society of Psychology
National Honor Society of Phi Kappa Phi

Name: Kathy Ann Rasmussen Date of Degree: December, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: THE ROLE OF OPTIMISM IN THE INTERPERSONAL PSYCHOLOGICAL THEORY OF SUICIDAL BEHAVIOR

Pages in Study: 87 Candidate for the Degree of Master of Science

Major Field: Psychology

Scope and Method of Study: The purpose of the present study was to explore the role of the positive psychology construct of optimism as a protective factor against suicidal ideation. A possible relationship between Joiner's interpersonal-psychological theory of suicidal behavior and the construct of optimism was investigated by examining the ability of optimism to act as buffer against perceived burdensomeness, thwarted belongingness, and acquired capability to engage in self-injury in the prediction of suicidal ideation. Participants were 452 undergraduate students attending Oklahoma State University who received course credit for their participation. The study was conducted online using the PsychData website. Participants completed several questionnaires regarding mood, attitudes toward the future, and psychological symptoms. Separate hierarchical regression analyses were conducted to test each hypothesis.

Findings and Conclusions: Overall results supported the role of optimism as a protective factor against suicidal ideation. Results supported the hypotheses that optimism would serve as a buffer against the effects of thwarted belongingness and perceived burdensomeness in the prediction of suicidal ideation; however, similar results were not found regarding the acquired capability to engage in self-injury. Optimism moderated the effects of thwarted belongingness and perceived burdensomeness, such that high levels of thwarted belongingness or perceived burdensomeness significantly predicted suicidal ideation in those low in optimism, whereas neither thwarted belongingness or perceived burdensomeness significantly predicted suicidal ideation in those high in optimism. Findings did not support the acquired capability to engage in self-injury as a predictor of suicidal ideation; it is proposed that the role of an acquired capability may apply only to suicidal behavior as opposed to suicidal thoughts. Overall findings support the use of therapeutic methods designed to instill optimism in clients at risk for suicidal thoughts.

ADVISER'S APPROVAL: LaRicka Wingate