Depression Among College Students:

The Role of Hope, Sense of Belonging, Social Support, and Mattering

by

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ABSTRACT

Depression has been found to be a major problem for young adults in college, with multiple studies indicating high prevalence rates for this population. College students struggling with depression suffer from various consequences, including academic impairment and suicidal ideation, with suicide being a leading cause of death for people in the typical age range for undergraduates. Grounded in cognitive behavior theory and humanistic theory, this study examined the intra and interpersonal factors related to depression among undergraduates. Specifically, the interrelations between friend social support, sense of belonging to the college, mattering to friends, hope, and depressive symptoms were explored. Sex and number of close friends were controlled for, as the literature also showed evidence of their significant relations to depression. The sample consisted of 177 undergraduates between the ages of 18 and 25 from a large southwestern university. Participants responded to an online survey. While participants represented a diverse range of ethnicities, the majority were White. Hierarchical multiple regression analyses revealed that hope and sense of belonging to the college negatively predicted depressive symptoms. Furthermore, through zero-order correlations, it was found that friend social support, sense of belonging to the college, mattering to friends, and hope were all positively correlated with each other. Implications for prevention and clinical practice include the roles that counselors, college personnel, and students play in the battle against depression.

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CHAPTER 1

THE PROBLEM IN PERSPECTIVE

Depression is a significant problem for young adults in college. The National Institute of Mental Health (NIMH) reported that in 2016, the group with the highest prevalence of a major depressive episode was the 18 to 25-year-old age group ("Major Depression", 2017). This is the typical age range for undergraduates. Furthermore, Eisenberg, Gollust, Golberstein, and Hefner (2007) found that at a large public university with a demographic profile similar to the national student population, the estimated prevalence of any depressive or anxiety disorder was 15.6% for undergraduates and 13.0% for graduate students.

Depression among college students can have many negative consequences, such as academic impairment and suicidal ideation, that can have considerable impact on the lives of those affected. Moderate to severe levels of depression can lead to academic impairment, including decreased productivity and a tendency to miss classes, as Heiligenstein, Guenther, Hsu, and Herman (1996) found in their 2010 study with 63 university students. Furthermore, students with psychological problems such as depression have a higher risk of dropping out of college (Hartley, 2012). Haines, Norris, and Kashy (1996) found that among 130 college students, depression was negatively related to academic performance overall.

Of further importance, those who are depressed are at greater risk of committing suicide. Suicide is the second leading cause of death in the 15- to 34-year-old age group, as reported by the National Center for Health Statistics (Hedegaard, Curtin, & Warner,

2018). The National Vital Statistics Reports for 2014 noted that suicide was the second leading cause of death for those in the 10 to 24-year-old age group (Heron, 2016). Given the prevalence and potential negative consequences of depression among college students, it is important to explore factors that contribute to or buffer depression for this age group.

This study explored interpersonal and intrapersonal factors related to depression among young adults in college. Two theoretical perspectives served as the foundation for this study. These are the cognitive behavioral and humanistic theories of depression.

Theoretical Perspective

Cognitive Behavioral Theory. Beck (1964) presented a cognitive-affective model to understand depression. Based on clinical observations of depressed and nondepressed patients during psychotherapy, Beck proposed that the characteristic symptoms of depression are determined by continuous cognitive patterns known as schemas, which Beck defined as attitudes, beliefs, and assumptions that influence the way people orient themselves to a situation, recognize and label the salient features, and conceptualize the experience. In regards to depression, the schemas consist of negative self-perceptions of personal characteristics, performance or health, and worth, as well as nihilistic expectations. When these schemas are activated, they shape thoughts and can lead to symptoms of depression such as loneliness, sorrow, guilt, and pessimism. As depression worsens, these schemas progressively dominate one's cognitive processes, displace more appropriate schemas, and disrupt one's cognitive processes involved in attaining self-objectivity and reality testing.

In their presentation of a cognitive model of depression, Rush and Beck (1978) suggested the existence of three major cognitive patterns called the cognitive triad. The first component of the cognitive triad involves people's negative perceptions of themselves, such as seeing themselves as worthless. The second component of the cognitive triad involves people's distorted, negative interpretations of their past and current experiences, such as viewing the world as presenting impossible obstacles to achieving goals. The third component of the cognitive triad involves people's negative views of the future, such as perceiving their future as hopeless and filled with suffering. The activation of this cognitive triad leads to affective depressive symptoms such as sorrow and loneliness. Overall, depressive symptoms are correlated to negative cognitive patterns.

Depressive symptoms include changes in motivation, which also result from negative cognitions (Rush & Beck, 1978). Paralysis of the will, a form of motivational change, is caused by pessimism and hopelessness: the expectation of a negative outcome causes reluctance in undertaking a task or pursuing a goal. Furthermore, avoidance and escapist wishes manifest from the desire to escape from an intolerable situation, with extreme forms of these wishes potentially leading to suicide ideation. Finally, increased dependency on others is attributed to perceptions of the self as inept and to anticipations of negative outcomes when performing tasks. As depressive symptoms are correlated to negative cognitions, techniques that focus on changing those cognitions tend to be helpful in treating depression.

Feeley, DeRubeis, and Gelfand (1999) found that among 32 depressed adults, problem-focused cognitive-therapy specific techniques predicted subsequent decrease in depressive symptoms. In a meta-analysis of 28 studies of cognitive behavioral therapy (CBT) used to treat depression, CBT produced more positive outcomes than did other forms of psychotherapy and pharmacotherapy (Gaffan, Tsaousis, & Wheeler, 1995). Interestingly, in a review of 44 studies of therapy for depression and a meta-analysis of 21 of these studies, Oei and Free (1995) found that the relationship between depression and cognitive change was not unique to CBT. In other words, other forms of psychotherapy besides CBT also resulted in cognitive change. For example, psychotherapy grounded in humanistic theory has also been found to be effective in treating depression.

Humanistic Theory. Rogers (1959), one of the founders of humanistic theory, believed that incongruence, which is a discrepancy between one's perceived self and one's actual experience, results in psychological maladjustment. He also believed that conditions of worth, which arise when the positive regard of significant others is conditional, are associated with psychological maladjustment. Thus, it can be conjectured that depression may be caused by incongruence and conditions of worth (Watson & Pos, 2017).

In addition, emotion-focused therapy is a type of humanistic treatment that views emotions as contributing to maladaptive functioning and as essential to therapeutic change (Pos & Greenburg, 2007). There are three different types of emotional responses in emotion-focused theory: primary; secondary; and instrumental (Greenberg & Watson,

2006). Primary emotions are people's most fundamental and initial reactions to situations, such as feeling sorrow due to a loss. Secondary emotions are responses to prior thoughts or feelings, such as feeling guilty about feeling angry often. Instrumental emotions are emotional behavior patterns that people use to influence others, such as complaining when feeling sad so that others would provide comfort. The three main types of emotional responses aside, there are two types of primary emotions, adaptive and maladaptive. Adaptive primary emotions are accessed to obtain information, such as accessing anger at the unfairness of a situation to promote adaptation. Maladaptive primary emotions are a function of learning and survival. In regards to depression, maladaptive emotions consist of feelings such as sorrow, loneliness, worthlessness, and fear. These emotions can be triggered by maladaptive environments. An example of this is feeling fear in response to a smile due to previous abuse from someone who was smiling during the process of inflicting pain (Watson & Pos, 2017).

Emotional schemes, important to emotion-focused theory, are composed of specific emotional states involving memories and perceptions that are used to interpret and react to various situations. From the perspective of emotion-focused theorists, depression results from the activation of emotional schemes of fear, sorrow, anxiety, and defeat, and their related memories and triggers (Watson & Pos, 2017). Depression is also characterized by negative ways of treating oneself, such as being overly self-critical, which can result in interpersonal problems such as being overly needy (Greenburg & Watson, 2006).

In the view of humanistic therapists, a supportive therapeutic relationship is an important aspect of treating depression (Watson & Pos, 2017). In 1959, Rogers suggested that a therapeutic relationship should be characterized by congruence, empathy, and unconditional positive regard. More recently, humanistic theorists have suggested that empathy and acceptance, offered by a congruent other, promote the generation and internalization of more positive ways of viewing experience and treating the self (Watson & Pos, 2017). Rogers (1951) believed that sharing with a person whom one perceives as accepting and understanding helps one to differentiate more accurately perceptions of experience, which in turn allows one to develop a more accurate self-concept and to perceive more satisfying ways of living. Overall, an empathetic accepting relationship is important for helping a client develop a stronger sense of self and to regulate emotional experiences more effectively (Watson & Pos, 2017).

A therapeutic relationship can also be called an alliance or working alliance. While it can be conceptualized in various ways that are quite similar, one way is as the healthy, trusting, and affectionate feelings from a client towards a therapist (Wampold, 2001). Using meta-analysis to observe the relationship between the quality of the working alliance and therapy outcomes across 24 studies, Horvath and Symonds (1991) found a moderate and reliable association between a good working alliance and positive therapy outcomes. In an updated meta-analytic study of 295 studies, Flückiger, Re, Wampold, and Horvath (2018) found a consistent positive relation between the alliance and treatment outcome. It was also found that among 185 patients treated with CBT for depression, those with the most empathic therapists improved significantly more than

those with the least empathic therapists (Burns & Nolen-Hoeksema, 1992). Castonguay, Hayes, Goldfried, Wiser, and Raue (1996) also found that among 30 depressed clients who received cognitive therapy, improvement in depressive symptoms was related to the therapeutic alliance and to the clients' emotional experiencing.

Overall, both cognitive behavioral theory and humanistic theory provide possible explanations of and treatments for depression. Cognitive behavioral theory states that depression is correlated to negative cognitive patterns, and treatment involves changing these cognitions. Humanistic theory states that depression is correlated to incongruence, threat to conditions of worth, and negative emotional schemes, and treatment involves a supportive, therapeutic relationship. The interpersonal and intrapersonal constructs related to depression that were explored in this study draw from both cognitive behavioral theory and humanistic theory, as they are related to the cognitive patterns of negative perceptions of the self and the future, along with the empathic and accepting relationships previously discussed.

Interpersonal Constructs

Three interpersonal constructs related to depression are relevant to the current study. These are social support, sense of belonging, and mattering.

Perceived Social Support. Social support was defined by Cobb (1976) as "…information leading the subject to believe that he [she] is cared for and loved…esteemed and valued…belongs to a network of communication and mutual obligations" (p. 300). More recently, McDougall et al. (2016) defined social support as

"…a network of interpersonal connections that function to improve the well-being of the individual" (p. 223).

Social support can be emotional, informational, instrumental, or appraising (House, 1981). Emotional support focuses on affect. An example of emotional support would be listening to a friend confide about his or her struggles. Informational support and instrumental support are forms of tangible support. Informational support involves providing information to someone that could help with ameliorating or resolving that person's struggles. Instrumental support involves providing resources such as money or physical labor (Malecki & Demaray, 2002). Appraising support consists of presenting individuals with evaluative feedback.

Several international studies have provided evidence for a negative relation between social support and depression. Cheng (1997) found that among 249 middle school Chinese students in Hong Kong, general social support was a moderator between stressful life events and depression in times of high stress. Specifically, perceived family and peer support mitigated stress-related depression in times of high stress, and those who encountered high levels of stressful events but lacked parental and peer support were more at risk for greater depression. In a later study, Grav, Hellzèn, Romild, and Stordal (2011) found that among 40,659 adults in Norway, depression was negatively correlated with emotional and tangible social support. The more individuals perceived having emotional and tangible social support, the fewer depressive symptoms they reported. In their study in Austria, Ellis, Nixon, and Williamson (2010) recruited 97 children admitted to hospitals due to single-incident emotional traumas and found that perceived general

social support from family, friends, and other special people was negatively correlated with depressive symptoms. A number of other studies, however, have challenged this relationship. For example, Lewis, Bates, Posthuma, and Polderman (2013) found that among 555 adults in the Netherlands and 511 adults in the US, general social support had only marginally significant links to depressive symptoms and no significant links to anxiety symptoms.

National studies have also provided evidence for a negative relation between social support and depression. Studying 130 patients from a Level 1 Trauma Center in the United States (U.S.), Agtarap et al. (2017) found that depressive symptoms were negatively correlated with perceptions of general social support. Furthermore, baseline depressive symptoms predicted a decrease in perceived social support one year later, although baseline social support did not predict a decrease in depressive symptoms one year later. Agtarap et al. believed that these results suggested that more depressive symptoms lead to more maladaptive social behaviors, which then hinder patients as they attempt to maintain adequate social support following a traumatic injury.

In an earlier study with 496 adolescent girls, Stice, Ragan, and Randall (2004) found that deficits in parental general social support predicted future increases in depressive symptoms and onset of major depression among the adolescent girls. Interestingly, this was not the case for deficits in peer general social support, suggesting that for adolescents, parental support may be more important than peer support in mitigating depression.

A number of other studies, however, suggest that peer support may be at least equal to parental support in effectiveness at decreasing depressive symptoms. Analyzing the 2006 Behavioral Risk Factor Surveillance System in Nevada that consisted of a population-based sample of adult women with a history of intimate partner violence, Mburia-Mwalili, Clements-Nolle, Lee, Shadley, and Yang (2010) found that abused women who reported lower general social support were more likely to be depressed than were those who reported higher levels of social support. Unfortunately, the type of social support was not quantified due to the study's lack of standardized measures of social support in its methods.

While Mburia-Mwalili et al. (2010) explored general support only in females, other studies included participants of both genders and from various patient groups. In a study of 300 psychiatric inpatients from a behavioral health center, it was found that perceived general social support was negatively correlated with depressive symptoms (McDougall et al., 2016). In another study with patients experiencing negative medical conditions, Barefoot et al. (2003) found that among 196 patients with myocardial infarction, those with higher levels of perceived general social support from family, friends, and significant others reported fewer depressive symptoms. Similarly, among 94 parents of children with cancer, Bayat, Erdem, and Kuzucu (2008) found that there was a negative relation between depressive symptoms and perceived general social support from family, friends, and significant others. They also found negative relationships between depression and hopelessness and between social support and hopelessness. Studying 53 individuals with traumatic spinal cord injuries, Beedie and Kennedy (2002)

found that higher quality of general social support was associated with fewer depressive symptoms. Similar to the study by Bayat et al., this study also found a negative relation between social support and hopelessness. Furthermore, among 1,416 adults diagnosed with multiple sclerosis, spinal cord injury, or muscular dystrophy, Jensen et al. (2014) found that perceived general social support from family, friends, and significant others was negatively associated with depressive symptoms. Interestingly, friend social support had the largest effect on this relation. Overall, these studies have revealed a negative relation between social support and depression.

Researchers have also studied the effects of social support on depression among college students. For example, Park et al. (2016) found that depressed undergraduate college students perceived more emotional social support from Facebook friends when they disclosed negative information about themselves on Facebook in comparison to when they posted positive information; however, those who were depressed also perceived themselves as receiving less general social support than did those who were not depressed. Studying 319 college freshmen, Mounts (2004) reported that more parental social support was negatively correlated with depression; however, campus belonging was a mediator between parental support and perceptions of a hostile racial climate on campus. A similar study with 428 undergraduate college students found that a deficit of general social support was associated with more depressive symptoms (Rankin, Pairsley, Mulley, & Tomeney, 2018). Specifically, when needed social support was greater than received general social support, depressive symptomology was higher compared to when received social support was greater than needed social support.

Also studying college students, Romero, Riggs, and Rugero (2015) reported that general family social support was related to reduced depressive symptoms among 136 college student veterans. In addition, family support moderated the relationship between problem-focused coping and depression and between avoidant coping and depression. Tennant, Demaray, Coyle, and Malecki (2015) also found that general social support from family, other adults, peers, and close friends was negatively related to depression among 267 university students in the Midwest. Furthermore, it was determined that among 1,378 students from a large public university, students who perceived lower quality general social support from family, friends, and a significant other had an increased risk of depressive symptoms relative to students with perceptions of high quality social support (Hefner & Eisenberg, 2009). These students also had an increased risk of other mental health problems, not just depression.

Although studies examining social support have found some mixed results, most studies have reported a negative correlation between perceived social support and depressive symptoms. Based on the literature, it appears that there is a negative link between social support and depression. The current study examined the link between friend social support and depression among college students; furthermore, it examined interpersonal variables potentially related to depression and explored the relationships between these variables and social support. This study did not examine family social support because the main source of social support for most college students is their friend group. College students are in Erikson's intimacy-versus-isolation stage, in which they seek to develop close, intimate relationships with others that are not their family members

(Erikson, 1950; Feldman, 2014). Evidence that friend social support is important to college students was provided by a study in which increased social support from friends, but not from family, predicted improved adjustment to the university for first-year undergraduate students (Friedlander, Reid, Shupak, & Cribbie, 2007).

Sense of Belonging. A second interpersonal variable of interest is sense of belonging, defined by Hagerty, Lynch-Sauer, Patusky, Bouwsema, and Collier (1992) as "…the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p. 172). Hagerty et al. believed that there are two dimensions of sense of belonging. The first, valued involvement, is the experience of feeling accepted, valued, and needed. The second, fit, is an individual's perception that his or her characteristics complement the environment.

Researchers have found a negative relation between sense of belonging and depression with the general population. For example, in a study with 206 Koreans living in the U.S., sense of belonging to others, as well as resilience, was negatively correlated to depressive symptoms (Lee & Williams, 2013). Interestingly, social support was not a significant predictor of depressive symptoms. In their study with 110 individuals who identified as first- or second-generation Black immigrants, Hunter, Case, Joseph, Mekawi, and Bokhari (2016) found that sense of belonging with African Americans was negatively correlated with depression. This study focused on belonging to a particular racial group instead of general family, friends, or school communities. Sargent et al. (2002) also found that sense of belonging to others was negatively correlated to depression among 443 Navy recruits and that sense of belonging buffered those with a

family history of alcohol abuse from developing symptoms of depression but did not buffer those with a family history of mental illness. Choenarom, Williams, and Hagerty (2005) found similar results among 51 people with a history of depression, in which sense of belonging to others was significantly and inversely related to depression. Similarly, in the 2013 study by Lee and Williams, sense of belonging had a strong correlation with depressive symptoms while social support was not significantly correlated with depression. More support for the link between sense of belonging and depression was found among 75 mild-to-moderately injured traumatic brain injury (TBI) survivors and their significant others, in that Bay, Hagerty, Williams, Kirsch, and Gillespie (2002) found that depression and postinjury sense of belonging to others were negatively related. Similar to the previous study, sense of belonging, not social support, was related to depression.

Researchers have also found a link between sense of belonging and depression among college students. For example, researching sense of belonging among 379 community college students, Hagerty, Williams, Coyne, and Early (1996) found that general sense of belonging to others was positively correlated with perceived social support and negatively correlated with loneliness, anxiety, depressive symptoms, suicide ideation, and suicide attempts. Interestingly, Hagerty and Williams (1999) found that depressive symptoms were not correlated with social support but was negatively correlated with sense of belonging to others among the combined sample of community college students from the previous study and 31 clients diagnosed with major depression and in treatment at a medical center. They also found that higher levels of conflict in

relationships were associated with lower sense of belonging. Although their sample was small, only 49 undergraduate students, Steger and Kashdan (2009) also found that sense of belonging to others was negatively correlated with depressive symptoms and that those students with more depressive symptoms reported a stronger positive relation between cognitive well-being and sense of belonging and reacted more strongly to both positive and negative daily social interactions. Also studying depression and social connectedness, a variable similar to sense of belonging, among 227 college students, Armstrong and Oomen-Early (2009) found that these variables were negatively related.

Research has also explored the link between sense of belonging on campus and depression. In their study of 311 ethnic minority undergraduates at a large, public university, Gummadam, Pittman, and Ioffe (2016) discovered that the more students felt they belonged at school, the fewer depressive symptoms they reported. They defined sense of school belonging as a broad sense of connection to the school community, rather than merely select relationships with individuals at school. Similar results were reported by Stebleton, Soria, and Huesman Jr. (2014) in a comprehensive study with over 58,000 college students from six large public research institutions. Sense of campus belonging negatively predicted the frequency with which students reported feeling upset, stressed, or depressed. These studies focused on belonging on a college campus instead of belonging to specific individuals or broader groups such as family and friends and consistently found a negative relation between sense of belonging and depression.

Researchers have also found a link between sense of belonging to others and depression among non-collegiate students. For example, among 136 low-income African

American and Latino students in grades 5 to 12, most of whom had disabilities, McMahon, Parnes, Keys, and Viola (2008) found that a greater sense of school belonging was associated with lower rates of depression. Unlike the previously discussed studies that focused on school belonging for college students, this study focused on school belonging for elementary, middle, and high school students. It is also important to note that all of the students in this study had recently transferred to new schools after their previous school closed, which may have influenced their sense of belonging. Specifically examining 202 Latino adolescents from low-income, urban neighborhoods, Maurizi, Cabello, Epstein-Ngo, and Cortina (2013) discovered that school belonging and neighborhood belonging were both related to lower levels of depression. In addition to the school, the neighborhood was an important community that could mitigate depressive symptoms. Among 76 Somali adolescents resettled in the United States, a greater sense of school belonging was also associated with lower depression (Kia-Keating & Ellis, 2007), and among 2,022 students aged 12 to 14, low school connectedness predicted more depressive symptoms (Shochet, Dadds, Ham, & Montague, 2006). The former study examined a population different from college students yet was similar in that the members of both populations had moved away from their homes. The latter study showed a direction for the relation between school belonging and depression in that while low school connectedness predicted depressive symptoms, depressive symptoms did not predict school connectedness. In another study, LaRusso, Romer, and Selman (2008) discovered that among 476 teenagers aged 14 to 18 years old, social belonging was inversely related to depressive symptoms. Social belonging, which was defined as being

close to other students and feeling happy and comfortable in school in this context, is a variable similar to sense of school belonging. Furthermore, teacher support was positively correlated to social belonging and negatively related to depressive symptoms. Unlike previous research, LaRusso et al. focused specifically on high school students. Overall, similar to the studies with college students, research with minors has also shown a negative link between sense of belonging and depression.

Research that used data from national studies and surveys also found a negative relation between sense of belonging and depression. For example, studying 724 English-speaking non-institutionalized adults who were all at least 25 years of age and who participated in the National Survey of Midlife Development in the United States in 1995 – 1996 and the MIDUS Psychological Experience Follow-Up study in 1998, Fujiwara and Kawachi (2008) found that sense of belonging to others was associated with lower risks for Major Depression. Using data from the National Longitudinal Study of Adolescent Health, Anderman (2002) found that perceptions of belonging to others were inversely related to depression and that higher sense of belonging was associated with greater optimism. Also examining data from the National Longitudinal Study of Adolescent Health, Ueno (2005) found that among 11,043 adolescents from various high schools, those with a strong sense of belonging to others reported fewer depressive symptoms and that sense of belonging mediated the relationship between having more friends and fewer depressive symptoms. Among 1,524 gifted and nongifted students also selected from the same dataset, school belonging was a negative predictor of depression. (Mueller, 2009).

Overall, the vast majority of studies have reported a negative correlation between sense of belonging to others and depression. Furthermore, a link between teacher support and social belonging, variables that are similar to social support and sense of belonging, was reported by LaRusso et al. (2008). The current study examined the relation between sense of belonging to others and depression and between sense of belonging and social support. In addition, this study explored the interrelations among sense of belonging, mattering, and hope.

Mattering. The third and final interpersonal variable of interest was mattering, which was defined by Rosenberg and McCollough (1981) as people's perceptions of whether they are important to others and that others rely on them. Rayle (2006) believed that the desire to feel important and significant to others is a fundamental need of individuals. While people can provide social support to others to further their own motives, mattering implies a genuine interest in the welfare of others (Elliott, Colangelo, & Gelles, 2005).

A link between mattering to others and depression has been found with general population samples. For example, Dixon (2007) found that mattering to others was negatively related to depression among 167 older adults living in retirement communities in the southwestern US. Interestingly, older adults reported that they perceived themselves mattering most to their children, followed by their friends, and then their grandchildren. Gender differences were noted by Taylor and Turner (2001) who found that among 1,300 people from an urban community in Canada, mattering to others predicted depressive symptoms for women but not for men; however, mattering to others

was still negatively correlated with depressive symptoms for men. In a different study, it was discovered that among 500 participants recruited from two church-sponsored multisite social service centers in Maryland, individuals with higher levels of depressive symptoms reported lower mattering to others (Deforge, Belcher, O'Rourke, & Lindsey, 2008). In addition, those who were older, had lower self-esteem, had many health problems, had a history of mental health illness, had a history of homelessness, and/or who viewed themselves as having less control over their lives had higher levels of depressive symptoms. Overall, these studies with general population samples have found a negative relation between mattering and depression.

Similar relations have been found among adolescents and college students. Dixon and Robinson Kurpius (2008) studied 455 undergraduate college students and found that academic stress, lower self-esteem, lower mattering, and being female predicted greater depression. Furthermore, mattering enhanced the ability of stress to account for depression. Studying younger adolescents from two middle schools, Dixon, Scheidegger, and McWhirter (2009) also found that mattering to others was negative correlated to depression, that females had higher levels of depression, and that the relation between mattering and depression was stronger for males than for females. Focusing on 246 college students, Flett, Galfi-Pechenkov, Molnar, Hewitt, and Goldstein (2012) found that negative appraisals of mattering were associated with elevated levels of depressive symptoms. Interestingly, mattering mediated the link between depression and interpersonal perfectionism. Higher levels of mattering decreased the association between interpersonal perfectionism and depression. Similar results in regards to the link between

mattering and depression were also found among 422 emerging adults who were currently dating, in that mattering to others was negatively associated with depressive symptoms (Nash, Longmore, Manning, & Giordano, 2015). Mattering mediated the relation between depression and conflict within the dating relationship, in that higher levels of mattering lessened the negative impact of conflict on depressive symptoms.

Although research examining mattering and social support is more limited, mattering has also been linked to social support. For example, among 533 first-year undergraduates, college friend social support was a powerful predictor of mattering to others (Rayle & Chung, 2007). Specifically, while family and friend social support together predicted mattering to college friends, only friend social support was the significant predictor of mattering to the college in general. In a similar study, Elliott, Kao, and Grant (2004) also found that mattering to others was positively related to perceived social support among 544 students at a private northeastern university. Parental support was positively associated with mattering to parents for 532 Canadian high school students; mattering to friends was positively related to frequency of interactions with friends (Marshall, 2001). Studying 119 adult members of a nonresidential, voluntary-based, psychiatric, rehabilitation organization who had been diagnosed with a mental health disorder, Pernice, Biegel, Kim, and Conrad-Garrisi (2017) discovered that higher perceived levels of social support from family, friends, and peers were associated with greater perceived mattering to others.

Overall, negative correlations between mattering and depression and positive correlations between mattering and social support have been reported (Elliott et al., 2004;

Marshall, 2001; Pernice et al., 2017; Rayle & Chung, 2007). The current study examined the relation of mattering with depression for both male and female college undergraduates. In addition, it explored the relations among mattering, friend social support, and sense of belonging, and whether mattering was a moderator of the relation between depression and friend social support, sense of belonging, and hope.

Friends. Research has shown that having friends is negatively correlated to depression. Rosen, Whaling, Rab, Carrier, and Cheever (2013) found that among 1,143 adult participants, having more Facebook friends predicted fewer clinical symptoms of major depression. Among 55 students from a large university in Korea, Park, Lee, Kwak, Cha, and Jeong (2013) found that number of Facebook friends was negatively related to depressive symptoms. Among 119 undergraduates, number of Facebook friends also predicted lower levels of depression (Rae & Lonborg, 2015). Assessing 294 twin pairs in fourth grade, Brendgen et al. (2013) found that number of reciprocal friends was negatively related to depressive symptoms for boys.

Best friends tend to spend more time with one another than casual friends, providing more support, trust, intimacy, and loyalty (Hartup & Stevens, 1997). There have been mixed results on the relation between characteristics of best/close friendship and depressive symptoms. Smith (2015) found that among 300 adolescents from the northeastern US, friendship quality was negatively related to depressive symptoms. On the other hand, among 272 college students, Williams and Galliher (2006) found that perceived social support from best friends was not related to depressive symptoms. A study on 193 elementary school students in New England found that best friend quantity,

best friend quality, and good friend quantity were negatively related to depressive symptoms among male students (Nangle, Erdley, Newman, Mason, & Carpenter, 2003). However, best friend quantity, best friend quality, and good friend quantity were not significantly related to depressive symptoms among female students. Furthermore, good friend quality was neither related to depressive symptoms for males nor females. The current study controlled for number of friends while analyzing the relations between social support, sense of belonging, mattering, hope, and depressive symptoms.

Intrapersonal Constructs

Hope. While interpersonal variables have been linked to depression, select intrapersonal variables also need to be taken into consideration. One such variable is hope. The Merriam-Webster dictionary defines hope as a "desire accompanied by expectation of or belief in fulfillment (Hope, n.d.)." Hope was also defined by Snyder et al. (1991) as the cognitive agency and pathways to achieve goals. In other words, an individual who feels hopeful has the desire to achieve a goal, which is the cognitive agency aspect, and believes that he or she has the ability to do so, which is the pathways aspect.

Snyder (1995) suggested that while his model of hope is cognitive, one's emotions reflect perceived level of hope. Individuals with higher hope approach a goal with a positive emotional state, and those with lower hope approach a goal with a negative emotional state. Snyder also differentiated between the agency of hope, which is the motivation to work towards goals, and the pathways of hope, which are the methods of achieving those goals. Furthermore, Snyder et al. (1996) proposed two different types

of hope: dispositional hope and state hope. Dispositional hope, also known as trait hope, is feeling hopeful in general across situations and times. State hope pertains to particular instances or a specific situation. This research focused on dispositional hope, the most frequently used concept of hope.

Researchers have studied hope among individuals with mental health or physical health concerns. For example, Schrank, Amering, Hay, Weber, and Sibitz (2014) found that hope was negatively correlated with depression among 284 adults diagnosed with schizophrenia spectrum disorder in Austria, and Peleg, Barak, Harel, Rochberg, and Hoofien (2009) found that hope was negatively correlated with depression levels among 65 patients from brain injury rehabilitation facilities in Israel. Among 209 American veterans receiving treatment for PTSD at mental health clinics, Hassija, Luterek, Naragon-Gainey, Moore, and Simpson (2012) found that lower hope predicted more depressive symptoms and that there was an interaction between hope and emotional avoidance, with hope as a moderator. Emotional avoidance consists of avoidant emotional coping strategies such as self-distraction, denial, and substance use. At low levels of hope, greater use of emotional avoidance strategies predicted more severe depressive symptoms. In contrast, at high levels of hope, emotional avoidance did not affect depression levels among these veterans. This national study with veterans linked hope and depression among those with a mental disorder other than depression. Studying 57 people with traumatically acquired spinal cord injuries, Elliott, Witty, Herrick, and Hoffman (1991) also found that hope was negatively correlated with depression. When they examined the agency and pathways aspects of hope, they found that only the

pathways component of hope predicted depression. In other words, the perception of having the ability to achieve a goal was the significant aspect of hope related to depression. Collectively, these studies reveal a link between hope and depression for those with mental or physical health concerns.

Other studies have also found a link between both the agency and pathways aspects of hope and depression. For example, Chang et al. (2013) found that among 101 adults recruited from a community-based primary care clinic in the Southeast, both hope agency and pathways were negatively related to depressive symptoms. Faso, Neal-Beevers, and Carlson (2013) reported similar results among 71 biological parents of a child between the ages of 4 and 12 and who was diagnosed with autism spectrum disorder. Hope agency and hope pathways were negatively correlated with depression. Interestingly, vicarious hope was associated with trait hope for mothers but not for fathers. Unlike the previous study, this study focused on adults who were old enough to have children who were at least 4 years old; furthermore, the adults were struggling with depressive symptoms associated with others instead of themselves. Similar results were also found among 152 undergraduates, in that both the agency and pathways components of hope were strongly negative correlated with depression (Matthew, Dunning, Coats, & Whelan, 2014). Matthew et al. (2014) focused on college students, who were also the focus of the current study.

Some research has found a link only between the agency aspect of hope and depression. For example, a recent study with 94 mothers of a child with autism spectrum disorder revealed that hope agency was associated with decreased depressive symptoms

and with increased friend and family support (Ekas, Pruitt, & McKay, 2016). Similar results were found among 522 college students. Agency component of hope had significant negative effects on later depression, but the pathways component had no unique effect on depression (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007). Higher levels of hope were associated with decreases in both anxiety and depressive symptoms, but neither depression nor anxiety had a significant influence on hope. In a similar study with 319 college students, Chang et al. (2016) also found that hope agency was negatively related to depressive symptoms. Each of these studies focused on college students, the population of interest in the current study.

The general construct of hope, rather than specific aspects, has also been investigated. McDermott et al. (2015) found that among 2,644 students from a large midwest university, hope predicted lower levels of depression. In addition, hope mediated the relation between depression and attachment anxiety, which is people's worry about their partner's caring about them, and between depression and attachment avoidance, which is people's attempt not to become too close to one's partner. For those with higher levels of hope, the associations between depression and attachment anxiety and avoidance decreased. Similar results have been reported by Kelberer, Krains, and Wells (2018), by Geiger and Kwon (2010), and by Hirsch, Visser, Chang, and Jeglic (2012). Among college students, Visser, Loess, Jeglic, and Hirsch (2013) found that hope was associated with decreased depressive symptoms. Furthermore, hope moderated the relation between negative life events and depression in that as hope increased, the association between negative life events and depression weakened. Studying both

undergraduate students and patients consulting their general practitioner, Thimm, Holte, Brennen, and Wang (2013) also found significant negative correlations between hope and symptoms of depression for both samples. As expected, hope was positively correlated with probability estimates of positive events in the future. Finally, when hopelessness was the outcome variable, Konick and Gutierrez (2005) also found that depression was a significant predictor of sense of hopelessness.

Beyond correlational research, experimental studies have examined the impact of interventions to strengthen hope on depression. For example, Cheavens, Feldman, Gum, Michael, and Snyder (2006) conducted an 8-week hope-based treatment and found that among 32 participants, those who received the treatment had a greater decrease in depressive symptoms from pre-test to post-test than did participants in the control group. Gilman, Schumm, and Chard (2012) examined pre, midpoint, and post-depression and hope of 164 veterans diagnosed with PTSD and admitted to a 7-week Veteran's Administration residential treatment program. Pretreatment levels of depression negatively predicted midtreatment levels of hope, and high levels of hope at midtreatment predicted lower levels of depression severity at posttreatment. While Cheavens et al. (2006) utilized a hope-based treatment, Gilman et al. (2012) utilized a treatment that measured hope as an outcome variable. Overall, while these two studies used different types of treatment, both showed a negative link between hope and depression.

A few studies similarly focused on participants' receiving care for negative health conditions but were not involved in interventions. Hartley, Vance, Elliott, Cuckler, and Berry (2008) discovered that among 62 community-dwelling older adults who had

received partial or total hip or knee replacements from an orthopaedic clinic, higher hope was predictive of lower depression scores prior to receiving joint replacement surgery but was not predictive of depression scores after receiving surgery. Among 162 heart patients at the Heart Center of the University of Michigan Health Systems, hope was negatively related to postoperative depression (Ai, Pargament, Appel, & Kronfol, 2010). Unlike the Hartley et al. (2008) study in which hope was associated with depression solely prior to surgery, hope was associated with depression after surgery in the Ai et al. (2010) study. Furthermore, among 78 patients who were receiving concurrent oncologic and symptom-focused care in a comprehensive care center, hope was negatively correlated with depression (Rawdin, Evans, & Rabow, 2013). In conclusion, for patients struggling with negative health conditions, hope appeared to alleviate depressive symptoms.

Overall, research has reported a negative correlation between hope and depression across multiple and varied samples, and particularly among college student samples. In addition, Ekas et al. (2016) provided evidence of a positive link between hope and family and friend social support. Given these findings, the current study examined the link between hope and depression and explored potential relations among hope, mattering, and social support among college students. This study did not focus specifically on the pathways and agency aspects of hope to prevent the measures from being overly complex.

Sex. The vast majority of the literature has shown higher rates of depression among females than among males. Examining population-based epidemiologic studies from 10 countries (U.S., Canada, Puerto Rico, France, West Germany, Italy, Lebanon,

Taiwan, Korea, and New Zealand), Weissman et al. (1996) found that the rates of major depression were higher for women than for men in every country. Based on the results of the National Comorbidity Survey (NCS), that included data on the prevalence of major depression from a nationally representative sample, women were more likely than men to report a lifetime history of major depressive episodes and had a much higher rate of 12-month depression than did men (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). In a systematic review of the literature, Kuehner (2003) concluded that epidemiological data indicated that the risk of developing depressive disorders was considerably higher among women than among men.

Research with students and adolescents has also shown a sex difference in depression rates. For example, using national longitudinal panel data on adolescents from Canada, Great Britain, and the U.S., Wade, Cairney, and Pevalin (2002) found that females had significantly higher rates of depression in each sample overall. In their examination of the Depression Research in European Society (DEPRES) study dataset that covered representative population samples for six European countries, Wade et al. (2002) found that men reported fewer depressive symptoms than did women in terms of the six-month prevalence rate for major depression. Among 234 British students in London, sex was predictive of depression in that females were more likely to be depressed than were males (Cheng & Furnham, 2003). Among 115 adolescents with visual impairments attending Finnish schools, Huurre, Komulainen, and Marita Aro (2001) found that depressive symptoms and the prevalence of depression were higher among girls than among boys, regardless of whether or not they were visually impaired.

Finally, a longitudinal study of adolescent students from Chicago found that girls exhibited greater levels of depressive symptoms than did boys (Hankin, Mermelstein, & Roesch, 2007).

More recent studies have found mixed results regarding the relation between sex and depression. Nolen-Hoeksema and Aldao (2011) found that among 1,312 residents in the San Francisco Bay area of California, women had higher depressive symptoms than men. Among 384 college students from the US and 380 college students from South Korea, it was found that though there were no significant differences in levels of depressive symptoms between men and women in the US sample, women reported more depressive symptoms than men in the South Korea sample (Kwon, Yoon, Joormann, & Kwon, 2013). Finally, a study of 508 undergraduates from a large southeastern public university found no significant differences in levels of depressive symptoms between males and females (Mahmoud, Staten, Hall, & Lennie, 2012). Despite some mixed results, given the sex differences in depression consistently reported in the literature, sex of participant was controlled for in the current study.

Summary and Hypotheses

Based on the literature, two hypotheses explored this question: What are the interrelationships among perceived friend social support, sense of belonging to the college, mattering to friends, hope, and depression?

Overall, research has found positive links between social support and sense of belonging to others (Hagerty et al., 1996; LaRusso et al., 2008), between social support and mattering to others (Rayle & Chung, 2007; Elliott et al., 2004; Marshall, 2001;

Pernice et al., 2017), and between social support and hope (Ekas et al., 2018). Based on the evidence from these studies, the following was hypothesized: H1: Perceived friend social support, sense of belonging to the college, mattering to friends, and hope will be positively related to each other.

In addition, research has found negative links between social support and depression (e.g. Agtarap et al., 2017; McDougall et al., 2016; Rankin et al., 2018), between sense of belonging and depression (e.g. Choenarom et al., 2005; Gummadam et al., 2016; LaRusso et al., 2008), between mattering and depression (e.g. Deforge et al., 2008; Flett et al., 2012; Nash et al., 2015), and between hope and depression (e.g. Chang et al., 2013; McDermott et al., 2015; Visser et al., 2013). Based on the findings from these studies, the following was hypothesized: H2: Perceived friend social support, sense of belonging to the college, mattering to friends, and hope will predict depression.

CHAPTER 2

METHOD

Recruitment and Participants

This study focused on undergraduate college students who were between the ages of 18 and 25 years. Based on an a priori G*power analysis, a sample size of 130 participants was needed to have .95 power, an effect size of .15, and an error of .05. After Institutional Review Board (IRB) approval (see Appendix A), recruitment began. Participants were recruited through emailing university professors (see Appendix B) from Arizona State University (ASU) and asking them to distribute the link to participate to their classes. A lottery was held for cash prizes, in which one out of approximately 50 participants received a $25 Amazon gift card. At the beginning of the online survey, an informed consent form was provided (see Appendix C).

Study participants consisted of 177 undergraduate students who ranged in age from 18 to 25 years (M = 19.58 years, SD = 1.44), with 69 (39%) identifying as male, 106 (59.9%) identifying as female, and two (1.1%) identifying as "other." The sample was ethnically diverse, with participants primarily identifying as White (n= 112; 63.3%), Hispanic/Latinx (n= 32; 18.1%), or Asian (n= 21; 11.9%). Table 1 presents complete demographic information. Participants identified their years in school, with the majority (71.2%) in either their first or second year of college (see Table 1). In addition, 11 (65%) participants identified as single, 60 (33.9%) identified as being in a committed relationship but not married, one (0.6%) identified as being married, and one (0.6%) identified as "other." In terms of religion, 71 (40.1%) participants identified as Christian,

38 (21.5%) as agnostic, and 34 (19.2%) as atheist (see Table 1 for complete data on religion).

Study participants had various living situations, with most (86.5%) living with either family or roommates (see Table 1). In regards to parental income, over 50 percent (*n*= 95) reported parental yearly income between $80,000 – 99,999 (*n*= 22; 12.4%) or over $100,000 (*n*= 73; 41.2%) (see Table 1). In addition, 99 (55.9%) participants were not currently working when they took the survey, 72 (40.7%) were working part-time, and six (3.4%) were working full-time. The vast majority (87.5%) depended on scholarships, parents, or loans to pay college costs (see Table 1). Although very few (*n*= 9; 5.1%) reported having no best or close friends, most reported having two (*n*= 44; 24.9%) or three (*n*= 51; 28.8%) best or close friends (see Table 1). Finally, when asked whether they had ever sought counseling, 65 (36.7%) reported they had and 112 (63.3%) reported they had not sought counseling in the past.

Measurement of Study Constructs

First, a demographic questionnaire (see Appendix D) asked participants for their age, sex, ethnicity, religion, relationship status, year in college, living situation, parental income, work status, number of best/close friends, whether or not they have ever seen a counselor, and how they are paying for the costs of college. The definition provided for best/close friends was adapted from a study by Kinnier, Chong, Minopoli, and Lee (2018) that examined the process of friends becoming best friends and the causes of best friendships ending. Then, five measures to assess each study construct were completed

(see Appendix E, Appendix F, Appendix G, Appendix H, and Appendix I for these measures).

Control Variables. The control variables of the study, sex and number of best/close friends, were assessed in the demographic questionnaire. The options for the question on sex were "male", "female", and "self-identified other." "Male" was coded as 1, "female" was coded as 2, and "self-identified other" was coded as 3. The options for the question on number of best/close friends were "none", "one", "two", "three", "four", and "five or more." "None" was coded as 1, "one" was coded as 2, "two" was coded as 3, "three" was coded as 4, "four" was coded as 5, and "five or more" was coded as 6.

Depressive Symptoms. The Patient Health Questionnaire-9 (PHQ-9) was administered to assess participants' depressive symptomology (American Psychological Association, n.d.) The PHQ-9 is a 9-item inventory that asks participants to rate how often each statement applied to them in the past two weeks. An example of an item is "Feeling tired or having little energy." The items are rated on a 4-point Likert-type scale ranging from 0 = "not at all" to 3 = "nearly every day." The ratings were added to obtain a total score that could range from zero to 27, with higher scores reflecting more depressive symptomatology.

Various researchers have utilized the PHQ-9 as part of their studies on college students. Garlow et al. (2008) found that among 729 undergraduates at a southeastern university, the mean PHQ-9 score was 10.44. In a study on 2,427 Asian American and Caucasian undergraduates at a southwestern university, the mean PHQ-9 score was approximately 7.8 for female Asian Americans, approximately 6.7 for male Asian

Americans, approximately 6.8 for female Caucasians, and approximately 6.1 for male Caucasians (Young, Fang, & Zisook, 2010). Among 260 college students at a nursing school in Japan, Urasaki et al. (2009) found that the mean PHQ-9 score was 7.7.

Kroenke, Spitzer, and Williams (2001) reported evidence for high internal consistency reliability, with Cronbach's alphas of .86 and .89 for two different patient populations. In addition, evidence for criterion validity and construct validity was reported by Kroenke et al. through the utilization of a Mental Health Professional interview and the examination of functional status, disability days, symptom-related difficulties, and clinic visits. Studying 6,000 patients from eight primary care clinics and seven obstetrics-gynecology clinics, Kroenke et al. found that as PHQ-9 depression severity increased, symptom-related difficulty, sick days, and health care utilization increased. The PHQ-9 in the current study had strong internal consistency reliability, with a Cronbach's alpha of .862.

Perceived Social Support. The Perceived Social Support Inventory- Friends (PSS-Fr) is a 20-item inventory that asks participants whether or not they agree with each statement presented (Procidano & Heller, 1983). An example of an item is "I rely on my friends for emotional support." The items are rated in three categories, which are yes, no, or don't know. After reverse coding, the number of yes responses were summed to obtain a total score, which could range from zero to 20. Higher scores reflect more perceived social support from friends. Procidano and Heller (1983) reported evidence for good internal consistency reliability with a Cronbach's alpha of .88 for their sample of 222 Indiana University undergraduates. Also, evidence for construct validity was also

reported by Procidano and Heller, as the measure was negatively correlated to psychiatric symptoms. Procidano and Heller found that the PSS-FR was inversely related to symptoms of distress and psychopathology and was positively related to social competence. The PSS-FR in the current study had a Cronbach's alpha of .903.

Sense of Belonging. The Sense of Belonging Scale was administered to assess participants' sense of belonging at college (Anderson-Butcher & Conroy, 2002). For this study, the word "program" was replaced by "college/university." The Sense of Belonging Scale asked participants to rate how much they agreed with each of 10 statements. Sample statements include "I feel comfortable at the college/university" and "The faculty at the college/university make me feel wanted and accepted." Each statement is rated from 1 = "greatly disagree" to 4 = "greatly agree." After reversing scoring three items, the ratings were summed to obtain a total score that could range from 10 to 40. Higher scores indicate a greater sense of belonging to the college. Anderson-Butcher and Conroy (2002) have reported evidence for strong reliability, with an internal consistency of .93 for their calibration sample of 271 participants from a Boys & Girls Club in a large western city and their cross-validation sample of 146 participants recruited from United Way agencies such as Boys & Girls Clubs, Big Brothers/Big Sisters, Boy Scouts, and neighborhood settlement houses and community centers. In addition, evidence for concurrent validity was reported by Anderson-Butcher and Conroy in that belonging scores were positively related to actual program attendance and self-reported attendance. Anderson-Butcher and Conroy found that belonging scores were positively related to protective factors found in communities and negatively related to community-based risk

factors. For the current study, the Cronbach's alpha for the responses to Sense of Belonging Scale was .835.

Mattering. The General Mattering Scale- Friends has been adapted from the 9-item General Mattering Scale (Marcus, 1991) that measures mattering to both family and friends. Five items assessed participants' perceptions of mattering to friends. An example of an item is "How interested are your friends in what you have to say?" The items are rated from 1 = "not at all" to 4 = "very much." Ratings across the five items were summed to obtain a total score ranging from five to 20. Higher scores reflect higher perceptions of mattering to friends. Taylor and Turner (2001) have reported evidence of internal consistency reliability, with a Cronbach's alpha of .78 for their sample of 1,300 residents from six boroughs of metropolitan Toronto, Canada. While no reports on the validity of this scale were found, multiple studies have utilized this scale. The study conducted by Taylor and Turner was discussed in the literature review. The General Mattering Scale-Friends had a Cronbach's alpha of .919 for the current study sample.

Hope. The Adult Hope Scale is a 12-item inventory that measured participants' levels of general hope (Snyder et al., 1991). An example of an item is "I usually find myself worrying about something." Each item is rated from 1 = "definitely false" to 8 = "definitely true." Ratings are summed to obtain total scores that can range from 12 to 96. Higher scores indicate higher levels of hope. Snyder et al. (1991) reported Cronbach's alpha reliabilities ranging from .74 to .84 for their six samples of University of Kansas introductory psychology students and two samples of people in psychological treatment, one sample in outpatient and the other in inpatient treatment. Snyder et al. also reported

good test-retest reliabilities: .85 for three weeks, .73 for eight weeks, and .76 and .82 for ten weeks for the two samples. Validity was demonstrated by students with higher hope setting higher grade goals, tending to perceive that they would be more successful at attaining those higher grades despite contradictory feedback, and actually attaining those higher grades. In addition, evidence of construct validity was provided in that the scale correlated positively with other scales that measured related variables such as optimism and self-esteem and correlated negatively with a hopelessness scale. Snyder et al. also found discriminant validity in that the scale was shown not to correlate with theoretically unrelated measures. For the current study sample, the Adult Hope Scale has a Cronbach's alpha of .838.

Procedures

After reading the online informed consent letter, participants were given access to a link to take the survey online. Recruitment continued for a period of approximately two weeks. At the end of the survey, participants were given the option of partaking in a lottery for cash prizes by clicking on a link that would take them to a different website where they could provide their email address. After data were gathered, three participants were randomly chosen to each receive a $25 Amazon gift card. In addition, a list of resources for depression were provided at the end of the survey (see Appendix J).

Planned Data Analyses

To test hypothesis one, which predicted that perceived friend social support, sense of belonging to the college, mattering to friends, and hope would be positively related to each other, Pearson correlations will be conducted to examine the interrelationships

between these variables. Hierarchical multiple regression will be conducted to test hypothesis two, which posed that perceived friend social support, sense of belonging to the college, mattering to friends, and hope would predict depressive symptoms. To control for sex and number of best/close friends, these will be entered together to predict depressive symptoms in step one. In step two, perceived friend social support, sense of belonging to the college, mattering to friends, and hope will be added as a cluster to the regression equation.

Table 1

Participant Demographics

	N	%
Ethnicity		
American Indian/Alaska Native	3	1.7%
Asian	21	11.9%
Black or African American	2	1.1%
Hispanic or Latinx	32	18.1%
Native Hawaiian/Other Pacific Islander	1	0.6%
White	112	63.3%
Other	6	3.4%
Year in School		
First Year	57	32.2%
Second Year	69	39%
Third Year	27	15.3%
Fourth Year	20	11.3%
Fifth Year	3	1.7%
Sixth Year and above	1	0.6%

Table 1

Participant Demographics Continued

	N	%
Religion		
Christian	71	40.1%
Islam	4	2.3%
Hindu	5	2.8%
Sikh	1	0.6%
Agnostic	38	21.5%
Atheist	34	19.2%
Other	22	12.4%
Living Situation		
Alone	11	6.2%
Family	52	29.4%
Roommate(s) in dorm	58	32.8%
Roommate(s) off campus	43	24.3%
Fraternity/sorority members	1	0.6%
Significant other/partner	9	5.1%
Other	3	1.7%

Table 1

Participant Demographics Continued

	N	%
Parental Income		
$0 - $19,999	16	9%
$20,000 - $39,999	18	10.2%
$40,000 - $59,999	23	13%
$60,000 - $79,999	23	13%
$80,000 - $99,999	22	12.4%
$100,000 and above	73	41.2%
Payment method for costs of college		
Loans	25	14.1%
Grants	6	3.4%
Scholarships	79	44.6%
Parents	51	28.8%
Other family members	6	3.4%
Self	10	5.6%

Table 1

Participant Demographics Continued

	N	%
Number of best/close friends		
None	9	5.1%
One	23	13%
Two	44	24.9%
Three	51	28.8%
Four	27	15.3%
Five or more	23	13%

CHAPTER 3

RESULTS

Prior to testing the study hypotheses, the internal consistency reliabilities for the study measures were calculated. These are reported in the Method section. Next, the means and standard deviations for perceived friend social support, sense of belonging to the college, mattering to friends, hope, and depressive symptoms were calculated. These statistics are presented in Table 2.

To test hypothesis one that predicted that perceived friend social support, sense of belonging to the college, mattering to friends, and hope would be positively correlated with each other, one-tailed zero-order correlations were calculated. Perceived friend social support was positively related to sense of belonging to the college (r = .49, p = .000), to mattering to friends (r = .81, p = .000), and to hope (r = .44, p = .000). Sense of belonging to the college was positively related to mattering to friends (r = .46, p = .000) and hope (r = .49, p = .000). Finally, mattering to friends was positively related to hope (r = .45, p = .000). Hypothesis one was supported by the data. The correlations among the study variables are presented in Table 2.

To test hypothesis two, which posed that perceived friend social support, sense of belonging to the college, mattering to friends, and hope predicted depressive symptoms, a hierarchical multiple regression was conducted. To control for potential variance due to participant sex and number of close friends, they were entered first into the model. This model was significant, R = .31, adjusted R^2 = .09, ΔR^2 = .10, $\Delta F(2, 170) = 9.32$, $p < .01$. The standardized beta coefficients were: β = -.12 (p = .102) for sex and β = -.30 (p =

.000) for number of best/close friends. Number of best friends was the significant predictor of depressive symptoms. Next, perceived friend social support, sense of belonging to the college, mattering to friends, and hope were added as a cluster into the model. In step two, the addition of the variables significantly increased the accounted-for variance in depressive symptoms, $\Delta R^2 = .33$, $\Delta F(4, 166) = 23.80$, $p < .01$. Examination of standardized beta coefficients revealed that sense of belonging ($\beta = -.15$, $p = .045$) and hope ($\beta = -.46$, $p = .000$) were the significant predictors. Neither perceived social support nor mattering were significant (see Table 3). The full model accounted for 40.7% of the variance in depressive symptoms.

Table 2

Correlations Among Sense of Belonging, Mattering, Hope, Perceived Social Support, Depression, Sex, and Number of Best/Close Friends

	M	*SD*	1	2	3	4	5	6	7
1. Sense of Belonging	28.67	4.28	1.00	.46**	.49**	.49**	-.44**	.13*	.25**
2. Mattering	15.44	3.91		1.00	.45**	.81**	-.37**	.24**	.56**
3. Hope	63.34	12.22			1.00	.44**	-.61**	-.10	.30**
4. Perceived Social Support	12.92	5.51				1.00	-.42**	.22**	.59**
5. Depression	8.87	5.75					1.00	.10	-.29**
6. Sex	1.62	.51						1.00	.06
7. Number of Friends	3.76	1.36							1.00

*$p < .05$, **$p < .01$

Table 3

Summary of Hierarchical Multiple Regression in Prediction of Depressive Symptoms

	β	*t*	*R*	Adjusted R^2	ΔR^2	ΔF
Step 1			.31	.09	.10	9.32
Sex	.12	1.64				
Number of Friends	-.30	-4.08**				
Step 2			.65	.41	.33	23.80
Sex	.10	1.65				
Number of Friends	-.05	-.62				
Sense of Belonging	-.15	-2.02*				
Mattering	.06	.53				
Hope	-.46	-6.23**				
Perceived Social Support	-.18	-1.71				

*$p < .05$, **$p < .01$

CHAPTER 4

DISCUSSION

Depression is a prevalent issue among college students and can have an immense negative impact on their lives. Potential consequences of depression include social impairment, academic impairment, poor physical health, and suicide ideation (American Psychiatric Association, 2013; Haines, Norris, & Kashy, 1996; Hartley, 2012; Heiligenstein, Guenther, Hsu, & Herman, 1996). It was important to examine protective and risk factors for depression. The current study examined depression among undergraduates, part of the age group that has the highest prevalence of a major depressive episode (Hedegaard, Curtin, & Warner, 2018). Factors that affect the severity of depressive symptoms were examined, and implications for prevention and clinical practice were explored.

Although the literature has revealed a wide range of factors related to depression, the purpose of this study was to examine specific factors that were linked to cognitive behavior theory or humanistic theory. Therefore, this study examined whether friend social support, sense of belonging to the college, mattering to friends, and hope would be related to depressive symptoms among undergraduates. The relations between depressive symptoms and these constructs were examined through regression analyses after potential variance due to sex of participant and number of close friends was controlled. These two variables were control variables as the literature has revealed that they are related to reports of depression. For example, the vast majority of research has shown that being female is associated with higher rates of depression (Cheng & Furnham, 2003; Hankin et

al., 2007; Huurre et al., 2001; Kessler et al., 1993; Kuehner, 2003; Wade et al., 2002; Weissman et al., 1996). In addition, research has shown a negative relation between number of friends and depression (Brendgen et al., 2013; Park et al., 2013; Rae & Lonborg, 2015; Rosen et al., 2013). That friends can provide people with suggestions or encouragement that may counteract their cognitive distortions related to negative mood states such as depression is consistent with cognitive behavioral theory (Corey, 2017). Furthermore, it is consistent with humanistic theory given that friends can provide people with an understanding and accepting relationship that can help them to develop a more accurate self-concept and to perceive more satisfying ways of living (Rogers, 1951).

However, while number of friends was negatively related to depressive symptoms in the current study, sex was not. This may be due to the fact that the sample in the current study did not consist of depressed participants. The mean score of the PHQ-9 was 8.87, which indicates mild depression but does not signify a diagnosis of major depression (Kroenke et al., 2001). The level of depression among the current study's sample is relatively similar to those in other studies of college students, with the mean score of the PHQ-9 in those studies being in the range of six to 11 (Garlow et al., 2008; Urasaki et al., 2009; Young et al., 2010). In addition, the finding that sex was not negatively related to depressive symptoms was consistent with studies that found similar results among college students in the US (Kwon et al., 2013; Mahmoud et al., 2012).

The current study found that hope was a significant predictor of depressive symptoms, which is consistent with extensive literature that has shown a negative relation between hope and depression (e.g. Geiger & Kwon, 2010; Hassija et al., 2012; Hirsch et

al., 2012; Kelberer et al., 2018; McDermott et al., 2015). In particular, this finding is consistent with studies that found that hope was a significant predictor of depressive symptoms among undergraduate and graduate students from a large midwestern university (McDermott et al., 2015), among undergraduates from a large northwestern university (Geiger & Kwon, 2010), and among college students from an urban northeastern university (Visser et al., 2012). In addition, the current study's finding of a significant, moderate, negative relation between hope and depressive symptoms was consistent with studies that found a significant, although weak, negative relation between hope and depressive symptoms among undergraduates from a large midwestern university (Kelberer et al., 2018) and among college students from an urban northeastern university (Hirsch et al., 2012).

This study's finding linking hope to depression also aligns with theory, as CBT posits that negative views of the future such as perceptions of hopelessness comprise one of the three components of the cognitive triad that lead to affective depressive symptoms such as sorrow and loneliness (Rush & Beck, 1978). In addition, paralysis of the will, which is related to a decrease in motivation, is also associated with hopelessness (Rush & Beck, 1978). It is interesting to note that hope was the strongest predictor of depressive symptoms in the current study. Hope is a positive belief that one can achieve goals (Snyder et al., 1991) or have desires fulfilled (Hope, n.d.), and this positive belief can help counteract the negative beliefs about one's life that are reflected in depressive symptomology. Indeed, changing one's negative cognitions is one of the most powerful and evidence based interventions for depression (Flynn & Warren, 2014). Hope in this

study was measured in relation to one's self, while the other study constructs reflect perceptions in relation to external variables. For example, social support was specific to friends, mattering was specific to friends, and sense of belonging was specific to the college.

It should be noted that the zero-order correlations used to test the first hypothesis revealed that hope was positively correlated to friend social support, sense of belonging to the college, and mattering to friends. These interrelationships are important for this study's findings in that they indicate that these variables shared variance and may reflect overlapping constructs. The shared variance could have impacted the study findings as the variables were not orthogonal in measurement or meaning. The positive relation between hope and friend social support in the current study, however, is consistent with previous research, particularly a study by Chang et al. (2018) who found that family and friend social support was positively related with hope among college students who indicated having two or more ethnic identities. While the relation between sense of belonging and hope has not been well-researched in the literature, this finding is consistent with a dissertation that found a weak positive relation between sense of belonging and hope among first generation Latinx college students at a large urban university (Peck, 2017). Finally, a search of the literature failed to reveal any research that had examined the relation between mattering and hope.

Sense of belonging to the college was also a significant predictor of depressive symptoms. This is consistent with extensive research reporting a negative relation between sense of belonging and depression (e.g. Choenarom et al., 2005; Gummadam et

al., 2016; Hagerty et al., 1996; Stebleton et al., 2014; Ueno, 2005). In particular, this finding is consistent with previous studies that found that sense of school belonging significantly and negatively predicted depressive symptoms among ethnic minority college students enrolled in an introductory psychology course at a large, public midwestern university (Gummadam et al., 2016) and among students from six large public research institutions (Stebleton et al., 2014). The ability of sense of belonging to predict depression also makes sense in light of theory. Humanistic theory views negative emotional schemes such as anxiety and loneliness as contributing to depression (Watson & Pos, 2017). When individuals believe that they do not belong on a college campus, it is highly likely that they feel isolated, anxious, and lonely on that campus. Also in relation to CBT, having a strong sense of belonging to an organization can help abate anxiety by providing feelings of security to counteract the cognitive triad component composed of negative perceptions of the future. A strong sense of belonging can also help abate loneliness by prompting thoughts to counteract the other two cognitive triad components composed of negative self-perceptions and negative perceptions of experiences that lead to loneliness (Rush & Beck, 1978).

In addition, sense of belonging to the college had a moderate positive correlation with perceived friend social support and mattering to friends, which may help explain the regression finding that perceived friend social support did not predict depression. The positive correlation between sense of belonging to the college and perceived friend social support was consistent with previous research, particularly a study that found that general sense of belonging to others was positively related to perceived social support (Hagerty et

al., 1996), albeit sense of belonging was studied in different forms between the two studies, in that the study by Hagerty et al. focused on sense of belonging to others while the current study focused on sense of belonging to the college. On the other hand, the relation between sense of belonging and mattering had not been previously researched.

As just noted, perceived friend social support was not a significant predictor of depressive symptoms. Though the finding of the negative zero-order correlation between perceived friend social support and depressive symptoms was consistent with the literature (e.g. Agtarap et al., 2017; Jensen et al., 2014; McDougall et al., 2016), the finding that perceived friend social support did not significantly predict depressive symptoms was inconsistent with some literature. For example, some researchers have reported that general social support was a significant predictor of depressive symptoms among undergraduates recruited from a university-based subject pool (Rankin et al., 2018) and that general social support from family, other adults, peers, and close friends was a significant predictor of depressive symptoms among college students enrolled in an introductory psychology course (Tennant et al., 2015). The inconsistency between the current study finding and that of previous research may be due to the fact that the current study focused only on friend social support instead of general or other sources of social support, differences in the samples due to culture related to geography and demographics, or the significant relation between friend social support and other predictor variables. A difference in geography and demographics can cause cultural differences due to different lifestyles and upbringings. However, the negative zero-order corelation between perceived friend social support and depressive symptoms in the current study was

consistent with research that found that students from a large public university who perceived lower quality general social support from family, friends, and a significant other had an increased risk of depressive symptoms relative to students with perceptions of high quality social support (Hefner & Eisenberg, 2009). In regards to theory, humanistic theory views threats to conditions of worth and negative emotional schemes such as sorrow and loneliness as contributing to depression (Watson & Pos, 2017). Social support from friends who show empathy and acceptance can help counteract the threats to conditions of worth, especially if they also provide unconditional positive regard, decreasing depressive symptoms. In addition, having social support may help abate loneliness. It needs to be remembered that number of friends was controlled for and this may have impacted the relation of perceived support from friends with depression since number of friends is positively correlated with friend social support, indicating shared variance.

Though mattering to friends was also negatively correlated with depressive symptoms in the current study, it too was not a significant predictor of depressive symptoms. Though the negative relation between mattering to friends and depressive symptoms was consistent with previous research (e.g. Deforge et al., 2008; Dixon, 2007; Flett et al., 2012), the finding that mattering to friends did not predict depressive symptoms was inconsistent with some previous research. In particular, the current finding is inconsistent with studies that found that mattering to family and friends negatively predicted depressive symptoms among undergraduate students (Dixon & Robinson Kurpius, 2008) and that found that among emerging adults currently dating, mattering to

their significant other negatively predicted depressive symptoms (Nash et al., 2015). Perceptions of mattering to friends can help change the cognitive distortions of the first component of the cognitive triad involving people's negative perceptions of themselves addressed in CBT (Rush & Beck, 1978).

That perceived friend social support and mattering to friends were not significant predictors of depressive symptoms in this study may be partially due to shared variance between them, as indicated by their positive zero-order correlation with each other. This positive correlation was consistent with previous research that found that college friend social support was a strong predictor of mattering to others (Rayle & Chung, 2007), that mattering to others was positively related to perceived social support (Elliott, Kao, & Grant, 2004), and that higher perceived levels of social support from friends, family, and peers were related to higher levels of perceived mattering to others (Pernice, Biegel, Kim, & Conrad-Garrisi, 2017). What this interrelationship implies must be taken into consideration when trying to explain the regression results. Among the four constructs of perceived friend social support, sense of belonging to the college, mattering to friends, and hope, the strongest relation was found between perceived friend social support and mattering to friends. There was significant overlap or shared variance in the concepts measured. For example, those who matter to their friends likely receive social support from them. In addition, those who receive social support from their friends likely perceive themselves as mattering to their friends. Thus, these two constructs may be intricately related.

Summary of Study Findings

Overall, the first hypothesis was accepted, and the second hypothesis was partially accepted. In relation to the first hypothesis that predicted significant zero-order correlations among the study independent variables, perceived friend social support, sense of belonging to the college, mattering to friends, and hope were all positively correlated with each other. Consistent with the second hypothesis, sense of belonging to the college and hope were significant predictors of depressive symptoms. However, in contrast to the hypothesis, perceived friend social support and mattering to friends were not significant predictors of depressive symptoms. As noted above, the case may be that other people besides friends are required as social support or as providers of mattering for social support and mattering to predict depressive symptoms. On the other hand, it could also be that perceived friend social support and mattering to friends do predict depressive symptoms among the population of college students, but the sample in the current study was insufficient to demonstrate that due to restrictions in size and diversity.

Limitations

The current study had various limitations. First, the sample was unique as participants were recruited from only one university, which was a large southwestern university. There could be differences between the students at this university and students in other universities throughout the US that could have impacted the study findings. In the current study, since the majority of participants were White, the results could mainly be generalized to White college students and not to students from other racial/ethnic groups. In addition, no information was gathered on intimate relationships that could have impacted responses to the measures of the interpersonal variables as well as the

belief variables. Furthermore, while the current study had enough participants to demonstrate sufficient power, a larger sample would have allowed for more in-depth analyses such as structural equation modeling to test theories. Overall, a larger and more diverse sample would have been ideal to test the relations between study constructs.

A second limitation is related to data gathering. The survey was administered only online and, therefore, the sample may have included only students who had access to personal computers. Furthermore, no qualitative data were gathered that may have shed light on the participants' responses to the study measures and how they were experiencing the constructs being measured. Finally, the instruments appear in the same order for all participants, which may have created an order effect in responses.

Conclusions and Suggestions for Practice

In spite of these limitations, the current study sheds light on the interrelation of hope, sense of belonging at college, perceived friend social support, and mattering for undergraduates and on the relation of these variables to depression. While previous studies have examined the relations between perceived social support, sense of belonging, mattering, or hope, and depression, most research has focused on only two or three of these constructs in their research. In addition, the current study adds to the literature, as no studies were found that had explored the relations between mattering and sense of belonging and between mattering and hope.

As the current study reported the importance of sense of belonging and hope in relation to depression, counselors can work on helping their college student clients struggling with depression to develop a sense of belonging to an organization/college and

can foster among these students a sense of hope. In addition, as perceived friend social support and mattering to friends were correlated with depressive symptoms, through individual and group counseling, mental health counselors on campus can help their student clients with relational issues and help them develop their friend groups if necessary. College personnel such as advisors and resident assistants, as well as mental health counselors, can also reach out to students and invite them to join organizations on campus to foster their sense of belonging. Joining those organizations would assist students in developing their friend groups and thus, help them build social support and develop their sense of mattering to others. Furthermore, psychoeducational programs can teach students about the importance of connecting with others not only to combat depression but also to foster interpersonal connections on campus.

In general, students can reach out to other students to provide social support and foster a sense of mattering, invite others to join groups to foster a sense of belonging, and encourage others to be hopeful about the future. In addition, those who may be struggling with depressive symptoms should strive to be open to forming bonds with others to obtain social support and a sense of mattering, joining groups to obtain a sense of belonging, and being hopeful that their circumstances will become better in the future. Overall, encouraging students to engage in activities or consider mindsets that foster social support, sense of belonging, mattering, and hope would help in the battle against depression.

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APPENDIX A

IRB APPROVAL LETTER

EXEMPTION GRANTED

Sharon Kurpius
CISA: Counseling and Counseling Psychology
480/965-6104 sharon.kurpius@asu.edu

Dear Sharon Kurpius:

On 11/7/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Role of Social Support, Mattering, Sense of Belonging, and Hope on Depressive Symptoms Among Undergraduates
Investigator:	Sharon Kurpius
IRB ID:	STUDY00011010
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Edwin Tang, Category: IRB Protocol;• Edwin Tang, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Edwin Tang, Category: Consent Form; • Edwin Tang, Category: Recruitment Materials; • Edwin Tang, Category: Other;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 on 11/7/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

APPENDIX B

RECRUITMENT EMAIL

Subject: Please advertise study

Dear esteemed professors,

My name is Edwin Tang, B.A. and I am a counseling graduate student currently working on my thesis project at Arizona State University. I would like to request that you advertise my research study to your classes. My study examines the interrelationships among friend social support, sense of belonging to the university, mattering to friends, hope, and depression. Students may participate if they are undergraduate students between the age of 18 and 25. Participation in the online study will take approximately 10 – 15 minutes of their time.

Please provide your classes with this link that they should access if they are interested in completing this study: https://asu.co1.qualtrics.com/jfe/form/SV_e36TpmOyhJVYYrb.

Upon completion of the survey, participants will have the option to enter a drawing to win one of three $25 Amazon gift cards (odds of winning are approximately 1 in 50). If you know other undergraduate students who may be interested in contributing to this study, please feel free to forward them the link.

For questions or concerns please contact: Edwin Tang, B.A. at etang@asu.edu or Sharon Robinson Kurpius, PhD at sharon.kurpius@asu.edu.

I hope that you would consider distributing this survey opportunity. Thank you!

Sincerely,

Edwin Tang, B.A.
Master Candidate, Counseling
College of Integrative Sciences and Arts
Arizona State University

APPENDIX C

INFORMED CONSENT FORM

Research Informed Consent

Dear participant,

My name is Edwin Tang. I am a Master's student under the direction of Dr. Sharon Robinson Kurpius in the Counseling Program at Arizona State University.

I am conducting a thesis study to explore the relationships among friend social support, sense of belonging to the college, mattering to friends, hope, and depression among undergraduates. To participate, you must be an undergraduate student and between the ages of 18 and 25. I will ask you questions about your feelings toward school, importance of friend relationships, and how you felt and behaved in the past two weeks.

Your participation will involve completing questionnaires and will require approximately 10 – 15 minutes. At the end of the survey, you will have the option to provide your name and email address through a separate link to be entered in a raffle for one of three $25 Amazon gift cards. The information will be gathered in a separate form and will not be matched to your survey responses, which are anonymous.

You are not likely to experience any discomfort as a result of participation. At the end of the survey, however, you will be provided with a list of resources if you perceive any emotional discomfort. You are free to withdraw your participation at any time during the survey. Your participation is strictly voluntary.

The results of this study may be published, but the information you submit will be confidential.

If you have any questions, please feel free to contact Edwin Tang at etang7@asu.edu or Dr. Sharon Robinson Kurpius at Sharon.Kurpius@asu.edu.

By completing and submitting the questionnaires/surveys, you are agreeing to participate in this study.

Sincerely,

Edwin Tang, B.A.

APPENDIX D

DEMOGRAPHIC SURVEY

Please answer the following questions:

1. What is your sex?
    a. Male
    b. Female
    c. Self-identified Other: _____

2. What ethnic group do you primarily identify as?
    a. American Indian or Alaska Native
    b. Asian
    c. Black or African American
    d. Hispanic or Latinx
    e. Native Hawaiian or Other Pacific Islander
    f. White
    g. Other: _____

3. What is your age?
    a. 18
    b. 19
    c. 20
    d. 21
    e. 22
    f. 23
    g. 24
    h. 25

4. What year in school are you in?
    a. First year
    b. Second year
    c. Third year
    d. Fourth year
    e. Fifth year
    f. Sixth year and above

5. What is your relationship status?
    a. Single
    b. In a committed relationship (not married)
    c. Married
    d. Other: _____

6. What is your religion?
    a. Christian
    b. Jewish
    c. Islam
    d. Hindu
    e. Buddhist
    f. Sikh
    g. Agnostic
    h. Atheist
    i. Other: _____

7. With whom do you live?
    a. Alone
    b. Family
    c. Roommate(s) in dorm
    d. Roommate(s) off campus
    e. Fraternity/sorority members
    f. Significant other/partner
    g. Other: _____

8. Have you ever sought counseling?
    a. No
    b. Yes

9. What is your parental income?
    a. $0 – $19,999
    b. $20,000 – $39,999
    c. $40,000 – $59,999
    d. $60,000 – $79,999
    e. $80,000 – $99,999
    f. $100,000 and above

10. Are you currently working?
    a. No
    b. Yes- part-time
    c. Yes- full-time

11. How are you paying for the costs of college?
    a. Loans
    b. Grants
    c. Scholarships
    d. Parents
    e. Self

12. How many best/close friends do you have? An example of a best friend is someone who is always there for you during difficult periods, stands up for you in spite of possible negative consequences for him or her, and is someone who you feel safe and comfortable enough around to be yourself and not feel judged.
    a. None
    b. One
    c. Two
    d. Three
    e. Four
    f. Five or more

APPENDIX E

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

2. Feeling down, depressed, or hopeless
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

3. Trouble falling or staying asleep, or sleeping too much
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

4. Feeling tired or having little energy
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

5. Poor appetite or overeating
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

6. Feeling bad about yourself- or that you are a failure or have let yourself or your family down
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

7. Trouble concentrating on things, such as reading the newspaper or watching television
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

8. Moving or speaking so slowly that other people could have noticed? Or the opposite- being so fidgety or restless that you have been moving around a lot more than usual
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

9. Thoughts that you would be better off dead or of hurting yourself in some way
    a. Not at all
    b. Several days
    c. More than half the days
    d. Nearly every day

APPENDIX F

PERCEIVED SOCIAL SUPPORT INVENTORY- FRIENDS (PPS-FR)

Please answer the following questions:

1. My friends give me the moral support I need.
    a. Yes
    b. No
    c. Don't know

2. Most other people are closer to their friends than I am.
    a. Yes
    b. No
    c. Don't know

3. My friends enjoy hearing about what I think.
    a. Yes
    b. No
    c. Don't know

4. Certain friends come to me when they have problems or need advice.
    a. Yes
    b. No
    c. Don't know

5. I rely on my friends for emotional support.
    a. Yes
    b. No
    c. Don't know

6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
    a. Yes
    b. No
    c. Don't know

7. I feel that I'm on the fringe in my circle of friends.
    a. Yes
    b. No
    c. Don't know

8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.
    a. Yes
    b. No
    c. Don't know

9. My friends and I are very open about what we think about things.
    a. Yes
    b. No
    c. Don't know

10. My friends are sensitive to my personal needs.
    a. Yes
    b. No
    c. Don't know

11. My friends come to me for emotional support.
    a. Yes
    b. No
    c. Don't know

12. My friends are good at helping me solve problems.
    a. Yes
    b. No
    c. Don't know

13. I have a deep sharing relationship with a number of friends.
    a. Yes
    b. No
    c. Don't know

14. My friends get good ideas about how to do/make things from me.
    a. Yes
    b. No
    c. Don't know

15. When I confide in friends, it makes me feel uncomfortable.
    a. Yes
    b. No
    c. Don't know

16. My friends seek me out for companionship.
    a. Yes
    b. No
    c. Don't know

17. My friends feel that I'm good at helping them solve problems.
    a. Yes
    b. No
    c. Don't know

18. I don't have a relationship with a friend that is as intimate as other people's relationships with their friends.
    a. Yes
    b. No
    c. Don't know

19. I've recently gotten good ideas on how to do something from a friend.
    a. Yes
    b. No
    c. Don't know

20. I wish my friends were much different.
    a. Yes
    b. No
    c. Don't know

APPENDIX G

SENSE OF BELONGING SCALE

Please answer the following questions:

1. I don't have many friends at the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

2. I feel comfortable at the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

3. The faculty at the college/university make me feel wanted and accepted.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

4. I feel like I am an important member of the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

5. I wish I were not a part of the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

6. I am disliked by others at the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

7. I am a part of the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

8. I am committed to the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

9. I am supported at the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

10. I am accepted at the college/university.
    a. Greatly disagree
    b. Disagree
    c. Agree
    d. Greatly agree

APPENDIX H

GENERAL MATTERING SCALE- FRIENDS

Please answer the following questions:

1. How important do you feel you are to your friends?
    a. Not at all
    b. A little
    c. Somewhat
    d. Very much

2. How much do you feel these friends pay attention to you?
    a. Not at all
    b. A little
    c. Somewhat
    d. Very much

3. How much do you feel these friends would miss you if you went away?
    a. Not at all
    b. A little
    c. Somewhat
    d. Very much

4. How interested are your friends in what you have to say?
    a. Not at all
    b. A little
    c. Somewhat
    d. Very much

5. How much do your friends depend on you?
    a. Not at all
    b. A little
    c. Somewhat
    d. Very much

APPENDIX I

THE FUTURE SCALE

Please answer the following questions:

1. I can think of many ways to get out of a jam.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

2. I energetically pursue my goals.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

3. I feel tired most of the time.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

4. There are lots of ways around any problem.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

5. I am easily downed in an argument.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

6. I can think of many ways to get the things in life that are important to me.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

7. I worry about my health.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

8. Even when others get discouraged, I know I can find a way to solve the problem.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

9. My past experiences have prepared me well for my future.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

10. I've been pretty successful in life.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

11. I usually find myself worrying about something.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

12. I meet the goals that I set for myself.
    a. Definitely False
    b. Mostly False
    c. Somewhat False
    d. Slightly False
    e. Slightly True
    f. Somewhat True
    g. Mostly True
    h. Definitely True

APPENDIX J

LIST OF RESOURCES

Substance Abuse and Mental Health Services (SAMHSA) National Helpline
Phone: 1-800-662-4357
Website: samhsa.gov/find-help/national-helpline

National Suicide Prevention Lifeline
Phone: 1-800-273-8255
Website: suicidepreventionlifeline.org

Anxiety and Depression Association of America
Website: adaa.org

Arizona State University (ASU) Counselor Training Center
Address: Payne Hall Suite 401 (1000 S Forest Mall, Tempe 85281)
Phone: 480-965-5067
Website: cisa.asu.edu/graduate/ccp/ctc