THE RELATIONSHIP BETWEEN PERCEIVED SOCIAL SUPPORT, DISABILITY STATUS, AND AFFECTIVE STATES IN COLLEGE STUDENTS

By

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CHAPTER I

INTRODUCTION

Depression is one of the most common problems among college students who seek counseling services (Cole & Milstead, 1989; Kramer, Berger, & Miller, 1979; Whatley & Clopton, 1992). Depression can manifest itself in many different ways with different individuals; these individuals may experience a feeling of sadness or hopelessness, a loss of interest in usual activities, a reduced appetite, decreased energy, feelings of guilt or shame, difficulty thinking or concentrating, anxiety, irritability, and insomnia (Beck, Ward, Mendelson, Mock & Erbaugh, 1961).

Some of the reasons college students may be prone to depression stem from social expectations and developmental tasks. College is a time when an individual is expected to make decisions about his or her career--decisions which will significantly impact the individual's life. In addition, college is often the first experience that an individual has of being separated from parents, siblings, and friends for long periods of time. Likewise, it can be stressful to meet new people and establish social networks. Further, college courses are more demanding than high school courses--some college students have great difficulty adjusting to this new level of academic work. These are only a few of the stresses that college students face. Because these students are adjusting to a life that is different from their high

school experience, in many areas, it is not surprising that they may experience depression or other psychological problems.

Anxiety is also a common concern for college students. Some of the symptoms of general anxiety include irritability, a feeling of restlessness, excessive worry or fear, difficulty concentrating, disturbed sleep, fatigue and somatic symptoms (i.e., trembling, sweating not due to heat).

Among psychological distress symptoms, anxiety and depression are closely related to one another. Some of the symptoms of anxiety are similar to symptoms of depression. In addition, measures of anxiety have been found to significantly correlate with measures of depression (Cazzullo, 1987; Mullaney, 1987; Seligman, 1975). While anxiety and depression can be similar, they are still separable in terms of their major symptoms, and the expression of those symptoms. Several researchers have presented information which adds to the understanding of the relationship between anxiety and depression.

Roth and Mountjoy (1982), for example, maintain that the emotions of anxiety and depression are closely intertwined with one another; indeed, some measure of depression and anxiety is present in psychiatric disorders that differ widely in their presentation, course, outcome, and etiology (Roth & Mountjoy, 1982). Seligman (1975) proposed that depression and anxiety are strongly related, and sometimes reciprocate each other. Seligman's concept of

"learned helplessness" illustrates that anxiety is usually the first reaction to occur when an individual is threatened; and, as long as the threat persists, so will the anxiety. However, when dangerous forces are perceived to be beyond the individual's control, depression and a feeling of helplessness replace anxiety (Seligman, 1975).

Some authors have called attention to "anxious depression", a state in which an individual exhibits symptoms of depression and anxiety (Angst & Dobler-Mikola, 1985). Others, such as Cazzullo (1987), conceive of depression and anxiety as two symptomatic stages of affective disorders with the symptoms varying over time.

In summary, then theories and studies point to the relationship between depression and anxiety. Both present with similar symptoms, including somatic complaints, irritability, fatigue, difficulty concentrating, and sleep disturbances.

Some factors which have been found to significantly relate to depression and anxiety in college students include personality variables (Demakis & McAdams, 1994; Elliott & Gramling, 1990), trait negative affectivity (Elliott, Marmarosh & Pickelman, 1994), perceived mastery (Felsten & Wilcox, 1992), gender (Turner & Beiser, 1990), and social support (Cole & Milstead, 1989; Demakis & McAdams, 1994; Elliott, Marmarosh, & Pickelman, 1994). Social support has received much attention in the literature as being significantly related to levels of depression and anxiety.

Social Support and Affective States in the General Population of College Students

Without a doubt, depression and anxiety in clients is a major concern of mental health professionals including counselors and psychologists. Social support is one variable which has received much attention in the literature as a predictor of depression and anxiety (Demakis & Adams, 1994; Fitzpatrick, Newman, Archer & Shipley, 1991; Grummon, Rigby, Orr, Procidano & Reznikoff, 1994; Jahanshahi, 1991; Jay & D'Augelli, 1991; Lepore, 1992). Given the high rate of depression in college students (Kramer, Berger, & Miller, 1974), most previous research on models for reducing the incidence of depression has been conducted with college students.

A number of studies have found significant relationships between social support and mood states in the general population of college students. Cole and Milstead (1989), for example, proposed to examine which factor, social support or depression, seemed to predict the other. To test this research question, 205 college students completed scales on depression, hopelessness, social anxiety, social desirability, social skill, and social support. These researchers found that depression had a significant effect on social skill, and social skill had a significant effect on social support; however, no direct relationship between depression and social support was demonstrated (Cole & Milstead, 1989).

In a similar but more complex study, Demakis & McAdams (1994) enlisted 63 college students to examine the relationships between intimacy motivation, extroversion, satisfaction with life, physical health, stress, social support, and negative affective states. Findings revealed that social support had a direct beneficial effect on life satisfaction, and on negative affect.

Other researchers have sought to examine the relationships between personality factors, social support, and affective states. Elliott and Gramling (1990) found that, among 141 colleges students, stress level had a significant relationship with depression. Further, hassles intensity, social support, and assertiveness variables interacted to account for a significant amount of variance in depression scores. The results of these and similar studies reveal that there is a relationship between social support and affective states.

While much research has been conducted on the relationship between social support and depression, there have been few studies which have explored the relationship between social support and anxiety. One set of authors, Hart and Hittner (1991), examined the relationships between trait anxiety, rationality and social support. These authors found significant negative relationships between trait anxiety and tangible support, belongingness support, appraisal support, and self-esteem support.

In another study, Felsten & Wilcox (1992) found neither significant relationships between social support and anxiety, nor between social support and depression. These authors did find, however, that the interaction between mastery beliefs and social support was significant in predicting anxiety. Other studies which have included anxiety as a dependent variable (i.e., Ginter, Glauser & Richmond, 1994) have not found a direct relationship between social support and anxiety.

Overall, findings from the literature which addresses the relationship between anxiety and social support is relatively obscure. In addition, studies which have explored the relationships between social support and depression and social support and anxiety have been mixed, yielding inconsistent results.

Several authors have attempted to define perceived social support. Sarason, Levine, Basham and Sarason (1983), for example, refer to social support as the existence or availability of people upon whom we can rely, people who let us know that they care about, value, and love us. In addition, Schaefer, Coyne and Lazarus (1981) maintain that social support provides emotional sustenance and self-esteem boosting functions. Social support can also involve tangible (i.e., financial) assistance, and feedback and advice about choice of coping strategies. Procidano and Heller (1983), in three validation studies of the Perceived Social Support--Family (PSS-Fa) and Perceived Social

Support--Friends (PSS-Fr) Scales, define perceived social support as "the extent to which an individual believes that his/her needs for support, information, and feedback are fulfilled" (p.2). Because the PSS-Fa and PSS-Fr scales were administered in this study, the definition of perceived social support to be used will be that offered by Procidano and Heller (1983).

Two of the leading theories which attempt to explain the relationship between depression and social support are Coyne's (1976, 1985) interpersonal theory of depression, and Lewinsohn's (1974; Libet & Lewinsohn, 1973) social skills model of depression. Coyne (1976) maintains that depressed persons' interactions with potential "supporters" lack adequate social skills; thus, social relationships and social support are negatively affected. Lewinsohn (1974), on the other hand, suggested that depression is a result, not a cause, of social skill deficits. Lewinsohn's (1974) model suggests that social skill deficits lead to a reduction in social support which results in depression.

Another important way in which Lewinsohn's and Coyne's models differ is that Coyne (1976) implied that social support is reciprocally related to depression, whereas Lewinsohn regarded the relation as unidirectional. However, neither Coyne (Coyne, Aldwin, & Lazarus, 1981; Coyne, Kahn, & Gotlib, 1983) nor Lewinsohn (Lewinsohn, Hoberman, Teri, & Hautzinger, 1985) has ruled out the possibility that other variables may moderate the relationship between social

support and depression, including personal assertiveness (Elliott & Gramling, 1990), trait negative affectivity (Elliott, Marmarosh & Pickelman, 1994), extroversion (Demakis & McAdams, 1994), and mastery beliefs (Felsten & Wilcox, 1992).

The distinction between social network characteristics and perceived social support is considered important as a way of refining the social support construct (Procidano & Heller, 1983). According to Marsella & Snyder (1981), social networks refer to the social connections provided by the environment, and can be assessed in terms of structural and functional dimensions. For example, size and density refer to structural network characteristics; network functions, on the other hand, include the provision of information, emotional support, comfort, and tangible (i.e., financial) assistance (Procidano & Heller, 1983). In contrast, perceived social support refers to the impact networks have on the individual (Procidano & Heller, 1983). While the perception of support depends upon the availability of supportive networks, perceived support and support provided by networks are not identical (Procidano & Heller, 1983). To further support this distinction, Demakis & McAdams (1994) found that satisfaction with social support (which is related to perceptions of social support) was a slightly better predictor of negative affect (i.e., anxiety and depression) than the mere availability of social support ($r = -.54$, and $-.45$, respectively, $p < .001$); however, they

were both significant relationships. Additionally, in considering individual perceptions, it is important to note that numerous studies have revealed social support to be associated with negative psychological effects. Intimate interpersonal relationships are not uniformly "supportive", and in fact can be the source of substantial stress (Fiore, Becker, & Coppel, 1983; Fisher & Phillips, 1982; Hobfoll & London, 1986; Rook, 1984). Interpersonal relationships that are perceived to be characterized by overinvolvement, intrusiveness, and overprotectiveness can be very distressing (Coyne & DeLongis, 1986) to individuals. Thus, the effect that social support has on the individual (i.e., moods, satisfaction) is likely to be most influenced by that individual's perception of the support (i.e., is it supportive or stressful?). Perceived social support, then, is defined as the extent to which the individual believes that his or her needs for caring, support, assistance, information, and feedback are being fulfilled (Grummon, Rigby, Orr, Procidano & Reznikoff, 1994).

Perceived social support is one variable which has received considerable attention in the literature as being linked to depression (Demakis & McAdams, 1994; Cole & Milstead, 1989; Elliott & Gramling, 1990) in college students. Other variables which have been associated with perceptions of social support (in college students) include: age (Turner & Beiser, 1990; Weissman, 1987), gender (Weissman, 1987), stress level (Demakis, & McAdams, 1994),

assertiveness (Elliott & Gramling, 1990; Elliott, Herrick, Patti, Witty, Godshall, & Spruell, 1991; Rintala, Young, Hart, & Fuhrer, 1994), situation-specific mastery beliefs (Felsten, & Wilcox, 1992), maladaptive coping strategies (Jahanshahi, 1991), suicidal ideation (Whatley & Clopton, 1992), history of psychiatric problems (Koenig, Meador, Shelp, Goli, Cohen, & Blazer, 1991), parental-child bonds, and social competencies (Mallinckrodt, 1992). Depression has been included as a dependent variable in almost all of these studies; this points to the acknowledgement among professionals that depression and social support are significantly related to one other in college students.

Another population which has been shown to have higher rates of depression (and, to a lesser extent, anxiety) than the general U.S. population is the population of individuals with disabilities (Elliott, Herrick, Patti, Witty, Godshall & Spruell, 1991; Fitzpatrick, Newman, Archer & Shipley, 1991; Jahanshahi, 1991; Newman, Fitzpatrick, Lamb & Shipley, 1990). Individuals with disabilities, like college students, are adjusting to a major lifestyle change, or to a lifestyle which is considered less than ideal in our society. Whether facing physical, psychological, or sensory impairments, the loss of control over one's mind or body can be devastating to individuals (Zola, 1991).

Zola (1991) also contends that societal attitudes and myths about individuals with disabilities have a negative impact on these persons' adjustment and coping. Some terms

which have historically been used to describe individuals with disabilities (i.e., handicapped, disabled, abnormal, deformed) connote the idea that having a disability is undesirable. Within our society (which is based on the ideals of equal opportunity and personal perseverance), those persons with disabilities serve as a reminder (a reality check, if you will) that these ideals are not realistic for everyone. Further, depictions of individuals with disabilities in the media often show the person overcoming huge obstacles (i.e., running a marathon race after a spinal cord injury) to achieve their dreams (Zola, 1991). On the positive side, these portrayals send the message that just because a person has a disability, that does not mean that his or her life is over. However, Zola contends that these depictions send a second message that if persons with disabilities fail to achieve their goals, then it's their problem, their fault for not trying hard enough.

In summary, individuals with disabilities face not only physical barriers, but also attitudinal and social barriers in our society. Because of the difficulties that individuals with disabilities face, compounded with difficulties that almost everyone faces, it is important to study factors which may impact psychological adjustment in individuals with disabilities.

Affective States and Disability Status

Several studies have demonstrated the existence of depression and anxiety in individuals with various types of

disabilities, including individuals with spinal cord injury (Elliott, Herrick, Patti, Witty, Godshall, & Spruell, 1991), rheumatoid arthritis (Fitzpatrick, Newman, Archer, & Shipley, 1991), multiple sclerosis (Garland, & Zis, 1991; Wineman, 1990), torticollis (Jahanshahi, 1991), and osteoarthritis (Weinberger, Tierney, Booher, & Hiner, 1990).

A number of factors have been shown to influence the level of depression in individuals with disabilities, including individual coping responses (Newman, Fitzpatrick, Lamb & Shipley, 1990), sense of control (Fitzpatrick, Newman, Lamb & Shipley, 1990), level of income (Hawley & Wolfe, 1988), stress associated with the disability (Meenan, Yelin, Nevitt & Epstein, 1981), ability to maintain social contacts (Fitzpatrick, Newman, Lamb & Shipley, 1989), and actual level of social support (REFERENCES).

Social Support and Affective States in Individuals With Disabilities

The manner in which social support interacts with disability status in predicting affective states has been studied by several authors (Brown, Wallston, & Nicassio, 1989; Elliott, Herrick, Patti, Witty, Godshall & Spruell, 1991; Garland & Zis, 1991; Jahanshahi, 1991). The majority of studies which have examined the relationships between disability status, social support and affective states have been conducted with older adults. One possible explanation is that the population of older adults with disabilities may be more accessible for research purposes than the population

of college students with disabilities (i.e., they may seek services from agencies more, they may attend senior day centers). Another possible explanation is that older adults may, as a population, have more disabilities than college students. Given the gaps in the literature, the findings from research studies on older adults with disabilities will be discussed in this session.

In general, there is a strong relationship between levels of social support and depression in adults with disabilities (Brown, Wallston, & Nicassio, 1989; Elliott, Herrick, Patti, Witty, Godshall, & Spruell, 1991; Garland & Zis, 1991; Jahanshahi, 1991). In one study, Brown, Wallston and Nicassio (1989) examined the relationship between social support and depression in rheumatoid arthritis sufferers. These authors found that depression was predicted by functional disability, education, pain, and social support. Further, emotional support was demonstrated to be a significant predictor of depression, even after controlling for other variables. Of particular significance is the finding that the perception of emotional support was significantly related to depression scores, while the number of supporters available was not (Brown et al., 1989).

In a similar study, Elliott, Herrick, Patti, Witty, Godshall and Spruell (1991) tested predictions that assertiveness and social support would be significantly predictive of psychological adjustment in 156 individuals who were receiving either in-patient or out-patient care for

spinal cord injuries. These researchers found that the individuals reporting higher levels of support which facilitates social integration and reassures the individual's personal worth were less depressed than individuals reporting lower levels of integration and personal worth support. In addition, several significant interactions between assertiveness and various social support relationships revealed beneficial and deleterious effects on depressive behavior and impairment secondary to the disability. Further, the interactions between assertion and social support accounted for a greater percentage of variance in depression and impairment scores than assertiveness alone (Elliott et al., 1991).

Other studies have found relationships between depression and social support in patients with torticollis (Jahanshahi, 1991), multiple sclerosis (Garland & Zis, 1991), learning disabilities (Greenbaum, Graham & Scales 1995), and AIDS (Grummon, Rigby, Orr, Procidano & Reznikoff, 1994).

The relationship between social support and depression in persons with disabilities is evident. However, there is a gap in the literature, in that no studies have studied the relationship between social support and anxiety in persons with disabilities. In addition, there are no studies focusing on the relationship between perceived social support and affective states (depression and anxiety) in college students with and without disabilities.

Summary of Relevant Research Findings

In summary, findings have revealed strong relationships between anxiety and depression, social support and level of depression and anxiety (in both college students and individuals with disabilities), disability status and level of depression, and disability status and social support. Some of the variables found to impact the relationship between social support and depression (in college students) include social skill (Cole & Milstead, 1989), life satisfaction (Demakis & McAdams, 1994), and stress level and assertiveness (Elliott & Gramling, 1990).

Within the population of adults with disabilities, variables which have been found to impact the relationship between disability status and level of depression include individual coping responses (Newman, Fitzpatrick, Lamb, & Shipley, 1990), sense of control (Fitzpatrick, Newman, Lamb, & Shipley, 1990), ability to maintain social contacts (Fitzpatrick, Newman, Lamb, & Shipley, 1989), and stress associated with the disability (Meenan, Yelin, Nevitt, & Epstein, 1981). The relationship between disability status and social support has been shown to be influenced by assertiveness (Elliott, Herrick, Patti, Witty, Godshall, & Spruell, 1991) adequacy of attachment relationships (Fitzpatrick, Newman, Archer, & Shipley, 1991), and self-depreciation (Jahanshahi, 1991).

Findings from previous studies have revealed numerous significant relationships. However, there are still

significant gaps in the literature. No studies have examined the relationship between social support and affective states (depression and anxiety), comparing college students with and college students without disabilities. Further, no studies have examined the relationship between disability status and anxiety. The present study will address these gaps in the literature, as an attempt to better understand the relationships between these variables.

Purpose of the Study

The purpose of this study is to examine the relationship between disability status, perceived social support (from friends and family), and mood states in college students.

Significance of the Study

Much of the literature examining the relationship between social support and affective states has been conducted with college students. These studies have examined the interactions among personal variables (i.e., assertiveness, mastery beliefs, gender, and attachment patterns) in predicting well-being. No studies to date have examined the relationship between perceived social support and depression and anxiety in college students with disabilities. Further, no studies have compared college students with disabilities to college students without disabilities in terms of their levels of perceived social support and levels of depression and anxiety.

The number of persons with disabilities entering college is growing rapidly, due in part to advances in medical technology and in social resources which are available to these individuals (Greenbaum, Graham & Scales, 1995). Legislation (e.g., the Americans with Disabilities Act) has improved the services and opportunities which are available to individuals with disabilities; however, they still face obstacles in our society, such as physical barriers, attitudinal barriers, and limited resources. In addition, these individuals often have difficulty establishing support networks, because of personal (i.e., assertiveness), physical (i.e., conspicuousness of disability) or social factors (i.e., communication barriers).

As the population of college students with disabilities continues to grow, the need for an understanding of the resources these individuals have (or lack) is imperative. Further, it is unclear if there are differences in levels of depression, anxiety, or perceived social support in college students with or without disabilities. Does having a disability put students at risk for fewer perceived resources and troublesome mood states, compared to students without disabilities? Identifying some of the deficits in these individuals' support systems will aid college counselors, professors, and other personnel in improving the services available to these students.

Therefore, information regarding the relationship between perceived social support and affective states in college students is greatly needed to assist college students with disabilities in coping with adjustment to college, as well as assisting the college student population in general. Given that no study to date has compared levels of perceived social support and affective states in college students with and without disabilities, this study will attempt to explore the relationship between these variables.

Limitations of the Study

As with any study, there are certain limitations which must be addressed. First, the use of self-report measures may create an opportunity for participants to bias their responses, in order to either exhibit "positive" characteristics which they believe to be more socially acceptable, or to exhibit "negative" characteristics which they believe to demonstrate pathology. Second, the use of a college student sample which is recruited largely from psychology and education courses creates a "convenience" sample, or a non-random sample. Third, there are other variables which may influence the relationship between perceived social support and affective states in students with or without disabilities, as discussed in the previous sections, that may make it more difficult to find significant relationships between these variables.

For this study it was not feasible to follow the same procedures in recruiting participants given that students

with disabilities may wish to keep their disability status confidential. Therefore, the participants with disabilities were recruited by mail to ensure their confidentiality, and to ensure that a large enough sample was obtained. Another difference between the two groups was that participants with disabilities received no tangible incentive for participation; in contrast, most of the students recruited from courses (n=75) received extra credit in their courses.

Definitions of Terms

1. Depression: An affective state which is characterized by one or more of the following: sadness, hopelessness, decreased appetite, change in sleeping habits, fatigue, irritability, restlessness, difficulty concentrating, and suicidal thoughts. Depression level was assessed by the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); higher scores reflect higher levels of depression.
2. Anxiety: An affective state which is characterized by one or more of the following: excessive worry, fear of certain situations, restlessness, fatigue, difficulty concentrating, irritability, trembling, muscle tension, disturbed sleep, and somatic symptoms (i.e., dry mouth, sweating, nausea). Anxiety levels were measured by the Beck Anxiety Inventory (Beck, Brown, Epstein, & Steer, 1988); higher scores reflect higher levels of anxiety.

3. Disability Status: The absence or presence of a disability (presence of a disability = "yes"; absence of disability = "no"). Includes those disabilities which have been medically documented, and those which have been self-identified. No provisions were made for the inclusion or exclusion of any particular disability types. Disability status was assessed through a participant demographics questionnaire developed for this study. Primary disabilities of the participants, as well as duration of disability, were reported on the demographics questionnaire.

4. Perceived Social Support: The degree to which an individual believes that his or her needs for support, caring, assistance, information and feedback are being fulfilled, by either friends or family members. Perceived social support was assessed by the Perceived Social Support--Friends Scale (Procidano & Heller, 1983) and the Perceived Social Support--Family Scale (Procidano & Heller, 1983); higher scores on these scales reflect higher levels of perceived social support.

Research Questions

The following research questions were addressed in this study:

1. Is there a relationship between perceived social support (from family and friends) and

levels of depression in college students?

2. Is there a relationship between perceived social support (from family and friends) and levels of anxiety in college students?
3. Is there a relationship between disability status (yes or no) and levels of depression in college students?
4. Is there a relationship between disability status (yes or no) and levels of anxiety in college students?
5. Do levels of perceived social support and disability status (yes or no) interact in the prediction of level of depression in college students?
6. Do levels of perceived social support and disability status (yes or no) interact in the prediction of level of anxiety in a college population?

Research Hypotheses

The following hypotheses were tested in this study:

1. There will be a significant difference in mean scores of depression between participants with higher levels of perceived social support and participants with lower levels of perceived social support.
2. There will be a significant difference in mean scores of anxiety between participants with lower

levels of perceived social support and participants with higher levels of perceived social support.

3. There will be a significant difference in mean scores of depression between participants with disabilities and participants without disabilities.
4. There will be a significant difference in mean scores of anxiety between participants with disabilities and participants without disabilities.
5. Level of perceived social support will interact with disability status in predicting levels of depression. That is, participants with disabilities who perceive lower levels of social support will have higher depression scores than participants without disabilities who perceive lower levels of social support. Further, participants with disabilities who perceive higher levels of social support will have lower depression scores than participants without disabilities who perceive higher levels of social support.
6. Level of perceived social support will interact with disability status in predicting levels of anxiety. Participants with disabilities who perceive lower levels of social support will report higher levels of anxiety than participants without disabilities who perceive lower levels of social support. Further, participants with

disabilities who perceive higher levels of social support will report lower levels of anxiety than participants without disabilities who perceive higher levels of social support.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The literature which will be reviewed in this section will demonstrate the need for empirical research which examines the relationship between disability status, perceived social support, and affective states in college students. First, the relationship between anxiety and depression will be discussed. Second, studies demonstrating the relationship between social support and affective states in college students will be examined. Third, studies which have examined the relationship between social support and disability status will be reviewed. Fourth, investigations of the relationships between these three factors (social support, disability status, affective states) will be examined in both college students and individuals with disabilities. And, finally, studies which have examined differences between persons with disabilities and persons without disabilities will be discussed.

Anxiety and Depression

Emotional and personal difficulties often include some degree of anxiety or depression, or both. Roth and Mountjoy (1982) maintain that the emotions of anxiety and depression are closely intertwined with one another; this is clear from observations recorded in normal individuals and from

introspection. Indeed, some measure of anxiety is present in psychiatric disorders that differ widely in their presentation, course, outcome, and etiology (Roth & Mountjoy, 1982). These authors further argue that anxiety is often prominent in the picture of all forms of depression and there are no clear or reliable procedures for deciding whether it is a secondary feature or a manifestation of the primary disorder (1982). Other theorists have also added to our conception of this relationship.

Martin Seligman (1975), for example, put forth the concept of "learned helplessness", which brought anxiety into association with depression in the following manner. Seligman detected two stages in the response to danger, threat or loss, both in experimental animals and in human subjects (Seligman, 1975). When first exposed to danger or a threat, the individual responds with anxiety. This anxiety abates when the threatening factors in the environment are brought under control. However, so long as the threat continues, the anxiety persists. But when threatening forces are perceived as being beyond control and action seems futile, depression replaces fear. Essential characteristics of depression (i.e., passivity, a feeling of helplessness), supervene when an individual becomes aware of his or her inability to manipulate the environment (Seligman, 1975). Seligman's theory represents one viewpoint of the relationship between depression and anxiety.

Several studies have been conducted which examine the concept of "anxious depression". For example, Angst and Dobler-Mikola (1985), in a field study of young men and women, reported that subjects with dual diagnoses of depression and anxiety exhibited more symptoms of depression, anxiety, and phobias than those with singular diagnoses of either depression or anxiety. An interesting finding from this study was that the number who were depressed and anxious (n=24) was three times the number of those with "pure" depression (n=8) (Angst & Dobler-Mikola, 1985). The relationship between anxiety and depression can be further examined by looking at psychological scales which have been validated to measure these two related constructs. Mullaney (1987), for example, found a correlation between the Hamilton Depression Scale (Hamilton, 1967) and the Hamilton Anxiety Scale (Hamilton, 1976) of .55, a sizable correlation. Similarly, Mullaney (1987) also found a substantial correlation between the Zung Depression Scale (Zung, 1965) and the Zung Anxiety Scale (Zung, 1982) (r=.65). These findings suggest at least two possibilities: (1) these scales do not distinguish between depression and anxiety, and therefore lack adequate discriminant validity, or (2) anxiety and depression are inseparable constructs, with elements of both types of symptoms occurring in various degrees.

Cazzullo (1987) presents further discussion to support the notion of depression and anxiety being more similar than

they are different. He posits a unitary model, which considers the two problems as represented by a continuum. Cazzullo (1987) further proposes that anxiety and depression can be conceived of as two symptomatic stages of affective disorders with the ratio of anxiety/depression symptoms varying over time; therefore, the diagnosis depends on when, in the course of the disorder, the observation is made. To support this view, he reports that the presence of depressive symptoms in anxious clients ranges from 40% to 65% (Cazzullo, 1987).

In summary, the findings from these studies, in addition to theoretical observations, suggest a strong relationship between depression and anxiety. Both present some similar symptoms, including irritability, difficulty concentrating, sleep disturbance, fatigue, and somatic symptoms. Thus, because of the strong relationship between these two states, both depression and anxiety will be examined in this study as dependent variables.

Social Support and Affective States in College Students

Anxiety. Anxiety is one affective state which has been shown to have a relationship with social support in college students. Several researchers have conducted studies assessing the relationship between anxiety and social support, and the relationship among these two and other variables. For instance, Hart and Hittner (1991) conducted a study to examine: (1) psychological factors related to

perceived social support, (2) the relationship between irrational beliefs and anxiety, (3) the relationship between perceived social support and psychological distress, and (4) the mediating role of perceived social support between irrational beliefs and anxiety. Thirty-nine college students completed the Survey of Personal Beliefs (SPB; Kassinove, 1986; higher scores indicating more rationality), the Trait Anxiety Inventory (TAI; Spielberger, Gorsuch & Lushene, 1970), and the Interpersonal Support Evaluation List--Student version (ISEL; Cohen & Hoberman, 1983; measures tangible, appraisal, self-esteem, and belongingness support). Results showed strong significant correlations between TAI scores and the following: SPB scores ($r = -.46$, $p < .01$); ISEL total scores ($r = -.65$, $p < .001$); tangible support ($r = -.40$, $p < .01$); belongingness ($r = -.58$, $p < .01$); appraisal ($r = -.43$, $p < .01$), and self-esteem ($r = -.47$, $p < .01$). The significant negative relationship between rationality (as measured by the SPB) and anxiety (as measured by the TAI) indicates that participants who scored high on anxiety tended to endorse more irrational beliefs, confirming one of the researchers' hypotheses. An important finding was the strong negative relationship between measures of social support and anxiety. This finding could be interpreted to suggest that college students with higher levels of support tend to have less anxiety; or, on the other hand, it may suggest that college students with higher anxiety tend to have lower levels of social support.

Ginter, Glauser, & Richmond (1994), in a similar study, examined the correlations among two sources of social support (friends and family), anxiety, and loneliness with two different cultural groups. Group I consisted of 54 individuals from communal, interdependent cultures (Polynesian, Melanesian, or Micronesian). Group II consisted of 27 individuals from competitive, independent cultures (East Indian and Caucasian). The researchers hypothesized a direct relationship between perceived social support and loneliness. This hypothesis was based on the conclusions of other authors (Gerstein & Tesser, 1987; Ginter, 1982) that loneliness can serve as a "motivator" to individuals to interact with others to overcome loneliness. Participants completed the Provisions of Social Relations scale (Turner, Frankel, & Levin, 1983), the Revised Children's Manifest Anxiety Scale [can be used with both children and adults (Reynolds & Richmond, 1985)], and four dimensions of loneliness (duration, intensity, frequency, and others' perceptions of one's loneliness). Results indicated that the intensity of loneliness for Group I was negatively correlated with family support ($r = -.17$, $p > .05$) and was positively correlated with friends' support ($r = .18$, $p > .05$); however, these correlations were nonsignificant. For Group II, both family support and friends' support were significantly correlated with intensity of loneliness ($r = .47$ and .40, respectively, $p < .05$). In addition, friends' support for Group II was positively correlated with

frequency of loneliness ($r=.50$, $p < .01$), and the perception that others believe the person to be lonely ($r=.45$, $p < .05$). One interpretation of these findings is that these results reflect cultural differences in the relationship between loneliness factors and anxiety. Group I consisted of individuals whose cultures encourage support, thus higher levels of family support were revealed to predict lower levels of loneliness intensity. The positive correlation between friends' support and intensity of loneliness for individuals in Group I is interpreted by Ginter and his colleagues (1994) that individuals in Group I view themselves as able to obtain support from friends when lonely. Another possible interpretation is that support from friends is experienced as a secondary support system, and thus not being as effective for reducing loneliness as family support. Group II, on the other hand, consisted of individuals whose culture encourages independence; thus these individuals may interpret the presence of higher levels of social support as an indication of loneliness, or possibly even an indication of weakness. The correlations between social support and loneliness for Group II support the researchers' hypothesis that individuals from independent cultures would associate the availability of various supports with loneliness (Ginter et al., 1994).

The correlations between anxiety and frequency of loneliness ($r= -.14$, $-.45$, Groups I and II, respectively, $p > .05$), intensity of loneliness ($r= -.09$, $-.32$, $p > .05$),

and others' perceptions of loneliness (r= -.05, -.18, $p > .05$) were not significant for either group. The correlation between anxiety and duration of loneliness, however, was significant for Group I ($r=.33$, $p < .05$), but not for Group II ($r=.35$, $p > .05$). The mean scores for family support (M=12.6, 11.5, Groups I and II, respectively), friends' support (M=20.2, 20.3), and anxiety (M=46.3, 45.3) were very similar for both groups, with Group II showing slightly more variability in scores compared to individuals from Group I. Overall, at least one important suggestion was revealed. The consistently stronger (though non-significant) correlations between level of anxiety and three of four loneliness factors found in Group II compared to Group I point to cultural differences as influencing the relationship between social support and anxiety. In addition to the relationship between social support and anxiety, researchers have also studied the relationship between social support and depression, as these two factors have also been found to correlate with each other.

Depression. One pair of researchers, Elliott & Gramling (1990), was interested in the relationship between personal assertiveness and social support in predicting psychological adjustment under stressful conditions. The researchers also wanted to establish the impact of personal assertiveness on the social support process, and to determine if such effects are specific to certain types of supportive relationships. In their first study, college

students (N=141) completed the Rathus Assertiveness Schedule (RAS; Rathus, 1973), the Social Provisions Scale (SPS; Russell & Cutrona, 1984; measures social support, with subscales on attachment, social integration, reassurance of worth, reliable alliance, guidance, and opportunities for the nurturance and care of others), The Hassles Scale (HI; Kanner, Coyne, Schaefer & Lazarus, 1981), and the Inventory to Diagnose Depression (IDD; Zimmerman & Coryell, 1987). Results indicated that participants' depression scores were significantly correlated with scores of assertiveness ($r = -.23$, $p < .01$). In addition, depression level was significantly correlated with attachment ($r = -.28$, $p < .01$), social integration ($r = .36$, $p < .001$), reassurance of worth ($r = -.34$, $p < .001$), reliable alliance ($r = -.35$, $p < .001$), and guidance ($r = -.30$, $p < .001$). In addition, there was a strong positive relationship between stress intensity and level of depression ($r = .50$, $p < .001$). Therefore, students who were more depressed were less assertive, less attached, and reported higher levels of stress than students with lower levels of depression. Additionally, the moderate positive correlation found between depression scores and social integration scores suggests that diffuse relationships seem to enhance levels of depression, a finding which concurs with some studies and conflicts with others (Hart & Hittner, 1991; Jahanshahi, 1991).

The second study (n=301) also found significant relationships between depression scores (BDI) and

assertiveness ($r = -.25$, $p < .001$), attachment ($r = -.144$, $p < .05$), social integration ($r = -.182$, $p < .01$), reliable alliance ($r = -.138$, $p < .05$), and stress severity ($r = .572$, $p < .001$) (Elliott & Gramling, 1990). In addition, the regression of social support on depression and general stress scores varied as levels of assertiveness and stress varied. The findings from these two studies support the notion of a relationship between social support and depression; however, other variables, such as assertiveness and types of supportive relationships available, intervene to prevent us from being able to accurately predict that relationship.

In a similar study, Elliott, Marmarosh, & Pickelman (1994) examined the relationships between perceived social support, psychological adjustment, and trait negative affectivity (TNA) in 256 college students. Watson and Clark (1984) report that persons with TNA tend to encompass a more negative worldview, rate peers less favorably, and experience many negative emotions in the absence of known stressors. Elliott et al. (1994) hypothesized that controlling for TNA would substantially alter the relationship between social support and depression. TNA was assessed by the Neuroticism subscale of the Eysenck Personality Inventory (EPI-N; Eysenck & Eysenck, 1968) and the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988). Participants also completed the Social Provisions Scale (SPS; Russell & Cutrona, 1984), and

the Zung Depression Scale (ZDS; Zung, 1965; study 1) or the Beck Depression Inventory (BDI; Beck et al., 1961; study 2).

Results of the Elliott, Marmarosh, & Pickelman (1994) study revealed that the SPS scale scores significantly accounted for 18% of the variance in level of depression as measured by the ZDS, and accounted for 24% of the variance in depression as measured by the BDI. Neuroticism (EPI-N) scores also accounted for 17% of the variance in depression as measured by the ZDS, and accounted for 11% of the variance in depression as measured by the BDI. The strongest predictors of both ZDS and BDI scores were TNA and reassurance of worth as measured by the SPS scale. Although the relationships found between social support and depression scores seems valid, caution must be used in interpreting ZDS scores. The Zung scale has been shown to have a sizable correlation with trait anxiety among college students (r=.74); thus, it may lack discriminant validity with measures of anxiety among nonclinical student samples.

In another study conducted with college students, Cole & Milstead (1989) found little to suggest a direct relationship between social support and depression. These researchers were exploring two competing hypotheses. The first, based on Coyne's model (1976), proposes that deficits in social support are largely the result of poor social or interpersonal skills that often accompany depression; that is, pre-existing depression leads to reduced social support. The second hypothesis, based on Lewinsohn's model (1974),

maintains that depression is actually a result, not a cause, of social skill deficits (which lead to low levels of social support). To test these hypotheses, Cole & Milstead (1989) enlisted nonreferred university students (N=202) to assess the relationship between depression (BDI; Beck et al., 1961), social support (PSS-FR, Procidano & Heller, 1983), and social skills (Social Anxiety Index for Skill (SAI-S); Corran, Corriveau, Monti & Hogerman, 1980). They found that depression as measured by the BDI had a significant negative correlation with social skills ($r = -.23$, $p < .05$), and that social skills had a positive correlation with social support ($r = .29$, $p < .05$). In addition, the relationship between social support and depression was statistically significant ($r = -.32$, $p < .05$). Further, regression analyses revealed that depression level significantly predicted social skills, and social skills significantly predicted social support; however, depression level did not significantly predict social support.

In summary, studies which have examined the relationship between depression and social support in college students have reported mixed findings. Both Elliott and Gramling (1990) and Elliott, Marmarosh and Pickelman (1994) found significant relationships between these two variables, while Cole and Milstead (1989) found only an indirect relationship between social support and depression level. All of these researchers, however, revealed findings which suggest that interpersonal factors (i.e.,

assertiveness, trait negative affectivity, social skills) play an important role in the depression--social support relationship. While these studies looked only at depression as an affective measure, others have examined both depression and anxiety.

Depression and Anxiety. Numerous studies have demonstrated the relationship between social support and both depression and anxiety in college students. For instance, Demakis & McAdams (1994) investigated the hypothesis that perceived availability of social support would buffer the negative consequences of stress on emotional and physical health. The experimenters obtained measures from 64 non-disabled college students on the following: The Social Support Questionnaire (SSQ; Sarason, Levine, Basham & Sarason, 1983; measures both availability of and satisfaction with social support), The Thematic Apperception Test (TAT; Atkinson, 1958; to measure intimacy motivation via responses given by subjects), Eysenck & Eysenck's (1964) scale of extroversion, the Profile of Mood States (POMS; Lorr & McNair, 1971; measures anxiety, depression, anger, vigor, fatigue, and confusion), a Life Stress Checklist (Homes & Rahe, 1967), The Satisfaction with Life Scale (SWLS; Deiner, Emmons, Larsen & Griffin, 1985), and physical health. They found that satisfaction with social support had a strong negative relationship with negative affect as measured by the POMS scale ($r = -.44$, $p < .001$). The participants who were more satisfied with

support reported significantly less negative affect. However, perceived availability of social support showed a small ($r = -.20$, $p > .05$) but nonsignificant relationship with negative affect. These results support those of Brown et. al. (1989), in that satisfaction with support was more predictive of negative affect than availability of support. Furthermore, there was no significant interaction between social support and stress in predicting negative affect to support the buffering hypothesis (Demakis & McAdams, 1994).

In a similar study, Felsten & Wilcox (1992) examined the effects of satisfaction with social support, stress, and mastery beliefs on somatic symptomatology (i.e., colds, headaches), and on depression and anxiety. For this study, the researchers developed and administered the College Life Adjustment and Stress Survey (CLASS), a computerized inventory to assess the following: situation-specific stress, perceived mastery, satisfaction with social support (from family, friends, professionals), somatic symptoms, and anxiety and depression (Felsten & Wilcox, 1992).

Results revealed significant correlations between stress and anxiety ($r=.35$, $p < .001$), stress and depression ($r=.45$, $p < .001$), mastery and social support ($r=.62$, $p < .001$), mastery and anxiety ($r= -.17$, $p < .05$), and mastery and depression ($r= -.21$, $p < .05$). Surprisingly, however, satisfaction with social support did not significantly predict depression, anxiety, or any other outcome variable. However, the interaction between mastery

beliefs (high or low) and satisfaction with social support (low, average, high) was significant in predicting anxiety. The construct of "mastery" is most directly associated with the construct of "locus of control" (Rotter, 1966); thus, low mastery may be interpreted as associated with external locus of control, while high mastery may be interpreted as associated with internal locus of control.

Results of the Felsten and Wilcox (1992) study indicated that for participants with low perceived mastery, anxiety decreased with increased social support; and for subjects with high mastery, anxiety increased with increased social support. One possible interpretation of this finding is that for these male participants, higher levels of perceived mastery are associated with internal locus of control; thus, receiving higher levels of social support may prompt these participants to question their perceptions of control over their environments. Therefore, higher levels of anxiety may be related to a feeling of lack of control.

There are at least two limitations of this study: 1) the fact that data was collected only on male college students substantially limits generalizability; and 2) the lack of any reports of validity for the CLASS scale suggests the need for further research to validate these findings.

Social Support in Individuals with Disabilities

Numerous authors have examined the relationship between disability status and social support. Greenbaum, Graham and Scales (1995), for example, interviewed 49 adults with

learning disabilities about their college experiences. These participants were asked to share information about numerous factors, including disclosure of disability during college application process, services and accommodations used, participation in extracurricular activities, level of family support, and opinions on what was most and least helpful to them during college.

Results revealed that these individuals were highly involved in extracurricular activities (61%); in addition, 77% of them lived in residence halls during college. When asked what was most and least helpful during college, 20% of the respondents indicated that family, friends, or loved ones were most helpful, providing both emotional and financial support. Of the 49 respondents, 37% reported their own perseverance as the most helpful, while 18% indicated that a helpful advisor or the director of support services for students with disabilities was most helpful. Further analyses revealed that 48 of the 49 participants received financial assistance from their families while in college. Additionally, 30 (61%) reported that their families provided them with needed emotional support, encouraging them to persevere and helping them maintain their sense of personal worth.

Overall, these findings point to the importance of social support for students with disabilities. The most frequently named motivator for these individuals was self-perseverance; however over half of these individuals

indicated that social support from family and friends was the most helpful to them during college (Greenbaum, Graham & Scales, 1995).

Some researchers have investigated factors which might interfere with the ability of an individual with a disability to seek and obtain social support. Holmes, Karst and Erhart (1990) proposed that proxemics is a deterrent to obtaining social support for individuals with disabilities. Proxemics is defined as the knowledge and study of interactional distances common to our culture. So in this sense, the rules that determine interpersonal distances set the stage for both interaction and communication (Holmes et al., 1990). These authors contend that disability complicates an understanding of proxemics because it complicates human interaction and communication (1990). They propose that when a person with a disability is treated differently by others, it is likely that this is caused by the interference of rules of interpersonal distances, and not simply the non-disabled person's unwillingness to interact with the individual with a disability (Holmes et al., 1990).

Studies have revealed that persons without a disability may tend not to approach a person with a visible disability as closely as they would a non-disabled person (Stephens & Clark, 1987; Vash, 1981). Further, because proxemics is part of communication, physical disability can generate social barriers that prevent or alter the communication

process for individuals with disabilities (Holmes et al., 1990). Because non-disabled persons generally lack experience with persons with disabilities, they tend to be uncomfortable in these "new" interactions, for they do not know what the rules of interpersonal distance are for individuals with disabilities (Holmes et al., 1990). The individual with a disability senses the discomfort of the non-disabled person, and thus becomes uncomfortable himself or herself. This breakdown in communication leaves the opportunity for the individual with a disability to make inferences about the reasons for this perceived discomfort; unfortunately, this behavior is often interpreted as hostile or uncaring behavior on the part of the non-disabled person (Holmes, et al., 1990). Other authors have also presented hypotheses concerning how disability affects reported social support.

Orr and Aronson (1990), for example, collected information from 100 persons with an orthopedic disability. They proposed four hypotheses as possible answers to the question of which aspects of disability affect perceived social support. The first, vulnerability, suggests that the more vulnerable to the threat of disability an observer is, the less likely it is that social support will be experienced by the person with the disability (Livneh, 1982). The second hypothesis, uncertainty, indicates that the more uncertain one or both parties are within an encounter, the less social support will be offered and

experienced (Barker, 1948; Jones, Farina, Hastorf, Markus, Miller & Scott, 1984). The third hypothesis suggests that perceived social support results from personality factors, and not interactional processes. The personality hypothesis suggests that the more anxious persons are, the less social support they experience, independently of the status of their disability (Orr & Aronson, 1990); this is based on findings from several studies that suggest that reactions to stressful situations like illness and disability are affected by the personal meaning of those conditions (Malec, 1985; Shontz, 1984). The final hypothesis suggests that stronger social resources will correlate positively with social support.

Participants completed instruments measuring the following variables: social support, severity of disability, conspicuousness of disability, sense of impediment, anxiety (Trait Anxiety Scale; Spielberger, Gorsuch & Lushene, 1970) and social status.

Using both the severity and conspicuousness of disability to assess the concept of vulnerability, findings revealed that the vulnerability hypothesis was not supported. That is, neither of these variables was negatively correlated with perceived social support to sustain the vulnerability hypothesis. However, both anxiety ($r = -.46$, $p < .001$) and conspicuousness ($r = .19$, $p < .05$) were significantly correlated with perceived social support. Sense of impediment was significantly correlated with

anxiety ($r=.40$, $p < .001$), while neither sense of impediment nor anxiety was significantly correlated with severity of disability. These findings lend support to the personality hypothesis, indicating that sense of impediment and the personal emotional status cannot be predicted from the objective status of disability. Finally, social status was significantly negatively correlated with disability severity ($r= -.27$, $p < .01$), sense of impediment ($r= -.22$, $p < .05$), and anxiety ($r= -.28$, $p < .001$). However, the relationship between social status and perceived social support was small and nonsignificant ($r=.15$, $p > .05$), thus not supporting the social resources hypothesis.

These findings suggest that lack of perceived social support results from a combination of personal, situational, and demographic variables, but not from the objective status of the disability. However, given the mixed results of the analyses, these findings should be interpreted cautiously.

In summary, the findings from studies which assessed the relationship between social support and disability are informative. First, it has been acknowledged that social support is beneficial in helping individuals with disabilities (Greenbaum, et al., 1995) cope with their surroundings. Second, the factors which affect the way in which individuals with disabilities seek and receive social support are not clear. Results suggest that it is probably a combination of personal and situational variables, in addition to societal rules of interpersonal distance in

communication (Holmes et al., 1990; Orr & Aronson, 1990), that have the most effect on persons' with disabilities perceptions of social support.

Perceived social support is certainly an important factor in predicting the adjustment and coping of individuals with disabilities. This study will attempt to ascertain whether level of perceived social support is significantly related to disability status. In addition, analyses will be conducted to assess the relationship between perceived social support, disability status, and levels of anxiety and depression.

Social Support and Affective States in Individuals with Disabilities

Depression. A number of studies have explored the relationship between social support and depression in persons with disabilities. Brown, Wallston, and Nicassio (1989), for instance, conducted a three-part study analyzing the role of depression and social support in rheumatoid arthritis (RA) patients (N=233). The researchers proposed two research questions: "(a) Does perceived social support buffer the adverse effects of intense pain on depression, or (b) does support result in a decrease in the severity of depression regardless of pain levels?" (p. 1166). Brown and his colleagues (1989) found a moderate negative relationship between satisfaction of emotional support and the severity of depression ($r = -.47, -.37, -.47$, $p < .001$, parts 1, 2, and 3, respectively) reported by their sample of RA

patients. On the other hand, there was little relationship between the number of supporters and the extent of depression. The relationship between emotional support and depression, however, was still significant even after controlling for the effects of potential moderating variables such as participant demographics, pain, and disability factors.

These findings suggest at least two possibilities: 1) the perceived level of social support is more important than the actual number of persons in one's life, and 2) social support may serve as a buffer for depression. However, the buffering hypothesis was not supported when the effects of pain and social support were assessed over time.

In a similar study, Elliott, Herrick, Patti, Witty, Godshall, and Spruell (1991) tested the relationship between assertiveness and social support in the prediction of psychological adjustment among persons with acquired spinal cord injuries (N=156). Participants completed the Spinal Cord Injury Assertion Questionnaire (SCIQ; Dunn & Herman, 1982), the Social Provisions Scale (SPS; Russell & Cutrona, 1987), the Inventory to Diagnose Depression (IDD; Zimmerman & Coryell, 1987), and the Psychosocial subscale of the Sickness Impact Profile (SIP; Gilson et al., 1975; measures functioning across categories of social interaction, alertness, emotional behavior and communication). Participants also indicated the number of months since the onset of their injuries.

Participants' depression scores were significantly correlated with five of the six subscales of the SPS ($r = -.37, -.26, -.32$, $p < .001$; and $r = -.24, -.25$, $p < .01$), results which reflect the findings of the Elliott and Gramling (1990) study. Interestingly, scores on the SIP Psychosocial subscale showed the strongest relationship with depression scores ($r = -.72$, $p < .01$). Because there were no separate scores reported for each of the four categories assessed by the SIP, the relationship between psychosocial scores and depression is not clear. In addition, studies which have employed the SIP Psychosocial subscale have presented a variety of results. First, test-retest reliabilities of this subscale have been moderate ($r = .45$ to .60; Bergner, Bobbitt, Carter, & Gilson, 1981; Gilson, et al., 1975). Second, Bergner et al. (1981) report that concurrent validity coefficients range from .30 to .85.

The significant relationships found in this study between depression scores and SPS scores again demonstrate the strong relationship between depression and social support in individuals with disabilities. Also, the interaction between assertiveness and social support accounted for more variance in depression scores than assertiveness alone. Just how these factors interplay to impact psychological functioning is, however, yet unknown.

In a similar study, Fitzpatrick, Newman, Archer, & Shipley (1991) recruited 149 participants with rheumatoid arthritis to assess the following: (1) the impact of

disability on social relationships, and (2) the effects of social support on psychological well-being over time. Participants were assessed on two occasions separated by 15 months. Measures were obtained on severity of disability, the Functional Limitations Profile from the Sickness Impact Profile (SIP; Bergner et al., 1981), the Beck Depression Inventory (BDI; Beck et al., 1961), and the Interview Schedule for Social Interaction (ISSI; Henderson, Duncan-Jones, Byrne & Scott, 1980). The ISSI measures four dimensions of social support: availability of diffuse relationships (AVSI; social integration), adequacy of and satisfaction with diffuse relationships (ADSI), availability of intimate attachment relationships (AVAT), and the adequacy of and satisfaction with attachment relationships (ADAT). Social integration is defined by Fitzpatrick et al. (1991) as the presence of more diffuse relationships, such as those with friends, neighbors, and work associates.

Results revealed significant positive correlations between depression as measured by the BDI and functional limitation at Times 1 and 2 ($r=.53$, and $.49$, respectively, $p < .001$). Higher levels of functional limitation were associated with higher levels of depression. The findings also indicated that depression scores were more strongly related to social integration measures [$r= -.39$ and $-.28$ (AVSI), $r= -.48$ and $-.43$ (ADSI), all $p < .001$)] than to attachment measures [$r= -.14$, and $-.18$, $p < .05$ (AVAT); $r= -.24$, $p < .05$, and $r= - .28$, $p < .001$ (ADAT)]. The

availability and adequacy of close, intimate relationships was not as significant a predictor of depression in this population of RA patients as was the availability and adequacy of diffuse relationships. These results conflict with findings from other studies which have found intimate relationships to be more important in predicting depression (Pearlin, 1985). Further, Fitzpatrick and his associates found that adequacy of and satisfaction with social support was more strongly related to depression than availability of social support, in either diffuse or attachment relationships.

In the final regression equation, three variables made significant contributions to psychological well-being: depression ($B=.71$, $p < .001$); adequacy of social integration at Time 2 ($B= -.19$, $p < .05$); and adequacy of attachment at Time 2 ($B= -.35$, $p < .01$). These three variables accounted for 65% of the variance in depression scores. These results lend further support to the notion that perceived adequacy of social support is often more important in determining psychological well-being than the mere availability of social support.

Some researchers have tested other variables which may influence the relationship between social support and depression in individuals with disabilities. For example, Jahanshahi (1991) enlisted torticollis patients (N=67) to test the contributions of self-esteem, coping strategies, level of and satisfaction with social support, and beliefs

about health-related locus of control to acceptance of illness and depression. Torticollis is a neurological disorder in which involuntary contractions of the head produce an abnormal head posture. Participants completed the Torticollis Questionnaire (TQ; assesses extent of control over head position/movement, degree of disfigurement, and severity of cervical pain), the Beck Depression Inventory (BDI; Beck et al., 1961), the Functional Disability Questionnaire (FDQ; Jahanshahi & Marsden, 1990; assesses the impact of disability on daily living), the Body Concept Scale (BCS; higher scores indicating a more negative body concept), the Ways of Coping Checklist (WCC; Folkman & Lazarus, 1980), the Social Support Questionnaire (SSQ; Sarason, Levine, Basham & Sarason, 1983; assess both availability and satisfaction), the Acceptance of Illness Scale (AIS; Felton, Revenson & Hinrichsen, 1984), Rosenberg's Self-Esteem Scale (RSES; Rosenberg, 1965), and the Multidimensional Health Locus of Control Scale (MHLOC; Wallston, Wallston & Devellis, 1978).

Mean scores obtained for the nine measures administered in this study revealed that 24.2% of the participants were moderately to severely depressed, 48.4% were moderately to severely disabled, 49.2% had a negative body concept, and most had an overall lack of acceptance of or adjustment to their disability. In addition, the mean number of available supports was 2.7 (range 0-9), and the mean satisfaction with support score was 4.8 (range 1-6). Correlational analyses

revealed that depression scores (BDI) were significantly correlated with head control ($r = -.49$, $p < .01$), disfigurement ($r = .50$, $p < .01$), pain severity ($r = .41$, $p < .01$), disability ($r = .57$, $p < .01$), body concept ($r = .72$, $p < .01$), self worth ($r = -.71$, $p < .01$), and self-depreciation ($r = .77$, $p < .01$). In addition, depression (BDI) scores were significantly negatively correlated with amount of social support available ($r = -.26$, $p < .01$), and satisfaction with support ($r = -.36$, $p < .001$). As might be expected, depression was significantly negatively correlated with internal locus of control (LOC; $r = -.26$, $p < .05$); and it was significantly positively correlated with powerful others LOC ($r = .54$, $p < .01$) and chance LOC ($r = .15$, $p > .05$).

In the final regression equation, self-depreciation accounted for the largest proportion of variance in depression scores (59%), followed by disability (11%) and satisfaction with social support (1.6%). The correlations between depression and social support, like those found in other studies, suggest that satisfaction with support is more important than the availability of support. The small predictive relationship between these two variables in this study may be a function of the large number of intervening factors examined.

Anxiety and Depression. Some researchers have assessed the impact of disability status on several measures of affect, including depression and anxiety. Livneh and Antonak (1990), for example, enlisted individuals with

various types of physical disabilities (N=214) to assess psychosocial reactions to disability. For this study, the authors developed and administered the Relations to Impairment and Disability Inventory (RIDI; Livneh & Antonak, 1990), a self-report inventory which consists of eight separately scored scales, including: Shock (8 items, e.g., "I feel frozen, unable to move"); Anxiety (11 items, e.g., "I am about to go to pieces"); Denial (10 items, e.g., "I believe my physical impairment will go away by itself"); Depression (14 items, e.g., "I feel that there is nothing I can do to help myself"); Internalized Anger (8 items, e.g., "My impairment must be a punishment for something I did in the past"); Externalized Hostility (12 items, e.g., "I feel like striking out at someone"); Acknowledgement (12 items, e.g., "I am interested in getting socially involved with other people"); and Adjustment (15 items, e.g., "Everything in my life is coming together again"). Each item is rated on a 4-point scale, ranging from 1, Never (the reaction was never experienced) to 4, Often (the reaction was experienced more than 10 times per month).

Results were analyzed according to both the age of disability onset (child/adolescent = 0 to 15 yrs; young adult = 16 to 30 years; adult = 31 to 50 years; and older adult = 51 years and above) and chronicity (duration) of disability (short = less than 24 months; medium = 25 to 72 months; long = 73 to 180 months; and very long = 181 months and longer). Results indicated significant effects for both

Anxiety and Depression according to age of onset. The Anxiety mean scores for each age group were as follows: child and adolescent (M=18.20), young adult (M=21.93), adult (M=22.80), and older adult (M=22.66). The differences between these means were significant at the .05 alpha level. The Depression score means for each age group were: child and adolescent (M=26.97), young adult (M=30.96), adult (M=31.61) and older adult (M=26.62), also significantly different at the .05 alpha level.

Differences in the mean Anxiety scores for the different age of disability onset groups indicate the largest differences between the child/adolescent group and the three other groups. That is, individuals who were children or adolescents at the onset of disability reported significantly less anxious reactions than did the other three groups. Those who were young adults at the onset of disability also scored lower on Anxiety than the two older groups.

The mean Depression scores for the four groups suggest that depression may present more of a problem in individuals who are between 16 and 50 years of age (young adult or adult) at the onset of disability, compared with those who are children or adolescents, or those who are older adults, at the onset of disability. Results also revealed that mean scores for each group on Internalized Anger were significantly correlated with age of disability onset (M=15.73 for the child/adolescent group, 18.46 for the young

adult group, 17.16 for the adult group, and 15.16 for the older adult group, $p < .05$). Similar trends seem to emerge with the Internalized Anger scores as with the Depression scores when comparing age of disability onset.

With the exception of Internalized Anger, the significant relationships found between age of disability onset and reactions to disability were not duplicated in the relationships between the chronicity of disability and reactions to disability. For the chronicity of disability variable, Internalized Anger was significant for age of disability onset (M=17.55 for the child/adolescent group, 17.55 for the young adult group, 18.11 for the adult group, and 14.14 for the older adult group, $p < .05$), as was Shock (M=18.97, 17.77, 17.45, and 14.61, respectively, $p < .05$). Neither Depression (M=29.52, 29.94, 31.59, and 26.89, respectively, $p > .05$) nor Anxiety (M=22.25, 22.15, 22.21, and 19.69, respectively, $p > .05$) was significant for chronicity of disability. Both Anxiety and Depression within the chronicity of disability analysis revealed differences between the "very long" group and the three shorter duration groups; however, this difference was not significant. The mean scores for Depression and Internalized Anger for the "long" and "very long" groups revealed large differences between these two groups and the "short" and "medium" groups.

What do these findings reveal? First, reactions to disability can be different with different populations,

dependent upon, among other factors, both the age of disability onset and the duration of disability. Second, there seems to be a trend in the duration of disability, in that individuals who have been disabled between 6 and 15 years report higher levels of depression, internalized anger and externalized hostility than individuals in any other duration group (shorter or longer). Future studies might look at these variables in combination with social support variables to assess the relationship between these factors.

In a similar study, Weinberger, Tierney, Booher and Hiner (1990) investigated the relationship among social support, stress and functional status in 439 patients with osteoarthritis (OA). Osteoarthritis is among the most prevalent diseases affecting American adults and is a major contributor to functional impairment, morbidity, and utilization of health care resources (Kramer, Yelin & Epstein, 1983; Treitel, 1979). Participants completed the Arthritis Impact Measurement Scales (AIMS; Meenan, Gertman & Mason, 1980), a 52-item measure of functional status which has been shown to be reliable in patients with OA (Meenan, Gertman, Mason & Dunaif, 1982). Three dimensions which the AIMS measures are physical disability (mobility, physical activity, dexterity, ability to perform household and daily-living activities), psychological disability (depression and anxiety), and pain. Participants also completed the Hassles Scale (Kanner, Coyne, Schaefer & Lazarus, 1981), and the Interpersonal Support Evaluation List (ISEL; Cohen,

Mermelstein, Kamarck, & Hoberman, 1985), which assesses tangible support, appraisal support (availability), self-esteem support, and belonging support.

Results of the Weinberger et al. (1990) study revealed significant correlations between psychological disability and number of hassles ($r=.61$, $p < .001$), severity of hassles ($r=.64$, $p < .001$), self-esteem support ($r= -.37$, $p < .001$), belonging ($r= -.23$, $p < .001$), appraisal ($r= -.21$, $p < .001$), and tangible support ($r= -.20$, $p < .001$). In addition, physical disability was significantly correlated with number of hassles ($r= -.20$, $p < .001$), severity of hassles ($r=.24$, $p < .001$), self-esteem support ($r= -.32$, $p < .001$), belonging support ($r= -.14$, $p < .001$) and tangible support ($r= -.21$, $p < .001$). The two social support dimensions which correlated significantly with pain were self esteem ($r= -.21$, $p < .001$) and tangible support ($r= -.15$, $p < .01$). Interestingly, age was significantly correlated with physical disability ($r=.09$, $p < .05$), psychological disability ($r= -.30$, $p < .001$) and pain ($r= -.20$, $p < .001$). Race was also significantly correlated with both psychological disability ($r=.17$, $p < .001$) and pain ($r=.15$, $p < .01$).

In summary, being older, having less income, reporting greater exposure to stressors and decreased levels of three dimensions of social support were all associated with physical disability. Psychological disability was also associated with higher levels of stress, lower levels of

social support (all four dimensions), race (Caucasian) and age (younger). And finally, pain was associated with higher stress levels, less self-esteem support, less tangible support, age (younger) and race (Caucasian). These findings lend support to the importance of social support in affecting psychological adjustment to a disability, and in affecting ratings of physical disability and pain.

Another study was conducted by Wineman (1990) to assess adaptation to multiple sclerosis (MS). Participants (N=118) completed the Social Network List and Support System Scale (Fiore, Becker, & Coppel, 1983; Hirsch, 1980; measures socialization support, tangible assistance, advice and guidance, social reinforcement, and emotional sustenance), the Incapacity Scale (IS; Kurtzke, 1981; measures functional disability), the Mishel Uncertainty in Illness Scale (MUIS; Mishel, 1981; measures perceived uncertainty about symptoms, diagnosis, treatment, relationships with caregivers, and future plans), a modified version of the Beck Depression Inventory (BDI; Beck & Beamesderfer, 1974), and the Purpose-in-Life Test (Crumbaugh, 1968; Crumbaugh & Maholick, 1964).

Results were obtained on types of supportiveness and types of unsupportiveness reported by participants. Significant correlations were both of greater magnitude and more consistent between unsupportiveness and psychosocial adaptation, than they were between supportiveness and psychosocial adaptation. Only supportive-socialization was significantly correlated with depression scores (r= -.18,

$p < .05$). Purpose-in-life scores, on the other hand, were significantly correlated with 4 of the 5 types of supportiveness. Depression scores were significantly correlated with all five types of unsupportiveness: socialization ($r=.26$, $p < .01$), tangible assistance ($r=.40$, $p < .001$), advice and guidance ($r=.36$, $p < .001$), social reinforcement ($r=.26$, $p < .01$) and emotional sustenance ($r=.31$, $p < .001$). Purpose-in-Life scores were also significantly correlated with all five types of unsupportiveness: socialization ($r= -.24$, $p < .01$), tangible assistance ($r= -.35$, $p < .001$), advice and guidance ($r= -.31$, $p < .001$), social reinforcement ($r= -.20$, $p < .05$) and emotional sustenance ($r= -.26$, $p < .01$). The perceived supportiveness of interactions was not directly related to depression, whereas the direct path between the perceived supportiveness of social network interactions and purpose-in-life was related to depression.

Fiore, Becker and Coppel (1983) suggested that there may be some threshold level above which supportive interactions do not influence depression; the social networks of people with MS are probably already supportive so that the influence of supportive interactions may reach a maximum effect on depression. The relationship between perceived unsupportiveness and psychosocial adaptation (depression and purpose-in-life) reflects the proposition that negative social interactions have a significant impact upon emotional well-being (Fiore et al., 1983).

Differences Between Individuals with Disabilities and Individuals without Disabilities

A few studies have explored differences between individuals with and without disabilities. For instance, Kelly, Sedlacek, and Scales (1994) conducted a study to examine how college students (N=156) with and without disabilities perceive themselves and each other. Eighty students with disabilities and 76 students without disabilities completed a 24-item personality instrument created and implemented by McKillop (1992). This instrument contains items that represent the five factors of personality described by Peabody and Goldberg (1989) and Watson (1989), with each item rated on an 11-point scale. The five factors of personality assessed in this study are known as the "Big Five" and have been labeled extraversion (surgency), agreeableness, conscientiousness, emotional stability, and culture (Peabody & Goldberg, 1989). The researchers hypothesized that students without disabilities would endorse more stereotypical ratings of their peers with disabilities in these five areas. Participants completed the instrument three times, each time with different instructions: (1) rate yourself, (2) rate the other group, and (3) rate how you think the other group would rate you.

Results from analyses of variance (ANOVAS) procedures revealed a significant 3-way interaction among Group, Personality Factor, and Form, $F(8, 1118)=27.44$, $p < .0001$. The students with disabilities and those without

disabilities did not differ significantly on their ratings of their own personality characteristics; in fact, their ratings of themselves were very similar. The differences were found in the students' ratings of the other group, and in the ratings of themselves that they anticipated from the other group.

For all five factors, the students with disabilities anticipated that the students without disabilities would rate them lower than the students with disabilities rated themselves. Likewise, for all but the emotional stability factor, the non-disabled students expected that their peers with disabilities would rate them lower on the personality dimensions than the non-disabled students rated themselves. That is, both the students with disabilities and the students without disabilities rated themselves higher on extraversion, agreeableness, conscientiousness, and culture than either of these groups anticipated that the other group would rate them. On their ratings of the other group, the students with disabilities rated the students without disabilities lower on agreeableness (6.65 vs. 8.32, non-disabled and disabled, respectively), conscientiousness (6.19 vs. 8.15), and culture (6.77 vs. 8.61) than the students with disabilities rated themselves. The non-disabled students rated the students with disabilities lower than themselves on extraversion (5.67 vs. 7.36, disabled and non-disabled, respectively), agreeableness (7.03 vs. 8.19), emotional stability (5.82 vs. 6.76) and culture (7.63 vs.

8.55). The non-disabled students' ratings of conscientiousness were the same for themselves and for the students with disabilities (7.87). And finally, the non-disabled students anticipated that the students with disabilities would rate them lower on extraversion (6.87 vs. 7.36, non-disabled and disabled, respectively), agreeableness (7.31 vs. 8.19), conscientiousness (7.06 vs. 7.87), and culture (7.61 vs. 8.55), than the non-disabled students rated themselves.

These findings reveal that students with and without disabilities tend to rate each other in a stereotypical manner. Students with disabilities were seen as more conscientious and cultured than were students without disabilities, whereas students without disabilities were seen as more extraverted and emotionally stable than were students with disabilities. The finding that no differences emerged when the students rated themselves demonstrates that the students with disabilities did not see themselves any differently than the students without disabilities perceived themselves, despite the stereotypes that may have existed between the groups (as revealed by the students' global ratings of the other group). The authors suggest, for future research, that investigators take into account both the onset and duration of the disability, because these factors are thought to be central factors in the adjustment level of individuals with disabilities (Livneh & Sherwood, 1991).

A growing number of studies have provided extensive evidence of a relationship between self-reported levels of daily life hassles and poor psychological adjustment (Blankstein & Flett, 1992). In addition, some studies have found that daily hassles, relative to major life stress, are more predictive of adjustment difficulties, and daily hassles account for unique variance in levels of adjustment after controlling for the experience of major life stress (DeLongis, Coyne, Dakof, Folkman & Lazarus, 1982; Kanner, Coyne, Schaefer & Lazarus, 1981; Rook, 1987).

In a study designed to assess the relationship between social support and life events in college students, Flett, Blankstein, Hicken and Watson (1995) asked college students (N=320) to rate the amount of emotional support and practical support that a target person would seek and receive from significant others. Each participant read a scenario describing a male or female target person who had experienced either major life events (i.e., disabilities, death of a loved one) or daily hassles (i.e., transportation problems, financial difficulties).

The Significant Others Scale (SOS; Power, Champion & Aris, 1988) was adapted for use in this study. The SOS measures perceived support with significant role relationships. Five of the 11 potential relationships on the SOS (i.e., mother, father, best friend, brother, and sister) were selected as being average relationships for an individual (Power et al., 1988). Participants indicated how

much support the target person would seek and receive from the five significant relationships; they also indicated how much support they would provide or would be asked to provide if they were friends with the target person.

Results were analyzed in terms of type of support (emotional v. practical) and interaction type (seeking v. receiving) for all five significant relationships (mother, father, sister, brother, best friend) and the participant. Findings suggest that social support levels may be higher for individuals who experience significant negative life events than for individuals who experience daily hassles. A multivariate analysis of variance (MANOVA) yielded significant effects of severity of event, $F(6, 299)=3.04$, $p < .01$, and type of scenario, $F(6, 299)=2.47$, $p < .05$. Subsequent analyses of variance (ANOVAS) found significant differences of event type for emotional support from the mother, $F(1, 304)=9.27$, $p < .01$; father, $F(1, 304)=12.12$, $p < .001$,; and the subject, $F(1, 304)=3.98$, $p < .05$. The person experiencing major life events was rated as seeking more emotional support sought from the mother and father, but less support from the participant.

A second MANOVA procedure conducted on the ratings of practical support sought from others yielded significant effects of event severity, $F(6, 299)=2.33$, $p < .05$. In addition, subsequent ANOVAS found a significant difference of event type for practical support sought from the father, $F(1, 304)=8.65$, $p < .01$, with the person experiencing major

life events seen as seeking more practical support from the father.

The analyses conducted on the amount of emotional support received by the target revealed significant effects of event severity, $F(6, 299)=2.30$, $p < .05$. In addition, significant differences of event type were found for emotional support received from the mother, $F(1, 304)=5.27$, $p < .01$; father, $F(1, 304)=7.05$, $p < .01$; and brother, $F(1, 304)=6.37$, $p < .05$. The person experiencing major life events was rated as receiving more emotional support from all three sources. The final analysis was a MANOVA conducted on the ratings of practical support received from others. Once again, the MANOVA obtained significant effects of event severity, $F(6, 299)=2.17$, $p < .05$. Subsequent ANOVAS found significant differences of event type for practical support received from the mother, $F(6, 299)=4.90$, $p < .05$; father, $F(6, 299)=8.71$, $p < .01$; and brother, $F(6, 299)=4.27$, $p < .05$. The person experiencing major life events was rated as receiving more practical support from the mother, father, and brother.

Overall, these findings confirm the researchers' hypothesis that individuals experiencing major life events would be seen as seeking and receiving more emotional and practical support than individuals experiencing more minor daily hassles (Flett et al., 1995). Interestingly, when participants rated the amount of emotional and practical support sought and received from themselves as a friend of

the target individual, only emotional support sought was significant. One interpretation of these findings is that the participants believe individuals experiencing major life events will seek and receive both emotional support and practical support from their families, but not their friends or acquaintances. This is significant in that it predicts lower levels of social support from friends than from family for individuals with disabilities. Examining this relationship in a college population has particular significance, as most college students have more frequent contact with friends and classmates than they have with their families. This interpretation must be made cautiously, however, for the scenarios described by the authors included serious personal injury, but actual disabilities were not mentioned.

Summary

The studies which have been reviewed in this chapter have revealed some significant findings regarding the relationships between social support and affective states, social support and disability status, and relationships among these three factors. Social support has been found by many researchers to have significant beneficial effects on affective functioning in college students and in individuals with disabilities. Other factors have also been found to intervene in some of these relationships, such as personality factors, age, duration of disability, social rules of interpersonal distance, and the conceptions that

individuals with and without disabilities have about each other. While these findings suggest a relationship between perceived social support and affective states in both college students and individuals with disabilities, no studies have been conducted to explore this relationship, comparing college students with disabilities and college students without disabilities. Therefore, this study will explore the differences between college students with and without disabilities; particularly, the relationship between perceived social support (from family and friends) and affective states (anxiety and depression) will be examined in both of these groups.

CHAPTER III

METHODS

Participants

One hundred thirty-nine college students participated in this study; 45 participants were self-identified as having a disability. Ninety-four (68%) of the participants were recruited from their courses; of these 94 participants, 75 (80%) were undergraduate students, and 19 (20%) were graduate students. The undergraduate students received extra credit in their courses for participation, but the graduate students did not. In addition, of these 94 participants recruited from courses, 5 (5%) were individuals with disabilities and 89 (95%) were individuals without disabilities.

The mean age of all participants (N=139) was 25 years (sd=8.37), with a range of 18 to 52 years of age. Of the 139 participants, 103 (74.1%) were female, and 36 (25.9%) were male. The most frequently reported ethnic background was Caucasian/White (n=114, 82%), followed by Native American/American Indian (n=10, 7.2%), African American (n=4, 2.9%), Asian American or Amerasian (n=4, 2.9%), Hispanic/Latino (n=3, 2.2%) and Biracial (n=3, 2.2%). The ethnic background of one participant was identified as "other", but was not specified. The average year in college for this sample was 3 years, with a range from 1 to 14 years. The most frequently reported year was 1 (freshman,

n=43), followed by 4 (senior, n=30) and 3 (junior, n=29). Please refer to Table A1 for a visual depiction of these data.

Instruments

Social Support. The Perceived Social Support--Friends Scale (PSS-Fr; Procidano & Heller, 1983) and the Perceived Social Support--Family Scale (PSS-Fa; Procidano & Heller, 1983) were administered to assess the participants' perceived level of social support from friends and family respectively. Each scale is a 20-item self-report instrument designed to measure the degree to which one perceives his or her needs for support are fulfilled (i.e., "I rely on my friends for social support", "My family enjoys hearing about what I think"). Both scales offer three choices for each item--"yes", "no", and "I don't know". Items which reflect high social support are scored +1 for "yes" answers ("no" = 0); items which reflect low social support are scored +1 for "no" answers ("yes" = 0). "I don't know" is a neutral choice which does not receive any points; in addition, answering "yes" for low-support items or "no" for high-support items receives no point value. Scores for each scale range from 0 to 20, with higher scores reflecting more perceived social support.

For this study, the PSS-Fa and PSS-Fr scales were administered together, but the scores were considered separately, consistent with their use in previous studies. The scores obtained from both the PSS scales for each

participant were coded as either "higher" or "lower" social support. The mean PSS-Fr scale score for the participants in this study was 15.53 (sd=4.59); the mean PSS-Fa score was 14.74 (sd=5.75). These mean scores correspond well with that found by Procidano and Heller (1983); the mean PSS-Fr score for these authors' study was 15.15 (sd=5.08), and the mean PSS-Fa score was 13.40 (sd=4.83). For the present study, PSS-Fa scores which were 15 or higher were coded as "higher" social support from family; PSS-Fa scores which were 14 or lower were coded as "lower" social support from family. PSS-Fr scores which were 16 or higher were coded as "higher" social support from friends; PSS-Fr scores of 15 or lower were coded as "lower" social support from friends.

In three validation studies, Procidano & Heller (1983) found the PSS scales to have high internal consistency, with alphas for the PSS-Fa ranging from .88 to .91, and alphas for the PSS-Fr ranging from .84 to .90. In addition, test-retest reliabilities ranged from .80 to .86 for PSS-Fa and from .75 to .81 for PSS-Fr. Procidano & Heller (1983) also found the PSS scales to have good concurrent validity; higher levels of perceived support as measured by these instruments were reported to be significantly related to lower psychopathology levels and greater social competence levels in a college sample. In addition, scores on the PSS-Fr were predicted by duration of involvement in one's social network and the degree of reciprocity in the relationship, while scores on the PSS-Fa were predicted by intangible

(i.e., physical affection) and tangible (i.e., financial) support from family members (Procidano & Heller, 1983).

In another validation study, Gavazzi (1994) reported that the PSS-Fr and PSS-Fa together significantly predicted psychosocial maturity levels (as measured by the Psychosocial Maturity Scale; Greenberger & Sorenson, 1974) in a sample of adolescents at the initiation of outpatient treatment. Gavazzi reported a coefficient alpha of .86 for the PSS-Fr and .85 for the PSS-Fa. Further criterion-related validity of the PSS-Fr and PSS-Fa was evidenced in that the PSS-Fa was highly correlated ($r=.69, .70, .65$, $p < .001$) and the PSS-Fr was moderately correlated ($r=.37$, $p < .001$; $.26$, $p < .05$; and $.17$) with three psychosocial maturity indicators (identity, self-reliance, and work orientation, respectively).

Disability Status. Each participant completed a demographics sheet; questions regarding disability status on the demographics sheet included the presence or absence of disability, the primary disability, and the duration of this primary disability. The demographics sheet also included questions regarding age, gender, ethnicity, and number of years in college.

One rater in this study coded disability types reported by participants into one of three groups (with a fourth group designating "no disability"). The classification system used in this study was modeled after that employed by the Student Disability Services office on campus; this

system emphasizes the importance of recognizing the individual's primary impairment(s) caused by his or her disability.

The first "disability type" group included those participants whose primary disability is a physical disability; this group included participants with mobility, visual, or hearing impairments. Seventeen (38%) participants were categorized as having a physical disability. The second group was comprised of those participants whose primary disability is a learning disability (e.g., attention deficit hyperactivity disorder, dyslexia), and included 21 individuals (47%). The third group of participants included those whose primary disability is a psychiatric or psychological disability (e.g., depression, dissociative identity disorder, post traumatic stress disorder). Seven participants (16%) had a psychological or psychiatric disability as their primary disability. Please see Table A2 for a visual representation of participant disability characteristics.

Length of disability was reported as falling into one of six categories; the ratings of participants with disabilities revealed a wide range of disability lengths. Eight (18%) of the participants with disabilities indicated that they had their disabilities for one year or less. Seventeen (38%) indicated between two to five years had elapsed since the onset of their disability; five (11%) indicated a disability length of five to ten years. Another

five (11%) participants indicated that 10 to 15 years had elapsed since the onset of their disabilities. Two (4%) participants indicated a disability length of 15 to 20 years, and eight (18%) participants had been disabled for 20 years or longer.

Depression. The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item self-report measure which asks participants to indicate how they have been feeling the past week, including the day of assessment (i.e., "I feel guilty a good part of the time"). Each item is a group of 4 statements, with score values from 0 to 3. BDI total scores range from 0 to 63, with higher scores indicating higher levels of depression. Scores are divided into categories of minimal (0-9), mild (10-16), moderate (17-29), and severe depression (30-63). The BDI has been employed in numerous studies, and has demonstrated excellent reliability and validity (Stehouwer, 1985). Stehouwer (1985) maintains that "if the issue is determining the presence and degree of depression, and if subjects are motivated to accurately reflect their emotional status, the BDI would certainly seem to be the choice for clinical as well as research purposes" (p. 87).

Several studies have demonstrated the reliability and validity of the BDI (Beck, 1970; Beck & Beamesderfer, 1974; Jolly, Wiesner, Wherry, Jolly, & Dykman, 1994). For instance, in a study of psychiatric patients, it was discovered that changes in BDI scores paralleled changes in

professional assessment of the level of depression, indicating a consistent relationship between BDI scores and the patient's clinical state (Beck, 1970). Test-retest reliability estimates for the BDI were above .90 (Beck, 1970). Jolly et. al. (1988) report a Cronbach alpha of .88 for the BDI. Evidence concerning the BDI's discriminant validity with anxiety has been mixed, but has demonstrated that the BDI is better than other depression self-report measures at discriminating depression from anxiety (Clark & Watson, 1991; Gotlib & Cane, 1989).

Anxiety. The Beck Anxiety Inventory (BAI; Beck, Brown, Epstein, & Steer, 1988) is a 21-item self-report anxiety inventory which asks participants how much they have been bothered by anxiety symptoms during the past week, including today. It was developed to assess somatic, affective, and cognitive symptoms that are characteristic of anxiety, but not depression. Each item has four response choices: "not at all" (0 points); "mildly--it did not bother me much" (1 point); "moderately--it was very unpleasant, but I could stand it" (2 points); and "severely--I could barely stand it" (3 points). Like the BDI, scores on the BAI range from 0-63, with higher scores indicating higher levels of anxiety. Scores are divided into the following four categories: 1-7 points indicates minimal anxiety; 8-15 points indicates mild anxiety; 16-25 points indicates moderate anxiety; and 26-63 points indicates severe anxiety.

Beck and his colleagues (1988) reported high internal

consistency (alpha=.92) and test-retest reliability of .75 of the BAI over one week. Jolly, Wiesner, Wherry, Jolly, & Dykman (1994) reported that the BAI discriminated anxiety disorders from affective disorders; the BAI correlated .51 with the Hamilton Anxiety Rating Scale and was only mildly correlated with the Hamilton Rating Scale for Depression. The BAI measures "state" anxiety, which is congruent with the "state" depression measured by the BDI.

Procedure

Participants were recruited via two routes. First, announcements were made in several psychology and education courses (both graduate and undergraduate) at Oklahoma State University. Second, questionnaire packets were mailed to students (n=116) registered with the Student Disability Services office. Three packets were returned as undeliverable, an additional three were returned without participation, and one was returned with incomplete data. Thus, of the 109 packets remaining, 40 of these were received, yielding a return rate of 37 percent.

Participants who were recruited through courses were asked to come to a site on campus which was retained for use by the researchers. As they arrived, participants were given a questionnaire packet; included in the packet were five instruments (BAI, BDI, PSS-Fr, PSS-Fa, and demographics sheet) and a letter explaining the purpose and the significance of the study, the participants' rights (i.e., to participate or withdraw from the study), and anticipated

time required to complete the questionnaires. Identification numbers were coded on each questionnaire packet; there is no record connecting participants' names with their identification numbers or scores.

As participants completed the questionnaires, they were thanked for their participation, and were asked to not share the information on the questionnaires with others. Participants expressing interest in the findings from this study were asked to write their names and addresses in the spaces provided on the cover letter of the packet before turning in the packet to the researcher. For those participants who returned the letter to the researcher with their names and addresses indicated, the cover letters were separated from the questionnaires immediately and were stored in a separate file. The researcher will send the results of the study to those interested participants.

In addition to recruiting participants from courses, questionnaire packets (including the informed consent letter, PSS-Fr, PSS-Fa, BDI, BAI, and demographics sheet) were mailed to students with disabilities (n=116) registered with the SDS office at Oklahoma State University. The SDS office personnel addressed the packets, which were mailed to SDS-registered students. Identification numbers were coded in each questionnaire packet; there is no record connecting participants' names with their identification numbers or scores.

The informed consent letter included in the questionnaire packets explained the purpose and significance of the study, asked for their participation, and explained their rights (i.e., to participate or withdraw from the study). The letter also encouraged participants to contact the researchers if they needed assistance in completing the questionnaires; no requests for assistance were received. Participants were asked to return the questionnaire packet in a pre-addressed, postage-paid envelope which was provided. Those who choose not to participate in the study were asked to return the packets to the researchers in the envelope provided. Cover letters from students who requested receipt of the results of the study were immediately separated from the questionnaires, and were stored in a separate file. A report of the results will be mailed to those participants who requested it.

Design of the Study

This study employed a 2 x 2 factorial design. Level of perceived social support and disability status, the independent variables, were both represented by two levels. Level of perceived social support was categorized as either higher or lower; the cutoff point for higher or lower social support was determined by locating the mean score and "splitting" the set of scores into "higher" (the mean or above) or "lower" (below the mean) social support. Disability status, the second independent variable, was determined by the presence (indicated by "yes") or absence

(indicated by "no") of a disability. The dependent variables, level of anxiety and level of depression, were assessed by scores on the Beck Depression Inventory and the Beck Anxiety Inventory.

Analysis of the Data

Two-way analyses of variance (ANOVAS) were conducted separately for perceived social support from friends and perceived social support from family on levels of anxiety and depression. Within each of these blocks, perceived social support was either "higher" or "lower", and disability status was either "yes" or "no". In addition, correlational measures were obtained between all relevant variables (age, gender, ethnic background, year in college, disability status, duration of disability, perceived social support from family, perceived social support from friends, anxiety scores, and depression scores) to assess the relationships among these factors.

CHAPTER IV

RESULTS

Depression Levels. The BDI scores of the 139 college student participants in this study ranged from 0-40, with a mean of 8.50 (sd=8.11). In describing depression levels in this sample, using scoring criteria suggested by Beck et al. (1961), participants' scores revealed that 96 (69%) showed minimal symptoms of depression, 19 (14%) showed mild depression, 21 (15%) showed moderate depression, and 3 (2%) showed symptoms of severe depression.

Anxiety Levels. The BAI scores for these participants ranged from 0-55, with a mean of 11.25 (sd=9.79). In addition, in describing anxiety levels in this sample, participants' scores demonstrated that 61 (44%) reported minimal symptoms of anxiety, 41 (30%) showed mild symptoms, 25 (18%) reported moderate symptoms, and 12 (9%) showed symptoms of severe anxiety (Beck et al., 1988).

Perceived Social Support Levels. For the participants in this study, PSS-Fa scores ranged from 0-20, with a mean of 14.74 (sd=5.75). PSS-Fr scores for the participants in this study ranged from 0-20, with a mean of 15.53 (sd=4.59). Using the mean-split scoring criteria for assignment to higher or lower social support groups, 58 participants (42%) were categorized as perceiving lower social support from family ($X < 15$), while 81 (58%) perceived higher social support from family. Likewise, 56 (40%) of the participants

were categorized as perceiving lower social support from friends (X < 16), while 83 (60%) were categorized as receiving higher social support from friends. Please refer to Table A1 for a visual depiction of participant characteristics in this study.

Correlational Analyses

Pearson correlations were calculated between all variables measured in this study. Depression scores, as measured by the BDI, were significantly negatively correlated with social support from family ($r = -.427$, $p < .01$) and social support from friends ($r = -.420$, $p < .01$). Anxiety scores, as measured by the BAI, were significantly correlated with perceived social support from friends ($r = -.193$, $p < .05$), but were not significantly correlated with perceived social support from family ($r = -.138$, $p > .05$).

Disability status was significantly correlated with BDI scores ($r = -.185$, $p < .05$), and with perceived social support from family ($r = .200$, $p < .05$). Perceived social support from friends, however, was not significantly correlated with disability status ($r = .053$, $p > .05$).

Perceived social support from friends was significantly correlated with perceived social support from family ($r = .296$, $p < .01$). Data from the correlational analyses is presented in Table A3.

Analyses of Variance

Two-way analyses of variance (ANOVAS) were conducted separately for BDI scores and BAI scores, by disability status and level of social support from family and friends.

Hypothesis 1 stated that participants who perceive higher levels of social support from friends and family would demonstrate lower levels of depression than participants who perceive lower levels of social support from friends and family. This hypothesis was confirmed. Significant main effects (on depression) were found for social support from family $F(1,138)=11.270$, $p=.001$, and social support from friends $F(1,138)=22.993$, $p=.000$. Please refer to Table A4 for results of the analysis conducted on social support from family and depression scores; Table A5 presents data on the analysis of depression scores by social support from friends.

Hypothesis 2 stated that participants with lower levels of perceived social support from family and friends would report higher levels of anxiety than participants with higher levels of perceived social support from family and friends. This hypothesis was partially confirmed. There was a significant main effect (on anxiety) for level of perceived social support from friends $F(1,138)=8.528$, $p=.004$. Table A7 presents results of the analysis of anxiety scores by level of perceived social support from friends. Perceived social support from family, however, did not have a main effect on level of anxiety $F(1,138)=.898$,

p=.345; results of the analysis of anxiety levels by perceived social support from family is presented in Table A6.

The third hypothesis stated that there would be a significant difference in mean depression scores between participants with disabilities and participants without disabilities. This hypothesis was confirmed; results showed a main effect for disability status on depression scores when analyzed by perceived social support from family $F(1,138)=4.169$, $p=.043$, and by perceived social support from friends $F(1,138)=5.03$, $p=.027$.

Hypothesis 4 stated that there would be a significant difference in mean anxiety scores between participants with disabilities and participants without disabilities. Contrary to expectations, a significant main effect for disability status was not found on level of anxiety. This non-significance was found for analyses conducted on both level of perceived social support from family $F(1,138)=.898$, $p=.345$, and level of perceived social support from friends $F(1,138)=.719$, $p=.398$.

Hypothesis 5 stated that disability status would demonstrate an interaction with level of perceived social support on level of depression. This hypothesis was not confirmed. No significant interaction effects were observed between disability status and level of perceived social support from family $F(1,138)=.076$, $p=.783$, or from friends $F(1,138)=.681$, $p=.411$, on level of depression.

Hypothesis 6 stated that disability status would demonstrate an interaction with level of perceived social support (from family and friends) on level of anxiety. This hypothesis was not confirmed. No interaction effects were revealed between disability status and level of perceived social support from family $F(1,138)=1.100$, $p=.296$, or from friends $F(1,138)=1.831$, $p=.178$, on level of anxiety.

CHAPTER V

DISCUSSION

The results of this study clearly show that college student participants with lower levels of perceived social support from friends and family had higher depression scores compared with participants with higher levels of perceived social support (from friends and family).

In addition, participants who perceived lower levels of social support from friends had higher anxiety scores than participants who perceived higher levels of social support from friends. Contrary to expectations, however, level of perceived social support from family did not significantly affect level of anxiety in these participants.

The findings from this study also reveal a significant relationship between disability status and level of depression. That is, mean depression scores of the participants with disabilities were significantly higher than mean depression scores of participants without disabilities. This finding was significant when analyzed by level of perceived social support from both friends and family.

Disability status did not significantly affect levels of anxiety reported by the participants in this study. Both ANOVA procedures conducted on levels of anxiety (by social support from friends, and by social support from family) failed to reveal a significant difference in mean anxiety

scores between participants with and participants without disabilities.

There were no significant interaction effects between level of perceived social support (from friends or family) and disability status on level of anxiety or level of depression in this study. There were some trends in mean anxiety scores between groups which suggest a possible interaction; however, these findings were not significant.

The significant relationship between perceived social support and depression found in this study is consistent with previous findings on both college students and persons with disabilities (Brown, Wallston, and Nicassio; Elliott & Gramling, 1990; Elliott, Marmarosh, & Pickelman, 1994; Jahanshahi, 1991). For example, Fitzpatrick, Newman, Archer and Shipley (1991) found that among rheumatoid arthritis patients, adequacy of social relationships was strongly related to depression level ($r = -.48$, $p < .001$). Likewise, Whatley and Clopton (1992) found that level of depression (as measured by the BDI) in college students was significantly related to social support ($r = -.46$, $p < .005$). In another study with college students, Elliott and Gramling (1990) found that scores on the Social Provisions Scale significantly accounted for 24% of the variance in depression scores as measured by the BDI.

Levels of anxiety in this study were significantly affected by levels of perceived social support from friends, but not from family. Several factors could help explain

these differences. First, it appears that these individuals may be more vulnerable to depressive symptoms than anxious symptoms when perceived support is lower. Second, even though levels of anxiety were somewhat higher than levels of depression at the time of assessment, these higher anxiety levels may be attributed to the study being conducted near the end of the semester--a time when stress (and thus anxiety) levels are higher than at other times in the semester. In other words, the anxiety scores of these participants may have been influenced more by situational factors ("state" anxiety) than by long-term characteristics of the individual ("trait" anxiety).

Another explanation for these mixed findings is that there may be a qualitative difference between family relationships and friend relationships for these participants. Family relationships are generally longer-lasting and may be characterized more by unconditional acceptance than friend relationships. In other words, friends may change over one's life (i.e., due to conflicts, geographic distance); however, family members will always be family members. Thus, family relationships may generally provide more security than friend relationships, leading to lower levels of anxiety.

An alternate explanation is that, in this period in their lives, these college student participants are in the process of individuation from their families of origin. Friends' support, therefore, may be more important than

family support in this developmental period as a buffer against stress (and anxiety). Further, at the time of assessment, these participants' anxiety levels were probably affected more by friends' support than by family support, since most college students have more daily contact with friends than with family members.

The size of the relationship between level of perceived social support from friends and level of anxiety, although significant, was small compared to the size of the relationships between level of depression and both sources of social support. To further examine these differences, it is helpful to examine the mean BAI and BDI scores for each group more closely. For levels of perceived social support from family and friends, the "disability" group and the "no disability" group showed consistent changes in mean depression scores as perceived support varied from higher support to lower support. In contrast, mean anxiety scores for the "disability" group and the "no disability" group did not change consistently from higher support to lower support. While mean BAI scores for participants without disabilities increased by only 34% from the higher social support from friends group to the lower social support from friends groups (9.46 and 12.70, respectively), mean BAI scores for participants with disabilities increased by 89% from the higher social support from friends group to the lower social support from friends group (8.96 and 16.95, respectively). Therefore, while having a disability did not

significantly affect level of anxiety, these data suggest that individuals with disabilities may tend to vary more than individuals without disabilities in their levels of anxiety as levels of perceived social support vary. Further research could examine these factors more closely to lend support to or refute the findings of this study.

Finally, the stronger relationship between level of depression and level of perceived social support (as compared to the relationship between level of anxiety and level of perceived social support) found in this study may lend some support to Seligman's (1975) theory of learned helplessness. He proposed that depression replaces anxiety when forces are seen as being beyond the individual's control. For example, if these participants had experiences in the past where they were unable to greatly affect their level of social support, they may be more prone to experience depression (than anxiety) when social support is perceived to be lower. If this were true, it might help to explain the differences between depression and anxiety in their relationships with perceived social support found in this study. This theory cannot be verified from the present findings, however, because a longitudinal study would need to be conducted to see if these findings supported the concept of learned helplessness as a secondary correlate of lower levels of perceived social support.

Disability status significantly affected levels of depression for the participants in this study. These

findings support the findings from previous studies which have found depression to be strongly related to disability status (Brown, Wallston, & Nicassio, 1989; Fitzpatrick, Newman, Archer, & Shipley, 1991; Garland & Zis, 1991; Jahanshahi, 1991; Koenig, Meador, Shelp, Goli, Cohen, & Blazer, 1991).

The lack of any significant findings for the effect of disability status on levels of anxiety is somewhat difficult to interpret, as there is a large gap in the literature. Livneh and Antonak (1990) found that anxiety was significantly related to age of disability onset, but was not significantly related to duration of disability. These findings are limited, however, in that the researchers asked participants to rate their levels of anxiety at the time of the onset of the disability, a retrospective analysis. In another study, Weinberger, Tierney, Booher and Hiner (1990) found that disability was significantly related to number and severity of daily hassles. While severity and number of hassles may contribute to levels of anxiety, anxiety was not assessed. Of the studies conducted with persons with disabilities, only these two have addressed level of anxiety. Further, neither study studied the relationship between levels of social support and levels of anxiety in individuals with disabilities. Further research is greatly needed to establish the significance of this relationship in persons with disabilities.

Because of the societal and attitudinal barriers individuals with disabilities (in general) face, it was anticipated that levels of perceived social support (whether higher or lower) would be a more significant predictor of levels of anxiety and depression for students with disabilities than it would be for students without disabilities. Contrary to expectations, however, there were no interaction effects between level of perceived social support and disability status on levels of anxiety or levels of depression. Several factors could help explain these findings. First, the participants with disabilities in this study are unique among persons with disabilities in that they are degree-seeking students at a four-year university. Compared with the general population of persons with disabilities, these participants probably possess higher levels of intellectual functioning, as well as higher levels of social skills than individuals who may not have the opportunity to interact with as large a network of people.

A second factor is that these participants with disabilities may have received more support from family, friends, and other persons in their environments, compared with those not attending a university and those who chose not to participate. In contrast, these particular individuals may not depend on social support from family and friends as much as others with disabilities and without disabilities. That is, if they do not rely as much on social support to help them adjust and cope in general, then

lower levels of social support might not have as much of an impact on their psychological functioning.

Limitations of the Study.

There are a few limitations to this study. First, the participants who were recruited from college courses for this study do not represent the entire student population at Oklahoma State University--they were concentrated in education and psychology classes. Second, the individuals with disabilities who participated were those who spent the time and effort to complete and mail the questionnaires. There were 65 packets which were mailed to students with disabilities, and which were not returned. It is possible that those who returned the completed questionnaires are in some ways different from those who did not return the questionnaires. A third limitation of this study is the abundance of Caucasian participants in this study. While it was not unexpected to have a majority of Caucasian participants, a sample more representative of the general population would broaden the generalizability of the results.

Implications for Counselors, Psychologists, and other Mental Health Professionals

The present study found that level of perceived social support is significantly related to levels of depression in college students with and without disabilities. Level of anxiety, on the other hand, was significantly related to

level of perceived social support from friends only (in both participants with and participants without disabilities).

Depression is certainly a major concern of mental health professionals working with college students. Numerous studies have shown that depression is one of the most frequent causes for seeking counseling services at colleges and universities. While there are many factors which may influence a student's level of depression (genetic factors, situational factors, hormonal factors), perceived social support is one of the most influential. In working with college students, counselors and other student personnel can help them explore their perceptions of their social support and how it affects their well-being. These students would also benefit from learning ways to cope with their depression. In addition, counselors can help these individuals identify and utilize social resources which are available to them, both from the university and from the community in general. In addition, we can help them learn new behaviors and/or social skills so that they can better locate new resources and the social support they need.

The results of this study clearly show that students with disabilities had higher depression scores than students without disabilities. As a counselor or psychologist working with a person with a disability, it is important to be aware that these individuals are prone to developing even higher levels of depression than college students in general. Thus, helping these individuals learn ways to cope

with their depression can be a major focus for counseling. In addition, it is important to help these students learn new social skills and behaviors which will increase their chances of locating the support they need.

In order to help prevent depression in college students with disabilities, it is important that these individuals become involved in social activities and groups. Because of the physical, attitudinal and social barriers they often face, however, this can be especially difficult for these individuals. Thus, as a counselor working with a student with a disability, it is important to have information on student groups, activities, and resources which can help make adjustment to college life easier for these individuals. Many universities with a disabled student population have groups designed specifically for these individuals. In cases where these groups are not available, counselors can help these individuals locate and become involved in other student groups which reflect their interests (e.g., student government, ethnic minority groups, women's rights groups).

Counselors in a university or college setting can also work to establish a university-wide system to help support students with disabilities. For example, it would be helpful to work with professors and administrators in improving accessibility to buildings and other facilities for students with physical disabilities. Collaborating with university personnel in assuring that students with

disabilities receive accommodations to which they are entitled can also be a major influence in these students' adjustment to college.

Suggestions for Further Research

The present study revealed some significant findings. Future studies might assess social support variables and levels of depression between individuals with disabilities and individuals without disabilities in the general population. Using a college student sample often yields findings for individuals from higher socioeconomic levels than those found in the general population. In addition, it would be more informative to have samples which reflect the actual ethnic representation of different groups in the general population, in order to assess the differences between ethnic groups.

Future research might also assess levels of social support and depression as a function of disability type. It may be that individuals with more noticeable physical impairments experience lower levels of social support than individuals with "hidden" disabilities (i.e., learning disability, mental disorder). The level of depression found in individuals with disabilities might also vary as a function of disability type. While neither age nor gender was assessed by level of perceived social support in predicting level of affect, future studies might include these in analyses of variance to see if they contribute significantly to levels of anxiety and depression.

Satisfaction with social support has been reported in previous studies to be more significantly related to levels of depression and anxiety than availability of support or the number of supporters available. Perceived social support was assessed in this study; satisfaction with support was not. While respondents' answers to the items on the PSS scales may suggest a level of satisfaction, satisfaction was not actually measured. Future studies might employ measures of both perception of and satisfaction with social support. It might be revealed that satisfaction with support is a better predictor of level of depression and anxiety than perceived social support.

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APPENDICES

APPENDIX A

TABLES

Table A1

Mean Scores of Depression, Anxiety, Perceived Social Support, and Demographic Variables.

	$\bar{x}$	stndrd dev.	median	mode	range
BDI (N=139)	8.50	8.11	6.00	2.00	0 - 40
BAI (N=139)	11.25	9.79	9.00	4.00	0 - 55
PSSFA (N=139)	14.74	5.75	17.00	20.00	0 - 20
PSSFR (N=139)	15.53	4.59	17.00	20.00	0 - 20
AGE (N=139)	25.00	8.37	21.00	19.00	18 - 52
YRCOLL (N=139)	3.07	2.16	3.00	1.00	1 - 14

BDI = Beck Depression Inventory scores

BAI = Beck Anxiety Inventory scores

PSSFA = Perceived Social Support--Family scores

PSSFR = Perceived Social Support--Friends scores

D-LNGT = Duration of disability

YRCOLL = Number of years in college

Table A2

Sample Representation of Disability Types and Length of Disability.

Disability Type	n	%
Physical	**17**	**38%**
mobility	14	31
visual	3	7
Learning/Academic	**21**	**47**
learning disorder	11	24
ADHD*	10	23
Psychological/ Psychiatric:	7	16
	45	**100%**

Disability Length	n	%
1 year or less	8	18%
2 to 5 years	17	38
5 to 10 years	5	11
10 to 15 years	5	11
15 to 20 years	2	4
20 years or longer	8	18
	45	**100%**

* ADHD=Attention Deficit Hyperactivity Disorder; includes either with (ADHD) or without (ADD) hyperactivity.

Table A3

Pearson Correlation Coefficients Between all Variables.

	BDI	BAI	PSSFM	PSSFRD	AGE	SEX	D-STAT	D-LNGT	ETHNIC	YRCLG
BDI	-----	.62[a]	-.43[a]	-.42[a]	-.05	-.10	-.19[b]	-.20[b]	-.02	-.04
BAI		-----	-.14	-.19[b]	-.21[b]	-.19[b]	-.08	-.10	-.05	-.08
PSSFM			-----	.30[a]	-.17	.01	.20[b]	.19[b]	.02	-.11
PSSFRD				-----	.02	-.10	.05	.06	-.00	.08
AGE					-----	-.05	-.51[a]	-.45[a]	.09	.51[a]
SEX						-----	.02	.07	-.10	-.09
D-STAT							-----	.94[a]	-.04	.31[a]
D-LNGT								-----	-.04	-.31[a]
ETHN									-----	.14

Note. **a = significant at the .01 alpha level; b = significant at the .05 alpha level**

N = 139

Table A4

Mean Depression Scores by Disability Status and Perceived Social Support from Family.

	Disability	No Disability
High PSS Family	X=8.33 sd=6.82 (n=24)	X=5.81 sd=6.56 (n=57)
Lower PSS Family	X=13.33 sd=10.31 (n=21)	X=10.03 sd=8.30 (n=37)

Source of Variation	Sum of Squares	df	F	Significance Level
Main Effects				
Disability Status	249.69	1	4.17	.043
Family Group	675.01	1	11.27	.001
2-Way Interactions				
Family Group X Disability Status	4.55	1	.08	.783

Table A5

Mean Depression Scores by Disability Status and Perceived Social Support from Friends

	Disability	No Disability
Higher PSS Friends	X=7.42 sd=7.70 (n=26)	X=5.33 sd=5.72 (n=57)
Lower PSS Friends	X=15.11 sd=8.65 (n=19)	X=10.76 sd=8.81 (n=37)

Source of Variation	Sum of Squares	df	F	Significance Level
Main Effects				
Disability Status	277.75	1	5.03	.027
Friend Group	1270.18	1	22.99	.000
2-Way Interactions				
Friend Group X Disability Status	37.61	1	.68	.411

Table A6

Mean Anxiety Scores by Disability Status and Perceived Social Support from Family

	Disability	No Disability
Higher PSS Family	X=10.42 sd=9.23 (n=24)	X=10.60 sd=9.92 (n=57)
Lower PSS Family	X=14.52 sd=10.41 (n=21)	X=10.95 sd=9.59 (n=37)

Source of Variation	Sum of Squares	df	F	Significance Level
Main Effects				
Disability Status	66.55	1	.69	.406
Family Group	86.18	1	.90	.345
2-Way Interactions				
Family Group X Disability Status	105.49	1	.10	.296

Table A7

Mean Anxiety Scores by Disability Status and Perceived Social Support from Friends

	Disability	No Disability
Higher PSS Friends	X=8.96 sd=7.45 (n=26)	X=9.46 sd=9.19 (n=57)
Lower PSS Friends	X=16.95 sd=11.13 (n=19)	X=12.70 sd=10.35 (n=37)

Source of Variation	Sum of Squares	df	F	Significance Level
Main Effects				
Disability Status	64.99	1	.72	.398
Friend Group	771.01	1	8.53	.004
2-Way Interactions				
Friend Group X Disability Status	165.561	1	.83	.178

APPENDIX B

INFORMED CONSENT LETTER

Verena L. Street
O.S.U. ABSED Dept, 116 N. Murray Hall, Stillwater, OK 74078

Dear Student:

I am conducting a study to look at the level of social support that college students receive from family and friends, and how this level of social support affects college students' daily lives. This research is very important for several reasons. First, the results of this study will help college personnel better understand students' needs so that they may provide better services. Second, research such as this may help you to evaluate and improve the social support you receive, as social support can be a valuable asset to you during college and throughout your life.

Enclosed you will find 5 one-page questionnaires which will ask you to answer items about yourself, about the social support you receive, and about how you feel in general. **It should take no more than about 30 minutes to complete these questionnaires.** Your participation is completely voluntary. Your confidentiality will be rigidly maintained. Only I and my advisor will have these questionnaires. If you choose not to participate, or if you have already completed this packet for a course, please return the forms in the envelope provided.

If you would like to participate, but need assistance in filling out the questionnaires, please feel free to call any of the numbers below. I will be happy to schedule a time for us to meet, so that I can assist you.

Please keep in mind that your name will not appear on any of the questionnaires. The identification number you see at the top of each page will be used to organize the questionnaires. If you wish to know the results of this study, write your name and permanent address in the spaces provided below and return this letter with the questionnaires. When received by the researchers, this letter will be immediately separated from the questionnaire packets, and will be stored in a separate file.

Again, I greatly appreciate your time and effort in participating in this study. If you have any questions, please call any of the numbers below, or contact University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078.

Sincerely,

Verena Street

(405) 744-6036, (405) 377-3766,

(405) 377-4037, (405) 744-6040

Complete the following and return this letter with the questionnaires if you wish to know the results of this study:

Name:

_____

Address:

_____

_____

APPENDIX C

DEMOGRAPHICS SHEET

SOCIAL RELATIONS DEMOGRAPHIC QUESTIONNAIRE

Verena L. Street and Carrie L. Winterowd, 1996

ID # _____

This is a questionnaire designed to learn more about you as a college student. Please complete all information that applies to you. Do not put your name or any other identifying marks on this form. Thank you for your participation!

1. AGE: _____

2. GENDER: Female_____
Male_____

3. DO YOU HAVE A DISABILITY? Yes_____ **(complete 3a and 3b)**
No_____ **(go to question #4)**

3a. Your primary disability is: _____

3b. How long have you known that you have this disability?
(1) 1 year or less_____
(2) 2 - 5 years_____
(3) 5 - 10 years_____
(4) 10 - 15 years_____
(5) 15 - 20 years_____
(6) 20 years or more_____

4. ETHNIC BACKGROUND:
a. African American_____
e. Asian American_____
b. Caucasian/White_____
f. Hispanic/Latino(a)_____
c. International (please identify native country)____
_____
g. Other (please specify)_____

5. YEAR IN COLLEGE:
Undergraduate: **Frsh**_____ **Soph** _____ **Jr** _____ **Sr** _____

Graduate: **Masters** _____ **Doctorate** _____
(Please indicate # years in program)

APPENDIX D

IRB APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 04-01-96 **IRB#:** ED-96-103

Proposal Title: THE RELATIONSHIP BETWEEN PERCEIVED SOCIAL SUPPORT, DISABILITY STATUS, AND MOOD STATES IN COLLEGE STUDENTS

Principal Investigator(s): Carrie L. Winterowd, Verena L. Street

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: April 19, 1996
Chair of Institutional Review Board

VITA

Verena L. Street

Candidate for the Degree of

Master of Science

Thesis: THE RELATIONSHIP BETWEEN PERCEIVED SOCIAL SUPPORT, DISABILITY STATUS, AND AFFECTIVE STATES IN COLLEGE STUDENTS

Major Field: Counseling and Student Personnel

Biographical:

Education: Graduated from Jenks High School, Jenks, Oklahoma in May 1988; received Bachelor of Arts degree with honors in Psychology from Oklahoma State University, Stillwater, Oklahoma in May 1993. Completed the requirements for the Master of Science degree with a major in Community Counseling at Oklahoma State University in July 1996.

Experience: Employed as fast food worker, and file clerk during high school; employed by Homeland Stores, Inc. from December 1988 to February 1995 as baker, decorator, and manager; employed by Oklahoma State University as graduate assistant, Oklahoma State University, Department of Applied Behavioral Studies in Education, and Psychological Services Center, August 1995 to present; practicum counseling student at Payne County Family Practice, Inc., Stillwater, Oklahoma, August 1995 to present.

Honors and Awards: President's Honor Roll, Oklahoma State University, from Fall 1990 to Spring 1992; Psychology Club Scholarship Recipient, Oklahoma State University, 1991-1992; Phi Kappa Phi member, Oklahoma State University, 1992-1993; Departmental Honors in Psychology, Oklahoma State University, May 1993; Third Place in Research Poster Competition, Oklahoma Psychological Association, April 1995.

Professional Memberships: American Psychological Association.