

GENDER DIFFERENCES IN COLLEGE STUDENTS' SELF-REPORT OF
PERSONALITY

A thesis presented to the faculty of the Graduate School of Western Carolina University
in partial fulfillment of the requirements for the degree of Specialist in School
Psychology.

By

Colleen Marie Grant

Director: Dr. Lori Unruh
Professor and Director of School Psychology Program

Committee Members: Dr. Candace Boan-Lenzo, Psychology
Dr. Gayle Wells, Health Education

April 2013

ACKNOWLEDGEMENTS

I would like to thank my committee, Dr. Lori Unruh, Dr. Candace Boan-Lenzo, and Dr. Gayle Wells, for allowing me to use their data, for their support and guidance, for believing in me, and for holding me to such a high standard. I am especially grateful to my thesis chair and program director, Dr. Lori Unruh, for spending hours editing, reorganizing, and improving this document, and for graciously reminding me of my deadlines. I also owe gratitude to Dr. Candace Boan-Lenzo, who suggested using this data set when I reached an impasse on my thesis journey and who offered invaluable guidance on my analysis.

This thesis would not have been possible without the support and much-needed comic relief provided by my friends and colleagues in my graduate program. Additionally, I would like to thank my friends from home, who understood that my thesis allotted me minimal time to spend time with them, and who waited patiently until I had completed this process.

I would like to thank my parents, for inspiring me to pursue higher education and for giving me the opportunity to be successful. My mother, Barbara Grant, continues to motivate my relentless drive to succeed and my excitement for learning. Also, I am eternally grateful to my late father, John Grant, who inspired me to work hard, never give up, exercise patience in the face of adversity, and keep a positive outlook on life. Finally, I owe my deepest gratitude to my wonderful fiancé, Shalin Oza, who offered me support, love, empathy, and understanding throughout my writing process; who did everything in

his power to make this journey more enjoyable; and who reminded me that I still needed to eat and sleep, as I worked tirelessly on this document.

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ABSTRACT

GENDER DIFFERENCES IN COLLEGE STUDENTS' SELF-REPORT OF PERSONALITY

Colleen Marie Grant, S.S.P.

Western Carolina University (April 2013)

Director: Dr. Lori Unruh

The BASC-SRP-COL is a standardized self-report measure that is specifically designed to measure college students' perceived levels of positive and negative aspects of personality. As college student mental health problems become more prevalent, it is important to have valid and reliable tools for assessment with this population. After reviewing the research, relevant diagnostic trends, and results found in the BASC-SRP-COL normative sample, it was hypothesized that gender differences would be found in a sample of college students who completed the BASC-SRP-COL. Participants for the proposed study were undergraduate students attending one of two colleges in either North Carolina or Georgia. Gender differences in clinical scales and adaptive scales were examined. For clinical scales, it was hypothesized that males would score higher on the Alcohol Abuse scale, the Atypicality scale, and the Sensation Seeking scale; that females would score higher on the Anxiety and Somatization scales; and that no significant gender differences would be identified on the Attention Problems scale, the Depression scale, the Hyperactivity scale, the Locus of Control scale, the School Maladjustment scale, the Sense of Inadequacy scale, and the Social Stress scale. For the adaptive scales, it was hypothesized that males would score higher on the Self-Esteem scale; females

would score higher on the Interpersonal Relations scale and the Relations with Parents scale; and no significant gender differences would be determined on the Self-Reliance scale. A one-way between-groups MANOVA was conducted to investigate gender differences on the BASC-SRP-COL rating scale. Results confirmed that college males were more likely to report higher self-esteem and were more likely to engage in behaviors related to alcohol abuse and sensation seeking. Additionally, college females were more likely to report higher levels of anxiety and somatization. Finally, no significant gender differences were found on the remaining scales. Results were compared with those of the BASC-SRP-COL normative study and with other research. Suggestions for future research and recommendations for college prevention programs were discussed.

CHAPTER ONE: INTRODUCTION

College student mental health is a growing area of concern that has sparked research in the fields of counseling and psychology. The *American College Health Association* (2003) indicated that college student academic progress is affected by concerns related to mental health, including stress, depression, anxiety, and alcohol abuse. More individuals with mental health problems are attending college (Kitzrow, 2003), in large part due to progressive medications and effective outpatient services (Gallagher, Gill, & Sysko, 2000). Therefore, it is important to have valid and reliable instruments designed to assess behavioral tendencies associated with personality, which may help or hinder the daily functioning of college students. The Behavior Assessment System for Children and Adolescents, Second Edition, Self-Report of Personality, College form (BASC-SRP-COL; Reynolds & Kamphaus, 2004) is one standardized rating scale that professionals can use to assess positive and negative behaviors associated with a college student's personality.

The BASC-2 SRP-COL (Reynolds & Kamphaus, 2004) is a recent addition to the BASC rating scales. The BASC-C (ages 8-11) and the BASC-A (ages 12-21) have been used extensively in clinical and school populations to assist professionals in measuring personality characteristics and related behaviors that impact the social, emotional, and behavioral functioning of children and adolescents. The more recent BASC-SRP-COL (Self Report of Personality-College form) is designed to measure similar tendencies in college students between the ages of 18 and 25.

The BASC-SRP-COL consists of 185 items and employs two response formats. For the first 68 items, the rating scale utilizes a true/false response format and for the remaining items, a likert scale format (N-Never, S-Sometimes, O-Often, and A-Almost Always) is used. All of the items are brief statements that are written on a third-grade reading level. Items are worded both positively and negatively to prevent patterned responding.

Five validity scales (the F-Index, the L-Index, the V-Index, the Response Pattern Index, and the Consistency Index) are included in the BASC-SRP-COL to determine whether the results can be used as a valid measure to assess the individual's behavioral, social, and emotional functioning. It should be noted that all of the validity scores may be elevated if the respondent experiences reading or comprehension difficulties. The F-Index assesses the respondent's tendency to be overly negative but may also be elevated due to problems following directions, responding in a random fashion, and desire to rate oneself as severely maladjusted. The L-Index score can be used to interpret the respondent's tendency to be overly positive but may be elevated because of responding in a socially acceptable way, responding in a random fashion, poor awareness of one's behaviors, and noncompliance. Another validity score, the V-Index, is used to identify individuals who endorse nonsense items (e.g. "I have not seen a car in at least 6 months"). A cautionary score in this index may suggest careless responding, lack of cooperation, or attempts to present oneself as being out-of-touch with reality. The Response Pattern Index is designed to detect the tendency to respond in some type of pattern, including endorsing the same answer for consecutive items and endorsing items

by alternating a set of responses. The final validity score is the Consistency Index, which measures how respondents answered items with similar content.

The BASC-SRP-COL (Reynolds & Kamphaus, 2004) provides T-scores (with a mean of 50 and a standard deviation of 10) for four composites (Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment, and the Emotional Symptoms Index), 12 clinical scales (Alcohol Abuse, Anxiety, Attention Problems, Atypicality, Depression, Hyperactivity, Locus of Control, School Maladjustment, Sensation Seeking, Sense of Inadequacy, Social Stress, and Somatization) and four adaptive scales (Interpersonal Relations, Relations with Parents, Self-Esteem, and Self-Reliance). For the clinical scales and three of the four composites, high scores in the “At-Risk” range (60-69) suggest a possible concern and scores in the “Clinically Significant” range (scores 70 and above) indicate more concerns than is typically reported in same-aged individuals. In contrast, for the adaptive scales and the Personal Adjustment composite, low scores in the “At-Risk” range (scores 31-40) or the “Clinically Significant” range (scores 30 and below) indicate areas of concern when compared to others the same age.

BASC-SRP-COL Composites

The BASC-SRP-COL provides 4 composite scores, which describe overall problems inherent in one’s behavioral functioning. The following descriptions for the BASC-SRP-COL composite scales were obtained from the BASC-2 Manual (Reynolds & Kamphaus, 2004).

Internalizing Problems. This composite represents problems within an individual and considers scores from the Atypicality scale, the Anxiety scale, the Depression scale, the Locus of Control scale, the Sense of Inadequacy scale, and the

Social Stress scale. Higher scores may suggest emotional instability and may warrant screenings for disorders in depression, anxiety, or somatization.

Inattention/Hyperactivity. As implied by the name, the Inattention/Hyperactivity composite combines scores from the Attention Problems and Hyperactivity scales. Elevated scores indicate a higher probability of symptoms consistent with Attention Deficit Hyperactivity Disorder (ADHD).

Personal Adjustment. The only composite scale that indicates positive behavioral tendencies, the Personal Adjustment scale includes the Relations with Parents scale, the Interpersonal Relations scale, the Self-Esteem scale, and the Self-Reliance scale. Lower scores may designate problems with one's relationships, self-identity, or a lack of social support networks.

Emotional Symptoms Index (ESI) is an overall composite that considers select scales from the Internalizing Problems composite (Social Stress, Anxiety, Depression, Sense of Inadequacy) and from the Personality Adjustment composite (Self-Esteem and Self-Reliance). Concerning scores in the higher ranges may indicate the presence of maladaptive behaviors with the absence of adaptive coping mechanisms. Very high scores may suggest severe emotional disturbance.

BASC-SRP-COL Clinical Scales

Results from the BASC-SRP-COL include scores for 12 clinical scales, which measure both internalizing and externalizing maladaptive behaviors. The following clinical scale descriptions were attained from the BASC-2 Manual (Reynolds & Kamphaus, 2004).

Alcohol Abuse. One of the two scales that are unique to the college version of the BASC-SRP, the Alcohol Abuse scale is designed to identify individuals who engage in drinking behaviors that have the potential to lead to alcohol abuse and those who experience academic, social, or functional problems due to their alcohol consumption. Items include statements about drinking to improve social interactions, drinking to calm nerves, and drinking alone.

Anxiety. The Anxiety scale measures the tendency to have unreasonable fears, to feel nervous, and to have overwhelming negative prospects for the future. Individuals with high scores on this scale are likely to have difficulties responding to problems and often find themselves in recurring high-stress situations. In contrast, very low scores on this scale may indicate a false sense of well-being and possible sociopathic tendencies.

Attention Problems. This scale measures the tendency to get easily distracted and not be able to concentrate for extended periods of time. Inattention greatly impacts one's academic functioning and can sometimes lead to substance abuse. Elevated scores on the Attention Problems scale are seen in individuals diagnosed with Attention Deficit Hyperactivity Disorder, Inattentive Type, and when in tandem with high scores on the Hyperactivity scale, may also indicate Attention Deficit Hyperactivity Disorder, Combined Type. High scores are also found in individuals with anxiety disorders, most notably Posttraumatic Stress Disorder (PTSD).

Atypicality. The Atypicality scale measures the tendency to behave in odd or strange ways (e.g. have frequent mood swings, experience visual or auditory hallucinations), to feel paranoid or have obsessive thoughts, or to display psychotic

behaviors. Clinically Significant scores on this scale may suggest the possibility of a thought disorder, such as Schizophrenia.

Depression. The Depression scale assesses the tendency to feel unhappy, discouraged, pessimistic, or stressed. At-Risk and Clinically Significant scores on this scale may indicate the possibility of a mood disorder, such as Major Depressive Disorder.

Hyperactivity. This scale assesses the tendency to talk or move excessively, have racing thoughts, or have difficulty calming down. As discussed above, elevations in this scale and the Attention Problems scale may confirm symptoms of Attention Deficit Hyperactivity Disorder, Combined Type.

Locus of Control. The Locus of Control scale measures the tendency to believe that life events are controlled by external factors or something out of one's control. High scores indicate a more external locus of control and may suggest hopelessness about the future, which may lead to more severe psychological problems such as anxiety, or depression.

School Maladjustment. This scale, which is only found on the BASC-SRP-COL, provides an indication of how one is responding to the academic demands of college. Elevated scores may indicate the tendency to feel frustrated, bored, dispassionate, or indifferent.

Sensation Seeking. The Sensation Seeking scale measures the tendency to pursue new, exciting, and dangerous activities without considering consequences. High scores on this scale may indicate irresponsible or antisocial behaviors that have been correlated to future substance abuse.

Sense of Inadequacy. This scale assesses the perceived notion of not being able to reach goals or failing to meet expectations after putting forth effort. Respondents with high scores may experience feelings of helplessness and may have the sense that they are failing at school.

Social Stress. The Social Stress scale measures the tendency to feel overwhelmed or awkward in social relationships or to have difficulty making friends, which may lead to anxiety, somatic disorders, or maladaptive coping routines.

Somatization. This scale measures the tendency to be overly sensitive to and complain about negligible physical discomfort with no identifiable medical cause. High scores may be evident with individuals who have internalized feelings of anxiety, causing real symptoms, such as headaches, stomachaches, and muscle soreness.

BASC-SRP-COL Adaptive Scales

The BASC-SRP-COL also provides scores for four adaptive scales, which measure positive aspects of personality and related behaviors. Low scores suggest concerns about the individual's functioning in that area. The following adaptive scale descriptions were attained from the BASC-2 Manual (Reynolds & Kamphaus, 2004).

Interpersonal Relations. This adaptive scale measures the tendency to have positive perceptions about one's social interactions and relationships. Concerning scores on this scale may suggest social skill deficits, a tendency to withdraw from others, or lack of knowledge concerning social boundaries.

Relations with Parents. The Relations with Parents scale assesses positive feelings towards parents as a trustworthy and caring entity, who support one's decisions

and provide comfort in time of need. Lower scores on this scale may suggest lack of family support or alienation from one's family.

Self-Esteem. This scale measures the tendency to believe oneself to be worthy of respect and to be confident in one's abilities. Scores in the lower ranges are correlated with depression and anxiety.

Self-Reliance. The final adaptive scale, the Self-Reliance scale, measures positive perceptions of one's ability to successfully make decisions and resolve daily problems independently. Lower scores indicate uncertainty about one's own abilities and may suggest depressed or anxious tendencies.

It is important to consider gender differences in aspects of personality that impact the behavioral functioning of college students. Mental health problems manifest differently in males and females and gender may also impact response to treatment. Identification of gender differences in adaptive and maladaptive behaviors may help promote more effective prevention and intervention methods.

CHAPTER TWO: LITERATURE REVIEW

While males and females are both at-risk for mental illness, gender differences occur in regard to the type of illness and symptoms one is more likely to experience. The BASC-SRP-COL is an assessment of social and emotional functioning and the scales reflect factors considered when diagnosing psychological disorders. In order to hypothesize whether gender differences would be found in a sample of college students who completed the BASC-SRP-COL, an extensive review of the literature was completed. This review on gender differences consists of information obtained from the DSM-IV-TR, data collected from a college student survey conducted by the American College Health Association, and additional research that has measured similar constructs as those found on the BASC-SRP-COL.

Gender Differences in Mental Disorders

DSM-IV-TR. The *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychological Association, 2000) discusses gender differences in the diagnostic prevalence of many psychological disorders. According to the DSM-IV-TR, women are more likely to be diagnosed with most mood disorders, anxiety disorders, somatoform disorders, and personality disorders compared to men. In contrast, men more often present with attention deficit hyperactivity disorders and antisocial personality disorder.

Regarding mood disorders, adolescent and adult women are more at-risk for experiencing depression (American Psychiatric Association [DSM-IV-TR], 2000). While there are no gender differences found in childhood depression, adult women are twice as

likely as adult men to be diagnosed with a depressive disorder. Bipolar I Disorder is more common in women but Bipolar II Disorder is equally likely in both sexes. Female adults also have a higher prevalence of anxiety, with more than half of generalized anxiety disorder diagnoses belonging to women in clinical settings and up to two thirds of female cases in epidemiological studies. Additionally, women are two to three times as likely to be diagnosed with panic disorder, with higher rates among women experiencing the disorder with agoraphobia.

Although there are more cases of childhood-onset obsessive compulsive disorder (OCD) in boys than in girls, there are no gender differences identified in adults diagnosed with obsessive compulsive disorder (American Psychiatric Association [DSM-IV-TR], 2000). Attention deficit hyperactivity disorder (ADHD) is two to nine times more common in males than females, although males with ADHD are more likely to have symptoms of hyperactivity and impulsivity and females have a higher chance of being diagnosed with comorbid depression and/or anxiety. Somatization Disorder and Pain Disorder are more common in females but there have been no gender differences identified for adults diagnosed with Hypochondriasis and Body Dysmorphic Disorder. Females are more likely to be diagnosed with most personality disorders (including Borderline Personality Disorder, Histrionic Personality, and Dependent Personality Disorder), with the exception of Antisocial Personality Disorder which is more often found in males.

Regarding pervasive developmental disorders, men are four to five times as likely to obtain diagnoses of both Autistic Disorder and Asperger's Disorder. Men have a slightly higher chance of being diagnosed with Schizophrenia but women report more

hallucinations and delusions, and men are more likely to withdraw and lack appropriate affect. Finally, males are more likely than females to abuse alcohol and to become dependent on alcohol. According to the DSM-IV-TR, there are five males for every female who develops alcohol-related disorders (APA, 2000).

College student population. Similar gender differences exist in college student populations, according to results from the *Fall 2011 American College Health Association National College Health Assessment (ACHA-NCHA II, Reference Group Executive Summary, 2012)*. This data considered responses from 27,774 students (66.1% female, 32.4% male, and 0.2% transgendered) from 44 colleges and other postsecondary institutions across the United States. The survey asked the college students if they had been diagnosed or had received professional treatment for certain disorders. Results indicated that more females rated instances of Depression (F = 13.1%, M = 6.7%), Bipolar Disorder (F = 1.5%, M = 1.2%), Anxiety (F = 14.5%, M = 6.6%), Panic Attacks (F = 6.9%, M = 2.6%), and Obsessive Compulsive Disorder (F = 2.2%, M = 1.6%). More males reported experiencing Attention Deficit Hyperactivity Disorder (M = 5.4%, F = 4.3%), and Schizophrenia (M = 0.4%, F = 0.1%).

The ACHA-NCHA II survey also asked students questions about their alcohol consumption. Similar to the DSM-IV-TR, males experiencing alcohol disorders outnumbered females with comparable symptoms. The college survey results indicated that more males reported using alcohol for 10-29 days of the last 30 days (M = 16.7%, F = 11.6%) and using alcohol every day for the last 30 days (M = 1.6%, F = 0.5%).

BASC-SRP-COL normative sample. The BASC-SRP-COL was normed using 706 students between the ages of 18 and 25 who were attending colleges or technical

schools across the United States (Reynolds & Kamphaus, 2004). The majority of the participants (80%) were between the ages of 18 and 20 and were seeking a four-year degree. Gender differences were identified in select clinical and adaptive scales. Specifically, male college students scored significantly higher than females ($p < .01$) on the Alcohol Abuse scale, the Atypicality scale, the Self-Esteem scale, and the Sensation Seeking scale. In contrast, female college students scored significantly higher ($p < .01$) on the Anxiety scale, the Relations with Parents scale, and the Somatization scale. Additionally, college females had higher scores ($p < .05$) on the Interpersonal Relations scale. There were no statistically significant gender differences identified on the remaining scales.

Additional Gender Differences Research

Since the BASC-SRP-COL is still a relatively new scale, there seems to be lack of research on college student mental health as measured by this instrument. However, some of the same constructs measured by this instrument have been assessed in college students using other measures. The literature on gender differences in clinical and adaptive domains will be discussed.

Alcohol abuse. Consistent with diagnostic information concerning alcohol-related disorders, men are more likely to experience problems related to alcohol (Caetano, 1994). A review of the literature on alcohol abuse also revealed gender differences in college students, with a higher prevalence of males reporting behaviors consistent with alcohol abuse (e.g. more frequent use of alcohol or more binge drinking) than females (Cranford, Eisenberg, & Serras, 2009; Greenfield, Midanik, & Rogers,

2000; Johnston, O'Malley, Bachman, & Schulenberg, 2007; Korcuska & Thombs, 2003; Randolph, Torres, Gore-Felton, Lloyd, & McGarvey, 2009; Weitzman, 2004).

Anxiety. As discussed previously, women have a higher likelihood of developing most anxiety disorders (APA, 2000; Bruce et al., 2005; Kessler et al., 1994; Nolen-Hoeksema, 1990). However, males and females have an equal chance of being diagnosed with a social anxiety disorder (APA, 2000; McLean, Asnaani, Litz, & Hofmann, 2011). Results from a meta-analysis conducted by Feingold (1994) were consistent with these diagnostic trends, in that general anxiety was higher in females but there were no significant gender differences in social anxiety. These findings were true, regardless of age of participants, highest level of education, and nationality (Feingold, 1994).

Research on symptoms of anxiety in college students has been mixed. Many studies support the notion that college females present with greater levels of anxiety than college males (ACHA, 2012; Feingold, 1994; Simpson, Parker, & Harrison, 1995). On a survey conducted by the American College Health Association (ACHA, 2012), almost half (49.9%) of raters indicated that they felt overwhelming levels of anxiety sometime within the last 12 months. Of these students, 55.4% were female and 38.4% were male. More female college students also reported feeling overwhelming anxiety within the last 30 days (13.2% for females; 8.6% for males). Additional studies have also found that female college students report more tendencies to be fearful, nervous, or have irrational worries (Robichaud, Dugas, & Conway, 2003; McCann, Stewin, & Short, 1991). However, there is some conflicting research that has failed to identify significant gender differences for anxiety in college student populations (Endler & Parker, 1990 and Joiner

& Blalock, 1995) or has found significant differences with small effect sizes due to large sample size (Rosenthal & Schreiner, 2000).

Attention problems. According to the DSM-IV-TR, men are more likely than women to be diagnosed with an attention disorder (APA, 2000), regardless of age. However, research on college student inattention has produced inconsistent results. Some research has indicated that college men have higher levels of inattention, compared to college females (Lee, Oakland, Jackson, & Glutting, 2008; McKee, 2008; Smith & Johnson, 1998) while other studies have shown women to score higher than men on self-reported inattention scales (Fedele, Lefler, Hartung, & Canu, 2012), and still others have failed to find gender differences in symptoms of inattention (Biederman et al., 2005; DuPaul, Schaughency, Weyandt, Tripp, Kiesner, Ota et al., 2001).

Atypicality. The Atypicality scale measures strange behaviors often seen in individuals with schizophrenia. As discussed in the previous section, the research on gender differences in prevalence of schizophrenia suggests that males are more likely to be diagnosed with this disorder. Recent meta-analyses have found that for every two women who are diagnosed with schizophrenia, there are three men who have the disorder (Aleman, Kahn, & Selton, 2003; McGrath, Saha, Chant, & Welham, 2008). However, women who have been diagnosed with schizophrenia tend to exhibit more odd behaviors and are more often diagnosed with paranoid schizophrenia (Ochoa, Usall, Cobo, Labad, & Kulkarni, 2012).

Depression. Although symptoms of depression have been reported by more women than men in the general adult population (APA, 2000; Nolen-Hoeksema, 2001) and individuals in the 15-24 age range have the highest likelihood of being diagnosed

with major depression (Blazer, Kessler, McGonangle, & Swartz, 1994), the research on college student depression has provided mixed results. For example, college females outnumber college males in self-reported depression, according to the American College Health Association (2011) and many other studies (Boggiano & Barrett, 1991; Carmody, 2005; Dion & Giordano, 1990; Dixon & Kurpius, 2008; Field, Diego, Pelaez, Deeds, & Delgado, 2012.; Joiner & Blalock, 1995; Kim & Chun, 1993; McDermott, 1987; McLennan, 1992; Roberts & Sobhan, 1992). However, some studies used large samples which made small differences appear significant (Rosenthal & Schreiner, 2000). There is also research that has failed to find significant gender differences in college student depression (Baron & Matsuyama, 1988; Dyson & Renk, 2006; Endler & Parker, 1990; Gladstone & Koenig, 1994; Lester & DeSimone, 1995; Nolen-Hoeksema, 1990; O’Heron & Orlofsky, 1990).

Hyperactivity. A gender difference exists in children diagnosed with ADHD, in that boys have higher levels of hyperactivity than girls (APA, 2000). However, research has been inconsistent in determining gender differences in hyperactivity, in the college student population. While some studies have not found significant gender differences in self-reports of hyperactivity-impulsivity (Biederman et al., 2004; DuPaul et al., 2001; Lee et al., 2008), other studies have found that female college students scored higher on scales of hyperactivity than their male peers (Fedele et al., 2012).

Interpersonal relations. Research on gender differences in peer relations has shown that college females report significantly closer relationships with their peers compared to male college students (Swenson, Nordstrom, Hiester, 2008).

Locus of control. Many studies of locus of control have indicated that males have higher internal locus of control and females are more external (Sherman, Higgs, & Williams, 1997). This trend has also been identified with college students (Gifford, Briceno-Perriott, & Mianzo, 2006; Nunn, 1994). A meta-analysis of studies conducted from the 1950's to the 1990's found that males and females did not vary significantly on measures of locus of control overall (Feingold, 1994). However, a prior meta-analysis conducted by Maccoby and Jacklin (1974) found that there was variation depending on what measures were used and the age of the participants. Specifically, males had higher levels of internal locus of control when behavioral assessments were used but gender differences were not indicated when personality rating scales (measurement tools similar to the BASC-2) were used. Additionally, a gender difference was evident in males of college age and older, with greater internal locus of control than females of the same age (Maccoby & Jacklin, 1974).

Relations with parents. There is not much research on self-reported quality of parent relationships in college students. However, a study was conducted on college students' perceived quality of attachment with each of their parents (Sorokou & Weissbrod, 2005). Results indicated that college females rated the quality of their attachment with their mothers significantly higher than did college males but that no gender differences were identified for perceived quality of attachment with fathers. Additionally, Sorokou and Weissbrod (2005) looked for differences in need-based contact with parents and in nonneed-based contact with parents. It was determined that college females engaged in significantly more nonneed-based contact (to touch base or to

maintain close relationship) than college males but that there were no gender differences in frequency of need-based contact (for help during times of need).

School maladjustment. The transition into college life represents changes in roles, responsibilities, time demands, and relationships. Research on college student adjustment has shown that males tend to adjust better to the new environment and life changes that occur when one attends college (Cross, Nicholas, Gobble, & Frank, 1992; Enochs, 2006).

Self-esteem. Males tend to report significantly higher levels of global self-esteem in the general population (American Association of Women, 1991; Hong, Bianca, & Bollington, 1993; Lawrence, Ashford, & Dent, 2006; and Obrien, 1991). A meta-analysis that reviewed studies performed from the 1950's to the 1990's determined that males had significantly higher self-esteem compared to women, although the difference was small (Feingold, 1994). Similar results have been found for college student self-esteem (Lawrence et al., 2006). However, there are also many studies that have shown no significant gender differences for self-esteem in college student populations (Dixon & Kurpius, 2008; Foels & Tomcho, 2005; Hayes, Crocker, & Kowalski, 1999; Josephs, Markus, & Tafarodi, 1992; Zuckerman, 1980).

Self-reliance. Research has shown that boys, ages 16 and above, have significantly more autonomy compared to girls of the same age (Fleming, 2002). Bekker and van Assen (2008) also found that boys had higher ability to manage new situations, although this finding was not significant. However, no studies were found involving gender differences in self-reported self-reliance in college students.

Sensation seeking. Male college students report higher levels of sensation seeking behaviors compared to female college students (Hirschberger, Florian, Mikulciner, Goldenberg, & Pyszczynski, 2002; Rosenblitt, Soler, Johnson, & Quadagno, 2001; Zuckerman, Eysenck, & Eysenck, 1978). Research in this area has shown higher ratings for males in overall sensation seeking, in addition to specific behaviors, such as desire for engaging in sports or activities viewed to be dangerous, interest in experiencing new things through spontaneous travel, and avoidance of repetition (Rosenblitt, et al., 2001). The link between sensation seeking and risk taking behaviors suggests that college males may be especially at-risk for participating in deviant behaviors such as driving fast, engaging in casual sex, and trying heroin (Hirschberger et al., 2002).

Sense of inadequacy. No research could be found on college student or adult self-reported sense of inadequacy. However, no significant gender differences were found in a group of adolescent (ages 13-17) juvenile offenders who completed the BASC (Calhoun, 2001).

Social stress. Women experience more overall stress and have higher levels of stress in a number of areas. In one study, female undergraduate students (more than half of them freshman) reported more stress due to social relationships compared to men (Brougham, Zail, Mendoza, & Miller, 2009).

Somatization. Somatic disorders are more common in women than in men (APA, 2000). According to a meta-analysis, women consistently report somatic complaints with more frequency and higher intensity than men (Barsky, Peekna, & Borus, 2001) regardless of whether the study uses population-based surveys (Unruh, 1996; Neitzert, Davis, & Kennedy, 1997) or whether the study includes gynecologic

symptoms (Kroenke & Price, 1993). This trend has also been found in more diverse college student populations. A study conducted at a college with a primarily African American student population showed that female college students indicated more psychosomatic problems such as irritation, headaches, and tiredness, compared to male college students (Hicks & Miller, 2006).

Summary and Statement of Problem

The DSM-IV-TR has reported gender differences in certain psychological disorders. Research has supported many of these findings but has also found some alternative results, especially in specific populations, such as college students.

The purpose of this study was to analyze BASC-SRP-COL data from a college student population to determine gender differences in each clinical and adaptive scale. Based on an extensive review of the literature on gender differences in college students, information obtained from the BASC-SRP-COL normative sample, and information from the DSM-IV-TR, the following hypotheses were made:

1. Alcohol Abuse disorders are more common in men than women (APA, 2000) and this trend is also evident in college students (Cranford et al., 2009; Greenfield et al., 2000; Johnston et al., 2007; Korcuska & Thombs, 2003; Randolph et al., 2009; and Weitzman, 2004). Additionally, college men earned significantly higher Alcohol Abuse scores compared to college women in the normative sample (Reynolds & Kamphaus, 2004). Thus, it was hypothesized that males would score higher than females in our the BASC-SRP-COL results.

2. Anxiety disorders are more common in women (APA, 2000) and females scored significantly higher than males on the Anxiety scale in the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). Many studies on gender differences in symptoms of anxiety, including a meta-analysis performed by Feingold (1994), support this finding. College women had higher levels of self-reported anxiety (ACHA, 2012; Parker & Harrison, 1995; Simpson & Feingold, 1994) and have reported more fear, worry, and nervousness (Robichaud et al., 2003; McCann et al., 1991), compared to college men. However there have been some studies that have failed to find significant gender differences in college student anxiety (Endler & Parker, 1990; Joiner & Blalock, 1995). Although there are some studies that have not found differences between male and female anxiety, the majority of the research supports this trend. Therefore, it was hypothesized that females would outscore males in our results.
3. Men have a higher prevalence of attention disorders but research in attention problems has produced inconsistent results. Some studies have found that men score higher on scales of inattention (Lee et al., 2008; McKee, 2008; Smith & Johnson, 1998), while others have found that college women are more inattentive (Fedele et al. 2012). Finally, some research has shown no gender differences in attention problems (Biederman et. al, 2005; DuPaul et. al, 2001), similar to the results from the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). It was hypothesized that no significant differences would be found in the current study.

4. While no research could be found in the area of college student self-reported Atypicality, the DSM-IV-TR (APA, 2000) indicates that males have a higher prevalence of schizophrenia. Recent research has supported that more males are diagnosed with schizophrenia than females (Aleman, et al., 2003; McGrath et al., 2008). Finally, male college students had significantly higher scores on the Atypicality scale on the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). Given these findings, it was hypothesized that our sample would favor higher scores for college males.
5. Depression is more common in women than in men (APA, 2000) but research in self-reported depression in college students has produced mixed results. There have been multiple studies supporting higher levels of depression in college females (ACHA, 2011; Boggiano & Barrett, 1991; Carmody, 2005; Dion & Giordano, 1990; Dixon & Kurpius, 2008; Field et. al, n.d.; Joiner & Blalock, 1995; Kim & Chun, 1993; McDermott, 1987; McLennan, 1992; Roberts & Sobhan, 1992), as well as many studies that have identified no gender differences in depression (Baron & Matsuyama, 1988; Dyson & Renk, 2006; Endler & Parker, 1990; Gladstone & Koenig, 1994; Lester & DeSimone, 1995; Nolen-Hoeksema, 1990; O’Heron & Orlofsky, 1990) including the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). Considering the inconsistent results and the fact that all of the other studies used measures other than the BASC-SRP-COL, it was hypothesized that our results would align with the normative study, in that we would find no significant gender differences on the depression scale in this sample.

6. While men are more likely to be diagnosed with ADHD – Hyperactive type (APA, 2000), the research on college student hyperactivity has been very inconsistent. The literature in this area has reported no significant gender differences (Biederman et. al, 2004; DuPaul et. al, 2001; Lee et. al, 2008) and higher self-reported hyperactivity in female college students (Fedele et. al, 2012). Additionally, gender differences in college hyperactivity were not reported in the BASC-SRP-COL normative sample results (Reynolds & Kamphaus, 2004). Therefore, it was hypothesized that no significant gender differences would be identified on the hyperactivity scale.
7. The literature on college student self-reported interpersonal relations suggests that females have stronger relationships with their peers (Swenson et al., 2008). Additionally, females scored significantly higher on this scale in the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). Thus, it was hypothesized that females would have higher scores compared to males in our college sample.
8. Research has shown inconsistency in whether there are gender differences in college student locus of control. While some studies have shown that college females have a higher external locus of control (Gifford et. al, 2006; Nunn, 1994), a meta-analysis has indicated no significant gender differences (Feingold, 1994), particularly when personality rating scales were utilized (Maccoby & Jacklin, 1974). Also, the BASC-SRP-COL normative sample found no significant gender differences in college student locus of control (Reynolds & Kamphaus, 2004). Considering all of these findings, it was

hypothesized that no significant differences would be found between male and female locus of control.

9. No research was found when searching for college student relations with parents. However, compared to college males, college females rated the perceived quality of attachment with their mothers higher and made significantly more nonneed-based contact with their parents (Sorokou & Weissbrod, 2005). The BASC-SRP-COL normative study also indicated that females scored significantly higher on the Relations with Parents scale (Reynolds & Kamphaus, 2004). Therefore, it was hypothesized that the results of this study would be consistent with these results.
10. While a couple of studies have found that males typically adjust better to the college environment compared to females (Cross et. al, 1992; Enochs, 2006), the BASC-SRP-COL sample did not find gender differences in school maladjustment. Thus, it was hypothesized that no significant gender differences would be determined on this scale.
11. Many studies have shown that men typically have higher levels of self-esteem than women overall (American Association of Women, 1991; Feingold, 1994; Hong et. al, 1993; Lawrence et. al, 2006; O'Brien, 1991) and in the college student population (Lawrence et. al, 2006). However, there is also research that has failed to find gender differences in self-esteem in college students (Foels & Tomcho, 2005; Hayes et. al, 1999; Josephs et. al, 1992; Zuckerman, 1980). In the BASC-SRP-COL normative sample, college males had higher self-esteem than college women (Reynolds & Kamphaus, 2004). It was

hypothesized that our sample would produce similar results to these, with men outscoring women in levels of self-esteem.

12. No research could be found that measured levels of self-reliance in men and women and no significant gender differences were identified in the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004). Although studies show that adolescent males have higher levels of autonomy compared to adolescent girls (Bekker & van Assen, 2008; Fleming, 2002), research concerning college-age autonomy gender differences was unavailable. Therefore, it was hypothesized that we would not find significant gender differences in self-reliance in our sample of college students.
13. The research in the area of sensation seeking has consistently shown that college males report higher levels than college females (Hirschberger et. al, 2002; Rosenblitt et. al, 2001; Zuckerman et al., 1978). The BASC-SRP-COL normative sample agreed with these findings (Reynolds & Kamphaus, 2004). Hence, it was hypothesized that males would have higher levels than females in our college sample.
14. A review of research for gender differences in college student reported sense of inadequacy produced no results. Additionally, there were no significant differences on this scale in a study of male and female adolescents who completed the BASC rating scale (Calhoun, 2001). Finally, the BASC-SRP-COL normative sample did not provide information about statistical significance in gender for this scale (Reynolds & Kamphaus, 2004).

Therefore, it was hypothesized that our sample would indicate no gender differences in college student sense of inadequacy.

15. Research in the area of social stress shows that women experience higher levels of stress related to social relations, compared to their male counterparts (Brougham et. al, 2002). However, since social stress, as measured in the BASC-SRP-COL normative sample, did not produce significant differences between genders (Reynolds & Kamphaus, 2004), it was hypothesized that there would be no gender differences in our sample.
16. Somatic disorders are more often diagnosed in women than men (APA, 2000) and females scored higher in the BASC-SRP-COL normative sample on the somatization scale (Reynolds & Kamphaus, 2004). Additionally, a wealth of research has found that women report more somatic complaints compared to men (Barsky et. al, 2001; Hicks & Miller, 2006; Kroenke & Price, 1993; Neitzert et. al, 1997; Unruh, 1996). Therefore, it was hypothesized that these results would show similar results, with college females scoring higher on the somatization scale compared to college males.

CHAPTER THREE: METHODS

Participants and Setting

The data that was used in this analysis was previously collected by faculty at Western Carolina University. The participants included 321 college students attending one of two institutions. One of the institutions was a small private college in Georgia and the other was a state university in North Carolina. Of the 321 students, 45.5% attended the private college in Georgia, 47.4% attended the university in North Carolina, and 7.2% did not indicate this information. Of the sample, 42.1% were male, 53.3% were female, and 4.7% were unidentified.

Participants ranged in age from 18 to 25 ($M = 19.14$, $SD = 1.12$). The majority of the sample was 19-year-old students (40.5%), 18-year-old students (27.7%), 20-year-old students (16.5%), 21-year-old students (5.9%), and 22-year-old students (1.9%). There were also several 23-year-old students, one 24-year-old student, and one 25-year old student. Since there was not a statistically significant difference [$t(299) = .058$, $p = .95$] between males and females with regard to age, the means and standard deviations for the full sample, rather than by gender, were examined. Additionally, there was not a statistically significant difference ($\chi^2 = 1.75$, $p = .78$) between the genders with regard to ethnicity. Thus, the data for different ethnic groups was not looked at separately. The majority of the sample was European American (89.5%) and the remainder was African American (3.6%), Native American (4.0%), and Other (3%).

Materials and Instrumentation

BASC-2 Self-Report of Personality College form (BASC-2 SRP-COL). The BASC-SRP-COL is a psychometrically sound instrument used to assess behaviors and emotions related to personality characteristics in college students. The following information pertaining to the reliability of the BASC-SRP-COL was found in the BASC-2 Manual (Reynolds & Kamphaus, 2004). According to the BASC-2 manual (Reynolds & Kamphaus, 2004), the BASC-2-COL has high internal consistency. For the norm sample of college students (ages 18-25), the Cronbach's alpha for the combined norm sample ($n = 706$), for the female sample ($n = 403$), and for the male sample ($n = 303$) was .83. For females, reliability estimates were high, with alphas ranging from .74 (on the Somatization scale and the Self-Reliance scale) to .92 (on the Alcohol Abuse scale). The male college student sample also had high reliabilities, with alphas ranging from .63 (on the Somatization scale) to .92 (on the Alcohol Abuse scale).

Test-retest reliability was obtained by having the respondents complete the BASC-SRP-COL a second time, between 13 and 66 days after the first administration. The college sample consisted of 59 students ($M = 30$, $F = 29$). The results indicated strong test-retest reliability, with scores generally in the upper 80's to lower 90's, ranging from .74 (on the Somatization scale) to .99 (on the Alcohol Abuse scale).

Procedures

Select undergraduate students from two universities were administered the BASC-SRP-COL. All identifying information was removed from the data before it was provided to the researcher for analysis. The researcher analyzed the data using the Predictive Analytics Software (PASW) program, Version 17.0, formerly called the Statistics Package for the Social Sciences (SPSS) software.

Analysis

A one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate gender differences on the BASC-SRP-COL rating scale. The independent variable was gender (male/female). Sixteen dependent variables were used: Alcohol Abuse, Anxiety, Attention Problems, Atypicality, Depression, Hyperactivity, Locus of Control, School Maladjustment, Sensation Seeking, Sense of Inadequacy, Social Stress, Somatization, Interpersonal Relations, Relations with Parents, Self-Esteem, and Self-Reliance. The data were analyzed using MANOVA instead of conducting a series of analysis of variance (ANOVA) to reduce the risk of committing Type 1 error, or finding a significant result when there is not one. Means, standard deviations, and statistically significant differences between gender and scale scores are reported for the clinical scales and the adaptive scales on the BASC-SRP-COL.

CHAPTER FOUR: RESULTS

Prior to performing a MANOVA, the assumptions for this statistical procedure were tested. The sample size, normality, outliers, linearity, and homogeneity of variance-covariance assumptions were all satisfied. Multicollinearity and singularity assumptions were tested by running correlations to check for dependent variables that may have been correlated too high or not at all. Results for preliminary assumption testing to rule-out multicollinearity and singularity are displayed in Table 1.

Table 1

Correlations Between Dependent Variables to Rule-Out Multicollinearity and Singularity for the MANOVA

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Atyp	--														
2 Loc	.505**	--													
3 Soc	.515**	.621**	--												
4 Anx	.379**	.571**	.636**	--											
5 Dep	.515**	.719**	.746**	.566**	--										
6 Inad	.458**	.689**	.620**	.511**	.710**	--									
7 Som	.291**	.420**	.404**	.476**	.362**	.346**	--								
8 Att	.418**	.519**	.447**	.428**	.506**	.594**	.352**	--							
9 Hyp	.395**	.344**	.403**	.383**	.339**	.390**	.356**	.563**	--						
10 Sens	.241**	.226**	.105	-.127*	.135*	.153**	.030	.193**	.306**	--					
11 Alco	.347**	.384**	.290**	.232**	.397**	.385**	.225**	.435**	.298**	.288**	--				
12 Par	-.208**	-.297**	-.310**	-.215**	-.325**	-.180**	-.208**	-.338**	-.165**	.068	-.259**	--			
13 Inter	-.402**	-.427**	-.692**	-.374**	-.606**	-.440**	-.239**	-.341**	-.244**	.063	-.295**	.421**	--		
14 Est	-.437**	-.593**	-.664**	-.606**	-.714**	-.653**	-.355**	-.467**	-.350**	.035	-.338**	.263**	.537**	--	
15 Rel	-.277**	-.359**	-.412**	-.314**	-.429**	-.444**	-.240**	-.460**	-.239**	.041	-.292**	.359**	.514**	.458**	--
16 Mal	.369**	.510	.462**	.353**	.585**	.585**	.250**	.475**	.227**	.159**	-.325**	-.263**	-.383**	-.488**	-.386**

Note. Atyp = Atypicality; Loc = Locus of Control; Soc = Social Stres; Anx = Anxiety; Dep = Depression; Inad = Sense of Inadequacy; Som = Somatization; Att = Attention Problems; Hyp = Hyperactivity; Sens = Sensation Seeking; Alco = Alcohol Abuse; Par = Relations with Parents; Inter = Interpersonal Relations; Est = Self-Esteem; Rel = Relations with Parents; Mal = School Maladjustment.

Note. ** p < .01 (2-tailed). * p < .05 (2-tailed).

A one-way MANOVA was conducted initially to determine whether gender differences existed with regard to the domains measured by the BASC-SRP-COL. The overall MANOVA [$F(16, 280) = 5.78, p < .001, \eta^2 = .25$] was statistically significant, suggesting that there were gender differences between males and females on this instrument. Univariate ANOVAs were used to examine the differences between males and females on individual scales. The results for each specific domain are discussed under separate headings based on hypotheses. See Table 2 for the full list of means and standard deviations for each scale by gender.

Table 2

Means and Standard Deviations for the BASC-SRP-COL

BASC-SRP-COL Scales	Males		Females	
	Mean	SD	Mean	SD
Alcohol Abuse	51.9	9.3	49.1	8.6
Anxiety	46.5	9.8	50.8	10.9
Attention Problems	50.5	9.1	50.1	9.3
Atypicality	51.3	10.5	49.4	9.8
Depression	48.4	9.2	48.4	8.8
Hyperactivity	49.4	10.4	49.3	10.4
Locus of Control	48.5	7.8	48.8	9.1
School Maladjustment	51.0	9.8	51.6	10.1
Sensation Seeking	52.3	9.1	46.8	9.4
Sense of Inadequacy	49.0	9.4	48.8	9.0
Social Stress	49.7	10.7	49.3	10.5
Somatization	47.7	7.5	52.0	10.9
Interpersonal Relations	49.6	9.9	51.5	8.5
Relations with Parents	50.9	9.6	51.4	10.2
Self Esteem	52.8	7.7	50.0	9.3
Self-Reliance	50.0	9.7	48.6	9.5

Results by Hypothesis

Alcohol Abuse. Univariate ANOVA results indicated that there was a statistically significant difference [$F(1, 295) = 7.39, p < .007, \eta^2 = .02$] between males and females on the alcohol abuse scale. An inspection of the mean scores indicated that males scored higher ($M = 51.9$) than females ($M = 49.1$).

Anxiety. Univariate ANOVA results indicated that there was a statistically significant gender difference [$F(1, 295) = 12.63, p < .001, \eta^2 = .04$] in self-reported anxiety. Specifically, females scored higher ($M = 50.8$) than males ($M = 46.5$).

Attention Problems. No statistically significant differences were found between genders on the attention problems scale [$F(1, 295) = 0.15, p < .698, \eta^2 = .001$]. Males ($M = 50.5$) and females ($M = 50.1$) obtained similar scores.

Atypicality. There were no statistically significant differences between males and females in Atypicality [$F(1, 295) = 2.55, p < .112, \eta^2 = .01$]. However, males scored slightly higher ($M = 51.3$) than females ($M = 49.4$).

Depression. On the depression scale, no statistically significant differences were found between males and females [$F(1, 295) = .001, p < .971, \eta^2 = .001$]. Both genders obtained the same mean score ($M = 48.4$) on this scale.

Hyperactivity. No statistically significant gender differences were found on the hyperactivity scale [$F(1, 295) = .001, p < .985, \eta^2 = .001$]. Both males and females obtained the same mean score ($M = 49.3$) in self-reported hyperactivity.

Interpersonal Relations. No statistically significant gender differences were found on the interpersonal relations scale [$F(1, 295) = 3.08, p < .081, \eta^2 = .01$]. Male scores ($M = 49.6$) were similar to female scores ($M = 51.4$).

Locus of Control. No statistically significant gender differences were found on the locus of control scale [$F(1, 295) = .05, p < .828, \eta^2 = .001$]. On this scale, male scores ($M = 48.5$) were similar to female scores (48.7).

Relations with Parents. No statistically significant gender differences were found on the hyperactivity scale [$F(1, 295) = .25, p < .617, \eta^2 = .001$]. Male scores ($M = 50.9$) were similar to female scores ($M = 51.4$) on this domain.

School Maladjustment. No statistically significant gender differences were found on the school maladjustment scale [$F(1, 295) = .24, p < .63, \eta^2 = .001$]. Similar scores were obtained by males ($M = 51.0$) and females ($M = 51.6$).

Self-Esteem. Univariate ANOVA results indicate that there was a statistically significant difference [$F(1, 295) = 7.30, p < .007, \eta^2 = .02$] between males and females in self-esteem. Males self-reported higher self-esteem ($M = 52.8$) compared to females ($M = 50.1$).

Self-Reliance. No statistically significant gender differences were found on the self-reliance scale [$F(1, 295) = 1.40, p < .237, \eta^2 = .01$]. Male scores ($M = 49.9$) were similar to female scores ($M = 48.6$) on this scale.

Sensation Seeking. Univariate ANOVA results indicated that there was a statistically significant difference [$F(1, 295) = 25.74, p < .001, \eta^2 = .08$] between genders in self-reported sensation seeking behaviors. Inspection of the means showed that males had higher sensation seeking scores ($M = 52.3$) than females ($M = 46.8$).

Sense of Inadequacy. No statistically significant gender differences were found on the sense of inadequacy scale [$F(1, 295) = .03, p < .873, \eta^2 = .001$]. Male scores ($M = 49.0$) were similar to female scores ($M = 48.8$).

Social Stress. No statistically significant gender differences were found on the social stress scale [$F(1, 295) = .09, p < .768, \eta^2 = .001$]. Scores were similar for males ($M = 49.7$) and females ($M = 49.3$).

Somatization. Univariate ANOVA results indicated that there was a statistically significant gender difference [$F(1, 295) = 14.78, p < .001, \eta^2 = .05$] on the somatization scale. Females scored significantly higher ($M = 52.0$) than males ($M = 47.7$) on this scale.

CHAPTER FIVE: DISCUSSION

Summary

The present study was designed to identify gender differences in college student self-reported behaviors, as measured on the BASC-SRP-COL. It was hypothesized that significant differences would be found on select scales, with males obtaining higher scores on the Alcohol Abuse scale, the Atypicality scale, the Self-Esteem scale, and the Sensation Seeking scale, and females scoring higher on the Anxiety scale, the Interpersonal Relations scale, the Relations with Parents scale, and the Somatization scale. It was also hypothesized that no significant gender differences would be found on the Attention Problems scale, the Depression scale, the Hyperactivity scale, the Locus of Control scale, the School Maladjustment scale, the Self-Reliance scale, the Sense of Inadequacy scale, and the Social Stress scale. Results indicated that significant differences between male and female college students were found on four of the clinical scales (Alcohol Abuse, Anxiety, Sensation Seeking, and Somatization) and one of the adaptive scales (Self-Esteem). As expected, male college students were more likely to report higher self-esteem and to indicate behaviors related to alcohol abuse and sensation seeking. It was also confirmed that female college students were more likely to report higher levels of anxiety and somatization. Finally, no significant differences were found on the remaining scales, confirming hypotheses about attention problems, depression, hyperactivity, locus of control, school maladjustment, self-reliance, sense of inadequacy, and social stress. Although significant differences between males and females were observed, all of the scale scores fell in the average range. Each hypothesis will be

addressed separately, noting similarities and differences between this study's results and previous research.

Alcohol abuse. Results from the current study suggest that college males are more likely to experience alcohol abuse problems, which is consistent with diagnostic prevalence estimates (APA, 2000), with the normative findings (Reynolds & Kamphaus, 2004), and with additional research (ACHA-NCHA II, Reference Group Executive Summary, 2012). These results lend support to former studies, suggesting that college males tend to engage in drinking behaviors to the point where daily functioning is impaired, more often than college females.

Anxiety. As expected, this study found that college women have a higher chance of experiencing anxiety compared to males. These results align with the DSM-IV-TR (2000), with the BASC-SRP-COL normative findings, and with other studies (ACHA, 2012; Feingold, 1994; Simpson, Parker, & Harrison, 1995; Robichaud, et al., 2003; McCann et al., 1991).

Attention problems. Even though men are more often diagnosed with attention disorders (APA, 2000), research on whether gender differences exist in college student inattention has been inconclusive (Fedele et al., 2012; Lee et al., 2008; McKee, 2008; Smith & Johnson, 1998). This study failed to find significant differences between genders regarding attention problems, supporting the results found in the normative population (Reynolds & Kamphaus, 2004), and in additional studies (Biederman et al., 2005; DuPaul et al., 2001).

Atypicality. Results obtained on this scale were unexpected, as no significant differences between male and female college students were identified. However, since

there was a lack of research available that used self-reported atypicality, this hypothesis was largely based on gender differences in schizophrenia. Our results do not align with research on schizophrenia (APA, 2004; Aleman et al., 2003; McGrath et al., 2008) or with the normative sample results (Reynolds & Kamphaus, 2004). Although college males obtained higher scores than college females in our results, the difference was not considered significant.

Depression. As expected, no significant differences between male and female college students were found on the Depression scale. Although the current results are consistent with many studies (Baron & Matsuyama, 1988; Dyson & Renk, 2006; Endler & Parker, 1990; Gladstone & Koenig, 1994; Lester & DeSimone, 1995; Nolen-Hoeksema, 1990; O’Heron & Orlofsky, 1990), including the normative sample findings (Reynolds & Kamphaus, 2004), they do not reflect the fact that women are more often diagnosed with depression (APA, 2000). One possible explanation for this discrepancy is that the BASC-SRP-COL may not be measuring diagnostic criteria required for depression. For example, the ACHA research project (2011) used self-reports of being diagnosed with or treated for depression. It may be that some of the other studies that found significant gender differences in depression favoring females may have used alternative assessment instruments, such as DSM-IV-TR checklists.

Hyperactivity. These results are consistent with those found in the literature (Biederman et al., 2004; DuPaul et al., 2001; Lee et al., 2008) and with the those from the BASC-SRP-COL normative sample (Reynolds & Kamphaus, 2004), in that no significant gender differences between male and female college students were identified, regarding hyperactivity.

Interpersonal relations. No significant differences were found between male and female college student on this scale. This contradicts findings obtained by Swenson, Nordstrom, and Hiester (2008) which found females significantly higher than males on interpersonal relations. Although the current study found that females earned higher scores than males on the interpersonal relations scale, the difference was not significant. One possible explanation for these results is that the Interpersonal Relations scale on the BASC-SRP-COL may not be measuring the same elements as the former study. Specifically, the previous study found that female college students were more likely to report close peer relationships. The BASC-SRP-COL may be assessing all interpersonal relationships and not only those with peers. However, this would not explain why the BASC-SRP-COL normative study also found gender differences favoring college females (APA, 2000).

Locus of control. This study's results are consistent with research supporting no significant gender differences in locus of control (Feingold, 1994) especially when data comes from personality scales, such as the BASC-SRP-COL (Maccoby & Jacklin, 1974).

Relations with parents. Although research suggests that females have a higher perceived quality of attachment with their parents and engage in more nonneed-based contact than their male counterparts (Sorokou & Weissbrod, 2005), no significant differences were found on the Relations with Parents scale for our sample. While college females had higher scores than college males, the difference was not considered significant. A possible explanation for this finding is that the BASC-SRP-COL scale may not be measuring perceived quality of attachment with parents. While need-based

contact and ease of communication represent part of what this scale measures, it also assesses the tendency to perceive parents as trusting and proud entities.

School maladjustment. Consistent with the BASC-SRP-COL normative study findings (Reynolds & Kamphaus, 2004), male and female college students did not significantly vary in how well they adjusted to the novel demands of college. However, these results were incongruent with other studies, which found that males adjust better during this transition (Cross et al., 1992; Enochs, 2006). This may be due to differences between the BASC-SRP-COL and how school maladjustment was measured on the other scales.

Self-esteem. It was not surprising that males had significantly higher scores on the Self-Esteem scale in our study. Similar findings were indicated in the BASC-SRP-COL normative study (Reynolds & Kamphaus, 2004) and in additional studies (American Association of Women, 1991; Feingold, 1994; Hong et al., 1993; Lawrence et al., 2006; O'Brien, 1991).

Self-reliance. Given the lack of research on gender differences in self-reliance and the minimal research on similar constructs (especially related to college students), it was predicted that males and females would not significantly vary in levels of self-reliance. Our results were consistent with the findings of the BASC-SRP-COL normative group (Reynolds & Kamphaus, 2004).

Sensation seeking. The current study's results agree with the numerous studies that have found men to engage in more sensation seeking behaviors than females (Hirschberger et al., 2002; Rosenblitt et al., 2001; Zuckerman et al., 1978) including the BASC-SRP-COL normative results (Reynolds & Kamphaus, 2004).

Sense of inadequacy. As expected, no significant differences were found on the Sense of Inadequacy scale in this study. This is consistent with the BASC-SRP-COL normative study (Reynolds & Kamphaus, 2004) and with a study that utilized the BASC adolescent scale (Calhoun, 2001).

Social stress. It was not surprising that significant differences were not identified on the Social Stress scale. This replicates the results found when the BASC-SRP-COL was normed (Reynolds & Kamphaus, 2004).

Somatization. Since women have a higher likelihood of being diagnosed with a somatic disorder (APA, 2000) and they experience more somatic symptoms (Barsky et al., 2001; Hicks & Miller, 2006; Kroenke & Price, 1993; Neitzert et al., 1997; Unruh, 1996), we anticipated similar results. As predicted, college females scored significantly higher on the Somatization scale.

Strengths and Limitations of the Current Study

This study had many strengths including contributing to the vast amount of research on college student mental health. The results may be applicable to students from this specific geographic region. Our study used a large sample size (n=321), which provides more accurate data and enables the researcher to compare different groups (e.g. males and females). Also, the sample included students from a state university and from a private religious college.

There were also several observed limitations in this study, including limited variability in scores, in part due to convenience sampling effects. Specifically, the participants in this study included only individuals who were currently attending one of two institutions at the time. Also, most of the sample was identified as European

American. Although significant gender differences were identified on the BASC-SRP-COL scales, all of the mean scale scores fell in the average range. If a clinical sample had been used, score discrepancies between genders may have been larger and more score variability may have been observed.

Directions for Future Research

The results of this study and consideration of the limitations suggest a number of opportunities for future research. Results may have more variability and produce more pronounced discrepancies if data was also collected at several other universities in different geographic regions of the United States. To enhance generalizability, the sample should include students of various ethnicities and age ranges. Although the BASC-SRP-COL is designed to be used with college students, it may be interesting to collect data from individuals between the ages of 18 to 25 who are not currently attending college. Finally, it may be helpful to survey individuals to see if they had been previously diagnosed with a psychological disorder. One could then compare data collected from each subset of individuals to determine if the scores varied. It is likely that the participants with psychological disorders would score higher on scales measuring maladjustment and lower on scores assessing adjustment. Scores would likely have more variability if individuals from clinical populations were included because they may be experiencing the problem behaviors measured on the BASC-SRP-COL. One would expect certain scores to be elevated, based on disorder.

Recommendations for College Prevention Programs

The current study found that male college students may be more at-risk for abusing alcohol and engaging in risky or dangerous activities. Additionally, college

females are more likely to experience difficulties related to anxiety and somatization. This is consistent with diagnostic prevalence rates in both the adult population and in college student samples, and reflects information obtained from the BASC-SRP-COL normative sample. Research continues to suggest gender differences in these specific aspects of college student mental health, which elicits further investigation into how colleges can combat these trends. It may be beneficial for counseling centers and student affairs to consider gender-specific programs that address these concerns. For example, alcohol abuse prevention programs which target male college students, their tendency to engage in more risk-taking behaviors, and their high self-esteem (which may cause them to minimize potential consequences of dangerous activities), may help reduce the frequency or intensity of drinking behaviors. Such programs may aim to educate college males about the harmful effects of alcohol abuse and may offer guidance on how to avoid these outcomes. Similarly, female college students may benefit from programs designed to address internalizing problems, such as anxiety and stress. For example, counseling centers could offer female-only groups to teach stress management, relaxation techniques, and adaptive coping strategies. Also, campus health centers could increase female college students' awareness of the relationship between anxiety and somatic symptoms. This information may be presented during initial health center visits or may be made publicly in brochures. These are only a few ideas for gender-specific prevention initiatives. The research continues to suggest that male and female college students experience different mental health concerns, especially related to alcohol abuse, sensation seeking, high self-esteem, anxiety, and somatization. Therefore, it is only appropriate that prevention programs should be designed to target different genders.

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