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The big five inventory, substance abuse history, and academic success among students majoring in substance abuse counseling

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THE BIG FIVE INVENTORY, SUBSTANCE ABUSE HISTORY, AND ACADEMIC

SUCCESS AMONG STUDENTS MAJORING IN SUBSTANCE ABUSE COUNSELING

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THE BIG FIVE INVENTORY, SUBSTANCE ABUSE HISTORY, AND ACADEMIC

SUCCESS AMONG STUDENTS MAJORING IN SUBSTANCE ABUSE COUNSELING

A DISSERTATION

Presented to the Faculty of the Graduate School of

St. Mary's University in Partial Fulfillment

of the Requirements for the Degree of

DOCTOR OF PHILOSPHY

in

Counselor Education and Supervision

by

Christi D. Myers

San Antonio, Texas

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Abstract

Students pursuing careers in substance abuse counseling may have higher rates of substance abuse histories than the general student body Previous research has shown that substance abuse is negatively correlated with Conscientiousness, yet academic success is positively correlated with Conscientiousness. This may put them at risk for academic difficulties. There is no previous research that has investigated the links between personality traits, substance abuse history, and academic success. This study investigated the correlations between personality, substance abuse history, and academic success with 103 participants from an addiction counseling program at a community college in South Texas. The Big Five Inventory (BFI) was used to assess Conscientiousness, Extraversion, Neuroticism, Openness, and Agreeableness. Academic success was measured using self-reported GPA. Questions pertaining to substance abuse history were included. Results indicated that the obtained means of the variables for Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism were extreme. Practical implications of the findings and directions for future research are discussed.

Keywords: Big Five Inventory, personality traits, substance abuse, academic success

Chapter I

The Problem and Justification of the Study

Determining a student's potential is a serious endeavor in higher education. In the past 30 years, a large body of research has consistently demonstrated the validity of the Five Factor Model (FFM) in predicting job performance and academic success (Poropat, 2015; Trapmann, 2007). Research has shown that the FFM, commonly referred to as the Big Five, can further predict academic criteria such as GPA and absenteeism among students (Paunonen & Nicol, 2001). The personality traits of the Big Five have been linked to prevalence rates of substance abuse, the likelihood of engaging in substance use in the future, as well as a predictor for which substance an individual might choose (Hakulinen, 2015, Kotov, Gamez & Watson, 2010). Empirical support for the Big Five model as a theoretical framework is currently the most popular approach among psychologists for the study of personality in different populations and environmental settings (McCrae & Costa, 1994; Digman, 1997). This study's main purpose was to examine the Big Five personality traits and academic success among substance abuse counseling students with a history of substance abuse.

The Big Five dimensions of personality were derived from factor analyses of a large number of self- and peer reports on personality-relevant adjectives and questionnaire items. The Big Five personality factors are: 1) Conscientiousness—disposition toward purposeful, determined, and goal-directed behavior, 2) Neuroticism—level of emotional stability versus emotional instability, 3) Extraversion—tendency to be assertive, sociable, and energetic, 4) Openness—disposition to be curious, open to new situations, and imaginative, 5) Agreeableness—disposition to be cooperative and supportive (Sutin, McCrae & Costa, 2011). These factors are dimensions, not types, as the general population will vary on the continuum

with the majority falling between the extremes. The factors have been shown to be stable over a 45-year period beginning in young adulthood (Costa & McCrae, 1997).

Organizational researchers and psychologists have focused research on personality traits as predictors for academic and occupational achievement. Utilizing the Big Five Model indicates that individuals scoring high in Conscientiousness earn higher academic grade-point averages (GPAs) in college (Komarraju, Karau, & Schmeck, 2009; Noftle & Robins, 2007; Paunonen, 2003). Also, Conscientiousness is a more accurate predictor of academic achievement when compared to academic motivation, IQ, and SAT scores (Duckworth & Seligman, 2005; Noftle & Robins, 2007; Komarraju, Karau, & Schmeck, 2009). Conscientiousness, beyond K-12 education, has emerged as a general predictor of job performance across a wide range of occupations (Barrick & Mount, 2015; Mount, Barrick & Stewart, 1998).

The Big Five personality traits also predict the likelihood of one engaging in substance abuse. This includes predicting the frequency of drug consumption as well as an individual's propensity to choose a particular substance over another (Dubey et al., 2010). Since conscientious individuals tend to follow societal norms and rules, research indicates that these individuals high in Conscientiousness are less likely to use drugs. Research on the Big Five and substance use found that low Conscientiousness is associated with a higher incidence of use across various classes of drugs including: cigarette smoking, non-medical use of prescription drugs, use of illicit drugs (including marijuana, cocaine, hallucinogens/lysergic acid diethylamide) alcohol consumption and opioid dependency (Mason et al., 2013). Interestingly, high levels of Conscientiousness play an important self-regulatory role and are associated with discipline and persistence, thus giving the individual the power to delay gratification in order to focus on and obtain future oriented goals.

Statement of the Problem

Though the Big Five Model has been able to correlate personality traits with academic success and personality traits with substance abuse, there is a lack of understanding regarding academic success with students who have a history of substance abuse. Research indicates that Conscientiousness is the principle component in academic success: The higher the level of Conscientiousness, the higher the likelihood the student will excel in and complete a degree in higher education, yet individuals struggling with substance abuse issues consistently score low on the Conscientiousness trait. As Conscientiousness measures the level of control, motivation, and organization that one exhibits, a closer look into the personality traits of students studying Substance Abuse Counseling is paramount. This understanding will further ensure the success of the student, the academic rigor of the counselor training program, as well as competency in the field of mental health and substance abuse counseling.

Research Questions

The following research questions were used to shape the current study:

Research Question 1: How do the Big 5 personality traits relate to a history of substance abuse?

Research Question 2: How do the Big 5 personality traits relate to academic success (GPA)?

Research Question 3: What are the relationships between personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students on academic success among students who are majoring in Addictions Counseling?

Rationale

The purpose of this study is to contribute to the advancement and understanding how the personality of students with a history of substance abuse correlate to academic success among substance abuse counselors and counselor educators. This study is designed to inform counselor educators and the substance abuse counseling community to reflect, consider, and develop programs to better support the development of learning outcomes in students pursuing a career in substance abuse counseling.

Limitations

A self-reporting data collection procedure was utilized in this study. Accordingly, the participants' responses to questionnaires might be biased. As Creswell (2015) concluded, self-report instruments might limit a study's validity due to relying on the assumptions that participants will answer questions honestly, have the ability to introspectively assess themselves, understand and interpret the questions that are being asked, and interpret the rating scales that assess the "level" in which they feel or do not feel. The utilized measurements, the Big Five Inventory (BFI) and self-reported GPA, will rely heavily on the participants' honest response.

Definition of Terms

In this section, conceptual and operational definitions are presented. The definitions of terms are as follows:

Personality: Individual differences in characteristic patterns of thinking, feeling, and behaving (American Psychological Association, 2019).

Conscientiousness: Conscientiousness relates to the control of impulses. Individuals scoring high on Conscientiousness tend to be well organized, task focused, and achievement oriented. It is a measure of purposefulness, strong will, and determination. As a result,

individuals scoring high in this category tend to excel academically and professionally.

Neuroticism: Neuroticism is marked by emotional instability. Individuals scoring high in Neuroticism have a tendency to experience more negative feelings, such as, fear, sadness, embarrassment, anger, and guilt. High scorers on Neuroticism are also less adaptive to stress and less able to manage their impulses (Costa & McCrae, 1996).

Extraversion: Extraversion is a measure of sociability. Individuals high in Extraversion are people oriented, prefer social gatherings, active, and talkative. On the other end of the spectrum, individuals low in Extraversion are reserved, independent, and controlled (Costa & McCrae, 1996).

Openness to Experience: a measure of active imagination, aesthetic sensitivity, attentiveness to inner feelings, a preference for variety, intellectual curiosity, and independent judgment. Individuals who score high on openness are curious, unconventional, and open to new ideas and experiences. Openness to Experience is highly correlated with intelligence and creativity (Costa & McCrae, 1996).

Agreeableness: Like Extraversion, Agreeableness has a dimension of interpersonal tendencies. It is a measure of altruism, sympathy for others, and eagerness to help (Costa & McCrae, 1996).

Substance Abuse: overindulgence in or dependence on an addictive substance, such as alcohol or drugs.

Academic Achievement: The self-reported Grade Point Average (GPA) of participants was used to measure academic achievement.

Organization of Remaining Chapters

Chapter I briefly described the purpose of the study, research questions, basic characteristics of the Big Five Inventory in relation to academic success and substance abuse, provided a statement of the problem, and briefly discussed the significance of the study. Chapter II presents an extensive review of the literature and describes personality traits commonly found in students with high academic achievement as well as the personality traits found in individuals susceptible to substance abuse. Chapter III describes the research methodology, including the rationale for utilizing a quantitative design, participant recruitment, data collection via online survey, and data analysis procedures. Chapter IV details the results of this quantitative study providing statistical analysis. Chapter V discusses the summary, implications and, recommendation for future research.

Chapter II

Literature Review

Personality traits, which can be described as differences between individuals regarding their behavior, thoughts, and feelings, can be seen as relatively stable in different situations and over time (McCrae & Costa, 2003; Specht, Egloff and Schmukle, 2011)). These traits are important predictors of numerous personal, interpersonal, and social outcomes (Booth-Kewley & Vickers, 1994; Soldz & Vaillant, 1999). The Big Five personality traits have been correlated with happiness, physical and psychological wellbeing, longevity, occupational choices, and academic success (Bouchard & McGue: 2002; Ozer & Benet-Martinez, 2006).

This literature review begins with a short overview of personality, trait theory and personality constructs embedded in the Five Factor Model. The literature review will then examine The Big Five personality measures, the Big Five, and how these measures correlate with academic achievement and substance abuse. The literature review will conclude with a more through overview of the Big Five Factors with characteristics associated with each trait. A gap appears in the research literature with regards to academic achievement and students with a history of substance abuse. Therefore, exploring the Big Five constructs, academic achievement, and substance abuse could provide an understanding of the influence of personality traits on students pursuing a degree in substance abuse counseling with a history of substance abuse.

Personality

Gordon Allport defined personality as, "a dynamic organization within the individual of those psychophysical systems that determine his characteristics behavior and thoughts" (Allport, 1967). The theory has evolved little over the years. Revelle & Wilt (2013) added that personality is "the coherent pattern of affect, cognition, and desires (goals) as they lead to behavior." The

American Psychological Association (APA, 2019) refers to personality as "individual differences in characteristic patterns of thinking, feeling, and behaving."

There are many meta-theories of personality development. These include trait, needs and motives, inherited qualities, biological processes, psychosexual, psychosocial, cognitive, learning, self-actualization, and self-regulation (Carver & Scheier, 2014). If one considers the broad range of personality theories, one can extrapolate that personality should impact many facets of life including academic success, procrastination, risky health behaviors, and substance abuse.

The Big Five

The Five Factor Model (FFM) is a set of five broad trait dimensions, simply referred to as the "Big Five": Conscientiousness, Neuroticism (also referred to as the inverse, Emotional Stability), Extraversion, Openness to Experience, and Agreeableness. The Big Five are categorized as independent dimensions with individual scores varying on the continuum. There are six facets, highly correlated trait adjectives, which further define each trait and illustrate the link with lexical research found in the five-factor model (Jain, 2014; John & Srivastava, 1999). The Big Five dimensions and correlating facets are described in greater detail below. Furthermore, all personality dimensions are capitalized throughout this manuscript based on the convention used by researchers applying the Five Factor Model.

Conscientiousness. Facets include competence, order, dutifulness, achievement striving, self-discipline, and deliberation. Conscientiousness is one of the Big Five traits that characterize people as thorough and careful. These individuals are often viewed as efficient and organized (Costa & McCrae, 1996). Individuals who score low on conscientiousness tend to be disorderly less motivated and engage in impulsive behavior.

Neuroticism. Facets include anxiety, anger, depression, self-consciousness, immoderation, and vulnerability. Neuroticism is one of the Big Five traits that characterize people as moody, fearful, worrisome, jealous, lonely, and envious. It is also characterized by experiencing more negative than positive emotions (Costa & McCrae, 1996). Those who score low on neuroticism tend to be characterized by confidence, comfortability, and are less reactive to their emotions.

Extraversion. Facets include gregariousness, assertiveness, activity, excitement seeking, positive emotions, and warmth. Extraversion is one of the Big Five traits that characterize people as outgoing, talkative, sensation seeking and enjoying human interaction (Costa & McCrae, 1996). Those scoring low on Extraversion tend to be less outgoing and prefer working alone.

Openness to Experience. Facets include fantasy, aesthetics, feelings, actions, ideas and values. Openness to Experience is one of the Big Five traits that characterize people as being open to other's suggestions, willing to accept others and their opinions, and having an active imagination. These individuals are generally more aware of their own feelings, preferring variety in life, and demonstrate curiosity (Costa & McCrae, 1996). Those who score low on Openness to Experience tend to guard against new experiences, are traditional and conventional in their behavior and outlook on life, prefer normal routines rather than change, and have a narrow range of interests.

Agreeableness. Facets include trust, straightforwardness, altruism, compliance, modesty, and sympathy. Agreeableness is one of the Big Five traits that is characterized by warmth, consideration, and a cooperative attitude. High scorers on this trait often have an optimistic view of human nature and get along well with others (Costa & McCrae, 1996). Those scoring low on Agreeableness are less concerned about the welfare of others and typically have less empathy.

Low scorers are also often characterized by having pessimistic views, being suspicious, and are more often competitive rather than cooperative.

Big Five Personality Measures

There are numerous measures used to assess trait personality. A recent meta-analysis examined the criterion-related validity of several Big Five personality measures that have been widely used to predict academic success (defined as GPA) (McAbee & Oswald, 2014). The top three most commonly used personality measures to predict academic achievement are the NEO Personality Inventory, The International Personality Pool, and the Big Five Inventory are discussed below.

The NEO Personality Inventory. The NEO Personality Inventory-Revised (NEO-PI-R), developed by Costa & McCrae (1985), is a 240-item measure of the Big Five personality traits consisting of 48 items per trait. Pace and Brannick (2010) provided meta-analytic reliability estimates for the NEO-PI-R scales of Openness to Experience (.85), Conscientiousness, (.91), Extraversion (.86), Agreeableness (.86) and, Neuroticism (.90).

The NEO Five-Factor Inventory (NEO-FFI), also developed by McCrae & Costa (2004) is a shortened 60-item version with 12 items for each Big Five trait. The shortened version was created to measure higher order factors of the Big Five without assessing underlying facets. Pace and Brannick (2010) provided reliability estimates for the NEO-FFI scales of Openness to Experience (.75), Conscientiousness, (.81), Extraversion (.79), Agreeableness (.74) and, Neuroticism (.80).

The International Personality Item Pool (IPIP). The IPIP is a collaborative public effort designed to advance personality research in a multinational context using an online forum (Goldberg et al., 2006). The IPIP scales include 100-item and 50-item measures of the Big Five.

However, items for the first factor reflect Intellect rather than Openness to Experience (Thalmayer & Saucier, 2011). The Agreeableness factor also differs from the NEO-FFI and the Big Five Inventory (BFI) as it places emphasis on "empathy and interest in others and a lack of items referring to quarrelsomeness" (Thalmayer & Saucier, 2011). Reliability estimates for the combined IPIP scales are Intellect (.79), Conscientiousness, (.82), Extraversion (.82), Agreeableness (.79) and Neuroticism (.80) (Pace and Brannick, 2010).

The Big Five Inventory (BFI). The BFI was developed as a brief noncommercial measure of the Big Five (John et al., 2008). The BFI is a 44-item measure consisting of eight to ten items per trait. The BFI was developed to reflect the dimensions of the Big Five identified by Costa and McCrae (1992). Internal consistency reliability estimates for the BFI scales are Openness to Experience (.83), Conscientiousness, (.82), Extraversion (.86), Agreeableness (.79) and Neuroticism (.87) (John et al., 2008; 2001).

The researcher chose to utilize the BFI measure in this study due to the following reasons: the high internal consistency reliability estimates of the BFI scale, the comparativeness of trait domains, operational definitions, and content of items align closely with the NEO, the accessibility of the measure for noncommercial research purposes, as well as the brevity of the instrument.

Academic Achievement and the Big Five

Empirical support has been shown for the Five Factor model (FFM) as a theoretical framework for the study of personality in different settings and populations (Terracciano et al., 2006; Costa & McCrae, 2006, 1997). Researchers have also shown that personality measures predict academic criteria such as GPA and absenteeism (Paunonen & Nicol, 2001). Literature suggests that of the Big Five, Conscientiousness is more highly correlated with GPA and exam

performance than IQ or SAT scores (Duckworth et al., 2007). In addition to Conscientiousness, Openness to Experience and Agreeableness have been positively related to academic achievement while Neuroticism can be negatively correlated with academic performance. Chamorro-Noftle and Robins (2007) report that Conscientiousness is the strongest predictor of academic achievement, and the other four traits have a weak or mixed relationship with GPA. The following paragraphs will link current research to each Big Five dimension.

Conscientiousness and academic achievement. Most recently, researchers have noted that Conscientiousness goes beyond IQ in explaining academic success as an individual's self-discipline can account for significant variation in GPA beyond that explained by intelligence (Ridgell & Lounsbury, 2004; Lounsbury et al., 2003). Traits representing organization and thoroughness, as well as academic discipline and commitment to college, are significant predictors of GPAs and remaining in school (Martin, Montgomery & Saphian, 2006; Robbins, Allen, Casillas, Peterson, & Le, 2006; Mills & Blankstein, 2000;). In addition to Conscientiousness, academic performance is also higher among sociable (Furnham & Medhurst, 1995) and emotionally stable (Entwistle & Entwistle, 1970) individuals. A recent meta-analysis showed that academic dutifulness and achievement striving, facets found in the Conscientiousness dimension, were the best predictors of a high GPA (Robbins et al., 2006; Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004). Thus, after controlling for ability, facets found in the Conscientiousness dimension clearly do contribute to academic success.

A study conducted by Hakini et al., (2011) confirmed the hypothesis of the study and is consistent with many other researchers demonstrating that Conscientiousness is the most reliable predictor of academic achievement. A population size of 1,050 (703 female and 347 male) junior and senior students in the Behavioral Sciences at Tehran University were administered the NEO-

FFI. Using a correlational design with regression analysis, Conscientiousness was found to be the highest predictor variable with Neuroticism and Extraversion having a significant negative correlation to academic achievement. Analysis of gender differences in personality traits was insignificant among participants.

Peterson, Casillas and Robbins (2006) administered the BFI to 468 college students from five institutions, three 2-year (38.1%) and two 4-year institutions (61.9%). Participant's age ranged from 17-65 with a mean of 21.2 years with 73.3% female and 83.8% Caucasian. Conscientiousness had the strongest correlation to GPA and Extraversion and Neuroticism were moderately correlated. These results are consistent with existing theoretical and empirical literature, though a limitation of the study is the high proportion of women and low proportion of minorities. Findings could be more generalizable with a more representative sample.

A meta-analysis conducted by Trapmann et al., (2007), which included a total of 258 correlational coefficients from 58 studies published since 1980, also concluded that Conscientiousness is highly correlated with academic success. GPA, retention, and satisfaction served as academic success criteria. The other four personality traits (Openness to Experience, Extraversion, Agreeableness, and Neuroticism) seem to have no significant impact on academic success.

In conclusion, studies overwhelmingly demonstrate that Conscientiousness is the most important predictor of academic achievement. Therefore, institutionalizing this trait during the initial stages of education could have a substantial impact. This will aid in more flexibility while developing educational curriculums that take into account personality traits and individual differences of the students.

Neuroticism and academic achievement. It is widely believed that stress can affect a student's exam performance, which can negatively impact their GPA. This is much more prevalent in higher education settings where exam performance can account for the majority of the grade. Furnham and Chamorro-Premuzic (2006) found students who score high in trait Neuroticism tend to suffer from higher incidences of anxiety, which impedes their overall academic performance. Neuroticism has also been linked to higher incidences of illness and absenteeism from class. Moreover, anxiety related symptoms, such as increased heart rate and muscular tension combined with a negative self-concept will also decrease academic success (Rosander, Bäckström and Stenberg, 2011).

Some studies have reported a weak correlation between Neuroticism and academic achievement. A study of 308 undergraduate students found that those who were motivated by high academic achievement did feel some level of achievement anxiety in order to motivate them to study more (Komarraju et al., 2011). Avdic and Komarraju,(2010) previously suggested that some level of achievement anxiety and perfectionism might aid students in adequately preparing and will in turn increase academic performance.

Extraversion and academic achievement. Extraversion has an interesting relationship with academic achievement. Conflicting results have been found as Chamorro & Furnham (2003) note a positive relationship between these two variables, but Melissa, Sampo & Panonon (2007) found the reverse. Interestingly, Whitmore et al., (2014) found that levels of Extraversion are related to educational stages. Higher levels of Extraversion related to high academic achievement in elementary school students under the age of 11, but higher levels of Extraversion correlate with low academic achievement in higher education. This result could reflect the transition from a more interactional and informal classroom setting in elementary school to a

more academic oriented and knowledge-based environment found in college settings (Rosander, Bäckström and Stenberg, 2011). Further negative relationships have been found between Extraversion and academic achievement. Furnham, Zhang, & Chamorro (2006) found that students high in Extraversion were more likely to spend time socializing and on extra-curricular activities rather than time dedicated to their studies.

  Openness to Experience and academic achievement. Several studies have demonstrated that Openness to Experience is highly correlated with IQ but has a weak correlation with academic achievement. Associations between academic performance and Openness to Experience appear to be moderated by a number of factors, including academic level and age. High levels of Openness to Experience become less correlated to academic performance in higher education and the relationship between Openness to Experience and academic performance decrease with age (Poropat, 2009, 2015). Additionally, Openness to Experience does not appear to contribute to education above and beyond intelligence (von Stumm and Furnham, 2012; Furnham, Monsen, &Ahmetoglu, 2009).

  Agreeableness and academic achievement. Students scoring high in Agreeableness tend to be cooperative, supportive, are good team players, and take direction well. Duckworth and Seligman (2017, 2005) and Lounsbury et al. (2003) found that students who were high in Agreeableness consequently had higher academic achievement.

Substance Abuse and the Big Five

  Substance abuse disorders, with a lifetime prevalence of 35%, are the most predominant mental and emotional disorders and have been the primary focus of many personality psychopathology studies (Kessler et al., 2012). A recent meta-analysis found that three classes of mental disorders are especially common in the general adult population: depressive disorders

(lifetime prevalence of approximately 17%), anxiety disorders (roughly 29%), and substance use disorders (35%) (Kessler et al., 2012).

Individuals with combinations of high Extraversion and/or high Neuroticism with low Conscientiousness have a higher propensity to engage in a variety of risky health behaviors. Studies conducted by Vollrath and Torgersen (2000, 2008) have demonstrated the differences across different personality types and the risky health behaviors they take part in, including substance abuse. The 606 participants from a university in Norway were administered the NEO-Five Factor Inventory to access personality typology. Sex differences and risky health behaviors including smoking, alcohol consumption, drug consumption, and risky sexual behavior were also measured. Results yielded that individuals scoring high on Extraversion and low on Conscientiousness were overrepresented among daily smokers, binge drinkers, consumers of illicit drugs, and engaged in unsafe sexual practices more often than their counterparts (Vollrath & Torgersen, 2008).

Participants who are high in Neuroticism, low in Conscientiousness, and low in Extraversion were also prone to risky health behaviors but were restricted to smoking and illicit drug use; this did not include drinking to excess or unsafe sex. Interestingly, combinations of high Extraversion and/or high Neuroticism with high Conscientiousness were not predisposed to risky health behaviors. This suggests that high Conscientiousness dilutes the propensity of negative behaviors in high Extraversion and high Neuroticism (Vollrath & Torgersen, 2008).

Other studies have yielded similar results. Conscientiousness regulates the effects of both Extraversion and Neuroticism (Watson & Clark, 1997). Types high in Extraversion have a propensity to seek rewards, such as the consumption of psychoactive drugs and binge drinking (Terracciano et al., 2008). If Conscientiousness is low, the extraverted person will lack the

constraint to exercise better judgment. Types high in Neuroticism are motivated to avoid punishment and would engage in risky behaviors such as smoking and drug consumption as a means to regulate tension and handle stress (Terracciano et al., 2008; Vollrath & Torgeson, 2008, 2000).

As Consciousness is a tendency to show self-discipline, act dutifully, and aim for achievement, a study conducted by Dubey et al. (2010), demonstrated that nonsubstance abusers scored higher on the Conscientiousness scale as compared to substance abusers. The study further concluded that substance abusers had a lower opinion of their abilities and often felt unprepared to follow through with commitments. As participants with substance abuse issues questioned their ability to succeed, they were less driven, reported a lack of ambition, experienced aimlessness, had low self-discipline, and had poor self-control. Individuals experiencing substance abuse also had greater rates of disorganization and were viewed as unreliable when compared to their non-substance abusing peers (Dubey et al., 2010).

Results from a 2008 study further support the connection between drug use and low Conscientiousness. Terracciano et al., 2008, surveyed 1,102 participants using the NEO-Five Factor Inventory to assess which personality traits are considered risk factors for drug use. Low Conscientiousness and High Neuroticism was more conducive of nicotine, cocaine, and heroin use. By contrast, marijuana users scored high on Openness to Experience but low on Agreeableness and low on Conscientiousness. The study does admit that the findings may be culture-bound. For example, results for smoking suggest that cohorts are unified through age rather than socio-economic status. However, the link between low Conscientiousness and drug use remained consistent.

Another study, by Andreassen, Griffiths and Gjertsen (2013), investigated the interrelationships between personality and behavioral addictions (i.e. Facebook, video game, Internet, exercise, mobile phone, compulsive shopping and study addiction). A sample size of 218 participants completed the Revised Neo Five-Factor Inventory Results and seven instruments assessing behavioral addictions. Results showed that of the 21 bivariate intercorrelations between the five personality factors and the seven process addictions were all significantly positive. The authors concluded that the positive associations between the five-factor personality model and behavioral addictions suggest underlying pathological factors (Andreassen et al., 2013).

This wide body of literature indicates that addiction, either substance abuse or behavioral, are related to personality traits, although the associations do vary. Psychologists have suggested that moderate scores on the five-factor personality traits do facilitate social adaption while extreme scores predict counter-productive or maladaptive behavior (Andreassen et al., 2013; Nettle, 2006). Therefore, it could be speculated that extreme scores on the Big Five personality traits represent vulnerabilities and risk factors.

To the researcher's knowledge, there are no known studies that have examined personality traits in students with a history of substance abuse. There have been multiple studies conducted on personality factors and substance use of individuals presently struggling with addiction. As this literature is void of information concerning individuals with previous histories of substance abuse, this section of the literature review examined the Big Five personality traits with participants who have current addiction issues. It is the hope of the researcher that these results will be a likely indicator of which positive and negative correlations can be found between the Big Five and students with a history of substance abuse.

Big Five Factors

Substance abuse is related to many adverse health and social outcomes (Rosanthal, 2017), and academic achievement has been shown to be a protective factor against many negative life outcomes, such as unemployment and poverty (Poropat, 2009, 2015). This section of the literature review will provide a more thorough understanding of how a low or high level of a particular personality dimension (e.g. Conscientiousness, Neuroticism, Extraversion, Openness to Experience and Agreeableness) can serve as protection or as risk factors for a multitude of outcomes.

Conscientiousness. Conscientiousness relates to how one manages and regulates impulsive behaviors. High scorers on Conscientiousness identify as individuals who are purposeful, determined, punctual, hardworking, strong-willed, ambitious, and reliable (Costa & McCrae, 1985; McCrae & Costa, 1992, 2008a, 2008b; Zellars et al., 2006). According to several studies, high scores on Conscientiousness are strongly correlated with positive work outcomes (Matthews et al., 2006; Zellars et al., 2006). Matthews et al. (2006) describe individuals high in Conscientiousness as task-focused, self-disciplined, and embodying a drive to accomplish tasks efficiently. Individuals who rate high in this personality dimension appear to show higher levels of organization, loyalty, dependability, and a desire to succeed (Vander Elst et al., 2014).

Individuals scoring low on Conscientiousness tend to engage in impulsive behavior (Judge & Zapata, 2015; McCrae & Costa, 2008a). Impulsivity is not necessarily a negative construct, as at times it is necessary to make split-second decisions in one's work and daily life. However, impulsivity can have a negative effect on behavioral outcomes. Impulsive behaviors, even when seen as harmless, may diminish a person's effectiveness. Problem-solving measures are significantly hindered by individual's impulsive acts as well as derailment of productivity,

which obstructs organizational goals. Therefore, accomplishments of impulsive individuals are, at times, limited and inconsistent (McCrae & Costa, 2008a; Zellars et al., 2006). Furthermore, the ability to delay gratification can serve as a buffering mechanism against consequential behavior patterns, such as substance abuse (Garcia-Argibay, 2018).

Neuroticism. Individuals high in Neuroticism have a tendency to portray life as negative. According to Bolger and Zuckerman (1995), those scoring high on Neuroticism have a tendency to be overly sensitive to negative stimuli. Neuroticism defines emotional suffering with the tendency to experience negative feelings associated with perceptions (Zellars et al., 2001). Costa and McCrae (1985, 1992, 2008b), Mills and Huebner (1998), and Watson and Tellegen (1985) have all concluded that those scoring high in Neuroticism have a proclivity to experience higher levels of psychological distress and psychosomatic symptoms than the other four personality traits. This would imply they also have the propensity to experience negative outcomes associated with work and school performance and difficulties with interpersonal relationships (Watson & Tellegen, 1985).

Neuroticism has been associated with patterns of negativism that may cause heightened responses. These responses influence maladaptive cognitions, behaviors, and may put individuals at an increased potential for depression and anxiety (McCrae & Costa, 2008b; Smillie, Yeo, Furnham, & Jackson, 2006; Watson & Tellegen, 1985). Those who score high in neuroticism tend to be reactive in nature and respond with higher intensity (Eysenck & Eysenck, 1991; Heppner et al., 1995; Zhao & Seibert, 2006).

Individuals scoring low in neuroticism are less likely to become upset and are usually not emotionally reactive to situations (Judge & Zapata, 2015). They tend to be calm, free from negativistic outlooks, and feel more emotionally stable (Judge & Zapata, 2015).

Extraversion. Individuals who score high on Extraversion are identified by prominent connections to the external world. Extroverted people enjoy being around others. They are often full of energy and display positive emotions. Individuals high in extraversion are assertive, social, talkative, sensation seekers, and having a preference for large groups of people. (Block, 1978; Costa and McCrae, 1985, 1992; Zhao & Seibert, 2006). Individuals scoring high in extraversion seem to seek attention from others and evaluate their environment, most often, as positive (Schaufeli, Bakker & Salanova, 2006; Costa & McCrae, 1985, 1992). Nettle (2006) describes extraverted individuals as having positive outlooks on life. They like excitement, stimulation, and challenges. They appear to seek social support and use logical problem-solving skills as a means to work through stress (Ben-Zur & Michael, 2007).

Individuals scoring low on Extraversion tend to be introverted, quiet, and reserved (Costa & McCrae, 2006). They enjoy solitude, have a few very close friends and prefer to interact within the familiarity of their close associations. Low scorers on Extraversion tend to withdraw from social activities, be very quiet, deliberately seek activities that are away from the mainstream, and tend to need less stimulation from the external world. Low Extraversion is not to be interpreted as a negative. The reservation and independence of a low Extraversion individual can, at times, be viewed as unfriendly. However, individuals low on Extraversion who score high on Agreeableness will not seek out other individuals, but when approached, will be open and friendly.

Openness to Experience. Openness to Experience is a cognitive style that differentiates creativity from conventionality. Individuals with high levels of Openness to Experience are naturally curious, sensitive to aesthetics, and appreciate artistic mediums (Barrick and Mount, 2015). They are more aware of their own personal feelings and tend to think in broader and

nonconforming ways (Costa & McCrae, 1985, 1992; John et al., 2008; McCrae & John, 1992).

People scoring high in Openness to Experience think abstractly and have a tendency to avoid negativism (Barrick and Mount, 2015). Those high in Openness to Experience have the following attributes: favoring metaphorical use of language and aspiring to the visual or performing arts. Individuals high in openness are described as independent, artistic, creative, and often have a desire to live a diverse life (Costa & McCrae, 2006).

Individuals scoring low in Openness to Experience tend to have narrower interests and tend to be conventional thinkers. They appear to prefer straightforward and less complex views to the multifarious aspects of life. Individuals scoring low on Openness to Experience may look at the creative arts as insignificant and of no practical use. They may prefer the familiar and not take chances with novel thinking. They tend to be conservative and resistant to any type of change (Judge & Zappa, 2015; Salgado, 1997).

Agreeableness. Agreeableness is characterized by an individual's desire to assist and get along with others. People who score high in agreeableness are friendly, considerate, helpful, generous, and have a willingness to compromise their wishes for the benefit of the group (Bakker & Demerouti, 2007). They are often seen as optimistic, believing that people are inherently good, trustworthy, and honest (Judge & Zapata, 2015; McCrae & Costa, 2004). Per Costa & McCrae (1985, 2008a, 2008b), agreeable individuals display sympathetic and altruistic behavior. They are described as soft-hearted, compassionate, caring, trusting, modest, straightforward, forgiving, and are often guided by their emotions rather than rational thinking (Bakker et al., 2006; Balloch et al., 1998; John & Srivastava, 1999).

Those who score low on Agreeableness tend to show less concern for others and can be seen as critical and uncompromising (Judge & Zapata, 2015). According to Judge and Zapata,

(2015) they appear to be less concerned about others' needs and selfish to their own. This does not need to be viewed as a negative trait as those who are low in agreeableness tend to excel as critics, scientists, and military personnel (Bakker & Demerouti, 2007). However, these individuals tend to be antagonistic and skeptical of others (Costa & McCrae, 1996). They worry less about social approval and are more likely to engage in antisocial behaviors (McCrae & Costa, 1994). Therefore, a lack of trust may lead a person low in agreeableness to disregard public health messages about the dangers of illicit drugs (Sutin, Evans & Zonderman, 2013).

Summary

A review of the literature indicates that the Big Five personality factors are indeed related to academic achievement, though the relationships among certain factors are either weak or inconsistent (e.g. Openness, Extraversion, Agreeableness and Neuroticism). Overarching evidence points to Conscientiousness as the most reliable predictor of academic achievement. There is no research examining the Big Five personality traits and students with a history of substance abuse, though research investigating the relationship between personality traits and substance abuse links low Conscientiousness with a higher susceptibility towards substance abuse. Although the other personality factors do contribute and have either a low or moderate relationship with academic achievement and substance abuse, Conscientiousness appears to act as a moderator and can either make an individual more likely to succeed if positively correlated or be detrimental to one's goals if negatively correlated. Conscientiousness is the personality (and protective) factor one needs in order to flourish.

Chapter III

Research Methods

The overall purpose of this study was to examine which of the Big Five Inventory (BFI) personality traits relate to a number of variables in Substance Abuse Counseling students with a history of substance abuse. This study examined the Big Five personality traits and self-reported GPA among college students in the Human Services Addiction Counseling program in a community college in south Texas. The following chapter presents the methodology used to conduct this study. This chapter explains methodology including: the research questions, the research design, the population and sampling, measurements, data collection procedures, and statistics.

Research Questions

The following research questions will be used to shape the study.

Research Question 1: How do the Big 5 personality traits relate to a history of substance abuse?

Research Question 2: How do the Big 5 personality traits relate to academic success (GPA)?

Research Question 3: What are the relationships between personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students on academic success among students who are majoring in Addictions Counseling?

Research Design

This study incorporated a survey approach to obtain self-reporting data of substance abuse counseling students at a two-year community college. In order to answer the research questions, a correlational design was utilized. In the current study, the design was not intended to

derive causality but rather to examine the relationships between the predictor variables

(Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism,

personal history of substance abuse, family history of substance abuse, GPA, gender, and first

generation college student). In order to answer the research questions *t*-tests, factor analysis,

correlations, ANOVA, and regressions were used.

Participants

The community college chosen has a diverse student body. Students are primarily

Hispanic (61%) with a sizable White population (25%) with Black (6%), Asian (3%), two or

more races (3%), and international (1%) making up the remaining student body. Part-time

undergrads comprise 80% of the population, 59% are female, and 32.8% of the students are over

25 years of age.

Participants from this study did differ, though not substantially. The demographics of the

participants are as follows: female (62%), male (36%), Hispanic (49%), White (35%) Black

(12%), Native American (3%), Asian (1%), and other (1%). There were some notable

differences. Part-time students comprise 36% of the sample, with a mean age of 39 years old.

Though there are no published studies, in this researcher's experience it appears that the

majority of Substance Abuse Counseling students entering the field have a history of substance

abuse. This study examined if this assumption was correct with regards to this convenience

sample and found that 63% of participants are currently in recovery from addiction.

For this study, a convenience sampling method was used. Students presently studying

within the Human Services Addiction Counseling program were invited to participate. The office

manager of the Human Services Addictions Counseling department emailed instructors within

the department. The instructors then emailed students currently enrolled in their classes the link

to the Qualtrics administered online survey. A sample size of 103 participants were included in the study. All participants were 18 years and older.

Measuring Instruments

All measurements, questionnaires and informed consent were completed through Qualtrics. As this was a minimal risk study, participants signed informed consent forms and were allowed to ask questions about the study prior to taking the survey. Once the participants accessed the informed consent through Qualtrics, a link was provided with the researcher's email address and students were permitted to ask questions before completing the informed consent and beginning the survey.

Participants saw the Big Five Inventory (BFI) before the demographics questionnaire in order to not prime the participants. The researcher speculated that questions regarding substance abuse history may negatively impact results on the BFI if the demographics questions were completed first.

Big Five Inventory. Personality traits of substance abuse counseling students were measured using the Big Five Inventory (BFI) (see Appendix A). The BFI is a 44-item survey developed to represent the Big Five prototype definitions identified by Costa and McCrae (1992). John et al. (2008) provided internal consistency reliability estimates for the BFI scales of Openness to Experience (.83), Conscientiousness (.82), Extraversion (.86), Agreeableness (.79), and Neuroticism/ Emotional Stability (.87).

The BFI five personality factors are: 1) Openness to Experience—disposition to be curious, imaginative, artistic, and open to new situations, 2) Conscientiousness—disposition toward purposeful, determined, organized, and goal-directed behavior, 3) Extraversion— tendency to be assertive, sociable, energetic, and adventurous, 4) Agreeableness—disposition to

be cooperative, supportive, sympathetic, and forgiving, 5) Neuroticism—disposition to be tense, irritable, and discontent. The BFI consists of 8-10 questions in each personality domain that measures constructs using a 5-part Likert scale: 1 = strongly disagree to 5 = strongly agree.

Demographic questionnaire. The researcher created the demographic questionnaire to gather participants' demographic information (see Appendix B). This self-administered questionnaire sought information about participants' basic demographic characteristics of gender, age, GPA, first-generation status, personal history of substance abuse, family history of substance abuse, date of sobriety, the number of substances used and the substance most commonly used. The researcher created the demographic questionnaire for the purposes of this study, therefore there are no established reliabilities for the demographics questionnaire. As these questions are frequently used to access substance use and are common in drug abuse inventories (e.g. Substance Abuse Questionnaire – Addendum and Drug History Questionnaire) there is reason to believe that they are valid for assessing substance abuse history (National Survey on Drug Use And Health, Impact Assessment, 2019).

Procedures

Participants were invited to participate in this study via email invitation (see Appendix C). The Human Services Office Manager emailed adjunct and full-time instructors within the Human Services Addictions Counseling program the link to the survey. The instructors were asked to send the students currently enrolled in their course an email invitation announcing the survey via Canvas. Only students enrolled in Human Services Addictions Counseling program at the chosen institution were invited to participate. An announcement introducing the opportunity to participate in research was posted one week prior to the beginning of the study. The day the

study opened, another announcement was released containing the link to the survey in Qualtrics. This study took less than 15 minutes to complete.

The researcher obtained permission from IRB and received a letter of support from the community college prior to beginning this study (see Appendix E). In this study, two instruments were utilized: BFI and demographics questionnaire. Qualtrics was utilized to administer the questionnaires to participants. The first page that participants saw was the informed consent. A link was provided with the researcher's contact details, including an email and telephone contact so that participants could ask for clarifications, if need be, before agreeing to participate (see Appendix D). Once the participant agreed to the informed consent, the first questionnaire- the BFI- opened. After completing the BFI, the participant completed the demographic questionnaire.

Statistics

Following the administration of the survey, collected data was transferred from Qualtrics to IBM Statistical Package for the Social Sciences (SPSS). SPSS was used to analyze the data for both descriptive statistics and inferential statistics including t-tests, factor analysis, correlations, ANOVA, and regressions. Exclusionary criteria consisted of participants who failed to answer an adequate number of questions for analysis, resulting in 103 participants.

Chapter IV

Results

The overall purpose of this study was to examine which of the Big Five Inventory (BFI) personality traits relate to a number of variables in substance abuse counseling students. This study examined the Big Five personality traits and self-reported GPA among college students in the Human Services Addiction Counseling program at a community college in south Texas. The results of the analyses are organized in accordance with the research questions.

Research question 1 asked, "How do the Big 5 personality traits relate to a history of substance abuse?" Research question 2 asked, "How do the Big 5 personality traits relate to academic success (GPA)?" Research question 3 asked, "What are the relationships between personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students on academic success among students who are majoring in Addictions Counseling?"

First, descriptive statistics of dependent and independent variables are presented. Second, the means and standard deviations and factor analysis are presented. Finally, the inferential statistics, including correlations, t-tests, ANOVA, and regression analysis are displayed.

Demographic Characteristics of Sample

The study included a sample of substance abuse counseling students ($n = 122$) at a community college. To ensure all data was usable, data cleaning was conducted in Excel before analysis. The qualifying questions did not allow survey access to 16 participants because they did not meet the minimum qualifications. Two participants were deleted because of obviously unreliable responses. One was deleted because they took the survey twice based on replicated

data (computer IP address match, sobriety date, age, GPA). This resulted in 103 participants with

usable data.

A total of 103 participants completed the Big Five Inventory (BFI) measures. Of the 103,

94 participants self-reported their GPA, 66 participants recorded their sobriety date, and 103

reported the number of substances they had personally used. Of the 103 who responded, 35.9%

($n = 37$) were male, 62.1% ($n = 64$) were female, and 1.9% ($n = 2$) responded as other gender.

The participants' ages ranged from 18 to 76 years old ($\bar{x} = 39.46$, $SD = 11.77$). The ethnicities of

the participants were the following: 48.5% ($n = 50$) Hispanic or Latino, 35% ($n = 36$) White,

11.7% ($n = 12$) Black or African American, 2.9% ($n = 3$) Native American or American Indian,

1% ($n = 1$) Asian/Pacific Islander, and 1% ($n = 1$) other.

Of the 103 participants, 33% ($n = 34$) identified as a first-generation student and 67% ($n = 69$) did not. In terms of substance abuse, 63.1% ($n = 65$) were in recovery from drugs and

alcohol, 25.2% ($n = 26$) had a brief history of recreational use with substances, and 11.7% ($n = 12$) had no history of substance abuse at all. Of the 103 respondents, 89.3% ($n = 92$) have a

family history of substance abuse, and 10.7% ($n = 11$) did not have family members with

substance abuse histories (see Table 1).

Table 1

Demographic Characteristics of the Nominal Variables in the Study Sample (n=103)

Demographic	Response	Frequency	Percent (%)
Gender			
	Male	37	35.9
	Female	64	62.1
	Other	2	1.9
Ethnicity			
	White	36	35.0
	Hispanic or Latino	50	48.5
	Black or African American	12	11.7

					3	2.9
	Native American or American Indian					
	Asian / Pacific Islander				1	1.0
	Other				1	1.0
First Generation						
	Yes				34	33.0
	No				69	67.0
Personal History Of Substance Abuse						
	No History of Substance Abuse at All				12	11.7
	A Brief History of Recreational Use				26	25.2
	Currently in Recovery from Addiction				65	63.1
Family History of Substance Abuse						
	Yes				92	89.3
	No				11	10.7

Means and Standard Deviations of the Sample

Means and standard deviations were computed for all continuous variables used in the analyses. Means and standard deviations were calculated for BFI personality factors (Extraversion: $\bar{x}$ = 29.00, SD = 5.82), (Agreeableness: $\bar{x}$ = 37.23, SD = 5.07), (Conscientiousness: $\bar{x}$ = 35.64, SD = 5.56), (Neuroticism: $\bar{x}$ = 21.95, SD = 7.40), (Openness to Experience: $\bar{x}$ = 42.34, SD = 6.41). Means and standard deviations were also computed for all continuous demographic variables (Days Sober: $\bar{x}$ = 1903.53, SD = 1881.53), (Self-Reported GPA: $\bar{x}$ = 3.34, SD = .61), (Number of Substances Used: $\bar{x}$ = 6.30, SD = 4.20), (Age: $\bar{x}$ = 39.46, SD = 11.77) (see Table 2).

Table 2

Means and Standard Deviations for the Continuous Variables in the Study Sample (n=103)

Variable	Mean	SD	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Extraversion	29.00	5.821	-.050	.238	-.381	.472
Agreeableness	37.23	5.069	-.771	.238	.534	.472
Conscientiousness	35.64	5.557	-.302	.238	-.259	.472
Neuroticism	21.95	7.399	.032	.238	-.814	.472

			-.231	.238	-.008	.472
Openness to Experience	42.34	6.407				
Days Sober	1903.53	1881.52	1.891	.295	3.839	.582
Self- Reported GPA	3.33	.6102	-1.298	.249	2.173	.493
Number of Substances Used	6.30	4.200	.268	.238	-1.303	.472
Age	39.46	11.767	.616	.244	.068	.483

Factor Analysis: Variable Consolidation Strategy

A factor analysis was run on the four indicators of substance abuse history: personal history of substance abuse, family history of substance abuse, number of days sober and number of substances used. Two items, the number of substances and the number of days sober, contribute most of the variance to the factor. However, the four indicators are not highly associated and can be treated as independent variables. The overall factor does not explain enough variance to use in place of the individual items (see Table 3 and Table 4).

Table 3

Model Summary for Factor Analysis: Communalities

	Initial	Extraction
Personal History of Substance Abuse	1.000	.184
Family History of Substance Abuse	1.000	.268
Number of Substances Used	1.000	.473
Number of Days Sober	1.000	.491

Extraction Method: Principal Component Analysis

Table 4

Model Summary for Factor Analysis: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Personal History of Substance Abuse	1.415	35.373	35.373	1.415	35.373	35.373
Family History of Substance Abuse	.972	24.300	59.673			
Number of Substances Used	.912	22.809	82.483			
Number of Days Sober	.701	17.517	100.000			

Extraction Method: Principal Component Analysis

Research Question 1

Research question 1 asked, "How do the Big 5 personality traits relate to a history of substance abuse?" Pearson Correlations were used to explore the relationships between the BFI personality traits and substance abuse. For the correlations, substance abuse was defined as the number of substances used (N=103) and by number of days sober (N=66).

Number of substances used significantly negatively correlated with Agreeableness (r (101) = -.213, p = .031) and Conscientiousness (r (101) = -.278, p = .005). Participants who scored higher on Agreeableness had used fewer substances. Participants who scored higher on Conscientiousness had used fewer substances.

Number of days sober significantly correlated with Conscientiousness (r (64) = .296, p =

.016) and significantly negatively correlated with Neuroticism (r (64) = -.300, p = .014).

Participants who had longer periods of sobriety had higher scores on Conscientiousness.

Participants who had longer periods of sobriety had lower scores on Neuroticism (see Table 5).

Table 5

Correlations Between Big Five Inventory Personality Traits and Substance Abuse History

		E	A	C	N	O	Number of Substances Used	Number of Days Sober
E	*r*							
	Sig.							
	N							
A	*r*	.226*						
	Sig.	.022						
	N	103						
C	r	.156	.396**					
	Sig.	.115	.000					
	N	103	103					
N	*r*	-.513**	-.497**	-.452**				
	Sig.	.000	.000	.000				
	N	103	103	103				
O	*r*	.313**	.119	-.016	-.217*			
	Sig.	.001	.233	.872	.028			
	N	103	103	103	103			
Number of Substances Used	*r*	-.026	-.213*	-.278**	.056	.120		
	Sig.	.794	.031	.005	.572	.226		
	N	103	103	103	103	103		
Number of Days Sober	*r*	.125	.169	.296*	-.300*	.045	-.255*	
	Sig.	.318	.176	.016	.014	.717	.039	
	N	66	66	66	66	66	66	

T-tests were used to explore the difference between participants with a substance abuse history and participants without a substance abuse history with the following variables: Extraversion, Neuroticism, Conscientiousness, Agreeableness, Openness to Experience, Days Sober, number of family members with a history of substance abuse and GPA. None of these findings were significant (see Table 6).

Table 6

Independent Groups t-Tests Investigations Substance Abuse, Personality Traits and other Demographics Variables

	Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
E	3.517	.064	.805	101	.422	.959	1.191	-1.40	3.32
			.857	92.213	.394	.959	1.119	-1.26	3.18
A	.533	.467	-.729	101	.467	-.757	1.037	-2.81	1.30
			-.761	87.748	.449	-.757	.995	-2.73	1.22
N	.525	.470	-1.213	101	.228	-1.828	1.508	-4.81	1.16
			-1.223	79.663	.225	-1828	1.495	-4.80	1146
0	2.761	.100	.505	101	.614	.664	1.313	-1.94	3.26
			.548	96.034	.585	.664	1.211	-1.74	3.06
Days Sober	.072	.789	-.408	64	.684	-456.905	1119.06	-2692.48	1178.67
			-.483	2.284	.671	-456.905	945.22	-4075.59	3161.78
Family with SA history	.005	.945	.743	101	.459	.344	.463	-.57	1.26
			.746	78.392	.458	.344	.46238	-.57551	1.26539
GPA	.583	.447	-.123	92	.902	-.01615	.13089	-.27611	.24382
			-.118	62.893	.906	1.01615	.13629	-.28851	.25622

An ANOVA was run on the BFI personality variables and the personal history of substance abuse. No significant relationships were found (Extroversion: $F(2, 100) = 1.22$, $p = .30$), (Agreeableness: $F(2, 100) = .83$, $p = .44$), (Conscientiousness: $F(2, 100) = 1.14$, $p = .33$), (Neuroticism: $F(2, 100) = 2.25$, $p = .11$), (Openness to Experience: $F(2, 100) = .66$, $p = .52$) (see Table 7).

Table 7

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	E	82.427[a]	2	41.213	1.222	.299
	A	42.892[b]	2	21.446	.832	.438
	C	69.927[c]	2	34.963	1.135	.325
	N	240.325[d]	2	120.163	2.248	.111
	O	54.771[e]	2	27.385	.663	.518
Intercept	E	55356.540	1	55356.540	1640.888	.000
	A	93196.521	1	93196.521	3615.750	.000
	C	83360.030	1	83360.030	2706.686	.000
	N	31619.694	1	31619.694	591.638	.000
	O	114946.309	1	114946.309	2781.630	.000
Personal Substance Use	E	82.427	2	41.213	1.222	.299
	A	42.892	2	21.446	.832	.438
	C	69.927	2	34.963	1.135	.325
	N	240.325	2	120.163	2.248	.111
	O	54.771	2	27.385	.663	.518
Error	E	3373.573	100	33.736		
	A	2577.515	100	25.775		
	C	3079.782	100	30.798		
	N	5344.432	100	53.444		
	O	4132.336	100	41.323		
Total	E	90079.000	103			
	A	145409.000	103			
	C	133987.000	103			
	N	55217.000	103			

		O	188831.000	103				
Corrected Total		E	3456.000	102				
		A	2620.408	102				
		C	3149.709	102				
		N	5584.757	102				
		O	4187.107	102				

Research Question 2

Research question 2 asked, "How do the Big 5 personality traits relate to academic success (GPA)?" Pearson Correlations were used to explore the relationships between the BFI personality traits and academic success. For the correlations, academic success was defined as the participants' self-reported GPA (n= 94).

While the correlation between GPA and Conscientiousness was not statistically significant, it did approach significance (r (92) = .198, p = .056). Participants who had higher GPAs had higher scores in Conscientiousness (see Table 8).

Table 8

Correlations between Academic Success and Big Five Inventory Personality Factors

		GPA	E	A	C	N	O
GPA	r						
	Sig.						
	N						
E	r	-.049					
	Sig.	.639					
	N	94					
A	r	-.030	.226[*]				
	Sig.	.776	.022				
	N	94	103				
C	r	.198	.156	.396[**]			
	Sig.	.056	.115	.000			
	N	94	103	103			

N	r	.074	-.513**	-.497**	-.452**
	Sig.	.481	.000	.000	.000
	N	94	103	103	103
O	r	-.022	.313**	.119	-.016	-.217*
	Sig.	.831	.001	.233	.872	.028
	N	94	103	103	103	103

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Research Question 3

Research question 3 asked, "What are the relationships between personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students on academic success among students who are majoring in Addictions Counseling?" The following variables were entered into a stepwise regression as independent variables: personality factors (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism), family history of substance abuse, personal history of substance abuse, status of first-generation students. GPA was entered as the dependent variable. None of the independent variables were significant with the exception of Conscientiousness. For this reason, the stepwise regression could not create a model of prediction (see Table 9, Table 10 and Table 11).

Table 9

Model Summary for Stepwise Regression Model

					Change Statistics				
Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.198[a]	.039	.029	.60143	.039	3.745	1	92	.056

a. Predictors: (Constant), C

Table 10

ANOVA[a] for Stepwise Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.355	1	1.355	3.745	.056[b]
	Residual	33.278	92	.362		
	Total	34.633	93			

a. Dependent Variable: GPA
b. Predictors: (Constant), C

Table 11

Coefficients[a] for Stepwise Regression Model

jModel		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.573	.401		6.420	.000
	C	.022	.011	.198	1.935	.056

a. Dependent Variable: GPA

Discussion

This quantitative study was designed to explore three hypotheses. This was accomplished by having substance abuse counseling students take a questionnaire in Qualtrics that captured information about the Big Five Inventory personality traits, personal and family history of substance abuse, self-reported GPA, and first-generation status.

Research Question 1 explored how the Big 5 personality traits relate to a history of substance abuse. Substance abuse was defined as the number of substances the participant had tried and the number of days the participant had sober. We found that Conscientiousness, Agreeableness, and Neuroticism were related to substance abuse.

Research Question 2 explored how the Big 5 personality traits relate to academic success (GPA). We found that the relationship between Conscientiousness and academic success approached significance.

Research Question 3 explored the relationships between personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students on academic success among students who are majoring in Addictions Counseling. Due to weak correlational relationships SPSS was unable to create a regression model for the data.

Chapter V

Summary, Implications, and Recommendations

Summary

Though the Big Five Model has been used to correlate personality traits with academic success and personality traits with substance abuse, there is a lack of understanding regarding personality traits with academic success among students who have a history of substance abuse. Research indicates the Conscientiousness is the principle personality component in academic success: the higher the level of Conscientiousness, the higher the likelihood the student will excel in and complete a degree in higher education (McAbee, Oswald & Connelly, 2014). Individuals struggling with substance abuse issues consistently score low on the Conscientiousness trait (Kotov, 2010). As Conscientiousness measures the level of control, motivation and organization that one exhibits, a closer look into the personality traits of students studying Substance Abuse Counseling was paramount.

The purpose of this study was to contribute to the advancement and understanding among substance abuse counselors and counselor educators. Specifically, we wanted to understand how the personality of students with a history of substance abuse correlates to academic success. This study was designed to inform counselor educators and the substance abuse counseling community to reflect, consider and develop programs to better support the development of learning outcomes in students pursuing a career in substance abuse counseling.

Participants who are currently enrolled in a substance abuse counseling program completed the Big Five Inventory of personality traits in Qualtrics. Participants also answered questions about personal substance abuse history, family substance abuse history, first generation status, and academic success (self-reported GPA). Data were analyzed in SPSS for both

descriptive statistics and inferential statistics, including correlations, ANOVA, and stepwise

regression and factor analysis.

To begin, a factor analysis was run as a variable consolidation step to manage the

four indicators of substance abuse history: personal history of substance abuse, family

history of substance abuse, number of days sober and number of substances used. The

overall factor did not explain enough variance to use in place of the individual items.

Research question I asked, "How do the Big 5 personality traits relate to a history of

substance abuse?" Substance abuse was defined as the number of substances the participants had

used and by the participants' number of days sober. A Pearson Correlation was used to explore

the relationships between the BFI traits and substance abuse.

As expected, number of substances used was significantly negatively correlated with both

Agreeableness and Conscientiousness. Participants who had longer periods of sobriety had

higher scores on Agreeableness and Conscientiousness. Also as expected, number of days sober

significantly negatively correlated with Neuroticism. Participants who had longer periods of

sobriety had lower scores on Neuroticism.

Research question II asked, "How do the Big 5 personality traits relate to academic

success (GPA)?" A Pearson Correlation was used to explore the relationships between the BFI

personality traits and academic success. The correlation between GPA and Conscientiousness

approached significance.

Research Question III was designed to explore the relationships between

personality factors, family history of substance abuse, personal history of substance abuse, and

the status of first-generation students on academic success among students who are majoring in

Addictions Counseling. All variables were entered into a stepwise regression. None of the variables were significant with the exception of Conscientiousness.

This is the first study to investigate personality traits, substance abuse history and academic success among substance abuse counseling students. However, the lack of significant findings warrants further investigation.

Implications

Implications of obtained data. The obtained means in the results of the Big Five Inventory factors seemed to be extreme across all personality traits: Extraversion, Agreeableness, Conscientiousness, Openness to Experience and Neuroticism. The researcher considered alternative ways to interpret whether the means were extreme.

If it is true that personality traits are normally distributed in the population, then we can assume that the median score on each of the BFI traits would be the mean for the population. If that is true, then we can compare the expected means on the BFI to our obtained means on the BFI (see Table 2, Ch. 4).

For the BFI trait Extraversion, the minimum obtainable score is 8 and the maximum is 40. This gives us an expected population median/mean of 24. Our obtained mean was 29.00, with a standard deviation of 5.82. This seems to indicate that the extraversion scores for our substance abuse counseling students are higher than we would expect in the general population.

All results from the BFI traits followed a similar pattern. Scores for all five-personality traits consistently fell outside the norm we would expect for the population and are listed as follows: Agreeableness has a minimum obtainable score of 9 and a maximum score of 45. The expected population median/mean is 27. Our participants' mean was 37.23, with a Standard Deviation of 5.06. This seems to indicate that our participants scored unusually high in

Agreeableness. Conscientiousness has a minimum obtainable score of 9 and a maximum score

of 45. The expected population median/mean is 27. Our participants' mean was 35.64, with a

Standard Deviation of 5.56. This seems to indicate that our participants scored unusually high

on Conscientiousness. Openness of Experience has a minimum obtainable score of 10 and a

maximum score of 50. The expected population median/mean is 30. Our participants' mean was

42.34, with a Standard Deviation of 6.41. This seems to indicate that our participants scored

unusually high on Openness to Experience. Neuroticism has a minimum obtainable score of 8

and a maximum score of 40. The expected population median/mean is 24. Our participants'

mean was 21.95, with a Standard Deviation of 7.39. This seems to indicate that the Neuroticism

score for our population is much lower than we would expect to find in the general population.

While it is uncommon to find such elevated scores when comparing personality traits and

academic success, previous research has demonstrated that individuals with substance use

disorders score higher on facets such as impulsivity and have elevated scores on personality traits

Extraversion, Agreeableness, Openness to Experience and Neuroticism (Terricciano, 2008;

Andressen, 2012). Though the majority of participants in the current study do have a substance

abuse history and are now in recovery, our results suggest that our population follows a pattern

of elevated personality traits similar to individuals in active addiction.

From the obtained data, we know that 63% (n=65) of the participants responded to

the personal history of substance abuse question that they were currently in recovery from

addiction. A follow up question gave the opportunity for the participants to provide a date

of sobriety. This question was not forced response in Qualtrics giving the participant to

ability to skip the question if they preferred. We received 100% (n=65) response rate with

participants providing month and year that they gained sobriety. This gives us strong indication that participants were honest when completing the measurement.

Another possible explanation of these extreme scores could be the level of self-awareness of our participants. Self- awareness, to be aware of one's own emotions and behaviors, plays a vital role in addiction and addiction recovery. The majority of participants, 63%, has a lived experience of addiction, is in varying degrees of active recovery, and is now enrolled in an academic program. These factors may have contributed to a sense of elevated personal relevance that is unique to this population.

Relationships between variables. Research Question III was designed to explore the relationships between multiple variables, personality factors, family history of substance abuse, personal history of substance abuse, and the status of first-generation students, and their influence on academic success among students who are majoring in Addictions Counseling. Stepwise regression analysis concluded that none of the variables were significant with the exception of Conscientiousness.

The results indicate that the current variables, as a group, are not good predictors of a student's future academic success. Many students choosing a career in substance abuse counseling have a lived experience of addiction. Many are in recovery, many more have family members who have struggled with substance abuse, and many have encountered legal troubles and spent time incarcerated. Though no one could deny that contextual factors do pose challenges to one's access to and success in higher education, this result gives hope that despite the setbacks experienced Conscientiousness remains the strongest overall criterion-related variable. Having a disposition toward purposeful, determined, and goal-directed behavior could increase one's success regardless of past struggles.

It is important to remember that the stepwise regression was exploratory as we were looking for relationships between multiples variables. Unfortunately, the model was unable to find significant relationships so it would be inappropriate to draw any other implications based on our data.

Previous research has found that there are relationships between these variables and student success. For example, first generation college students (FGCS) confront distinctive challenges, including lack of college readiness, financial stability, familial support, and self-esteem (Stephens, Hamedani, & Destin, 2014). Substance abuse among students impairs cognitive development, which reduces sustained engagement, academic achievement and disrupts academic progression (King, Meehan, Trim & Chassin, 2006). Lack of family emotional support is linked to negative academic outcomes as it inhibits psychological well-being and results in student disengagement (Roksa & Kinsley, 2018), which could be further impacted if addiction is present in the home.

We would be remiss to not acknowledge that many obstacles affect student success. One possible explanation of why we did not find relationships between these variables may lie in the participants' extreme scores.

Recommendations

Several possibilities for future studies emerge from this project. If a replicated study was to be conducted, a thorough consideration into detecting and preventing socially desirable responding could be implemented. When this study was created it was given the name Academic Success Study. Participants clicked on the link to enter Qualtrics, and the informed consent appeared with a welcome message to participate in the "Academic Success Study." In order to avoid inadvertently priming participants to present themselves as capable of excelling

academically, we recommend omitting the name of the study. Other precautions were thoroughly considered before administering the survey to eliminate possible priming of responses. The decision to place the demographic questions concerning personal and familial substance use, and sobriety date after participants had completed the BFI personality measurement was to ensure better accuracy of responses. There was a concern that if a participant had a personal history of substance abuse, family history of substance abuse and a recent sobriety date this could negatively impact participants scores on the BFI. Though the demographics questions concerning substance abuse in Qualtrics were not forced response, we received 100% response rate for personal history of substance abuse, familial history of substance abuse and number of substances used. Maintaining the order of instruments, participants completing the BFI first and then answering demographic questions that could potentially influence an emotional response is encouraged. Furthermore, implementing a social desirability scale into the study then correlating it with the substantive measures could further guard against the unconscious and conscious efforts of participants to present one's self in a socially desirable way and provide further insight into the extreme obtained scores.

Another recommendation would be to include a 'pathway to recovery' question placed after the personal substance abuse and sobriety date questions. If the participant does have a personal substance abuse history, they would be able to state how they recovered (e.g. peer recovery support, faith-based support, medication-assisted recovery, 12-step programs, etc.). Though not the only pathway to recovery, 12-step programs have remained a popular choice for those seeking sobriety. Twelve-step programs practice consistency and accountability, and operate under the slogan, "Keep coming back, it works if you work it and work it 'cause you're worth it." Participants who had longer periods of sobriety and participated in 12-step recovery

might have developed state conscientiousness as the 12-steps are meant to provide a clear and workable guideline for changing patterns of behavior. Through the 12-step program members have learned to manage themselves, their time, and their disease, possibly giving participants higher scores on the Conscientiousness trait as measured by the BFI. In the future, the pathway to recovery could be used as a covariate in the analysis, allowing us to account for Conscientiousness scores that may be inflated due to the pathway took to recovery.

Another useful study would be to include a comparison group. A general but untested assumption is that substance abuse counseling students have high rates of substance abuse histories than other academic disciplines. A subsequent design replication could be strengthened if we compared results from other academic disciplines to the data obtained from our study. This could provide further insight into rates of substance abuse among participants across varying disciplines and critical insight into the extreme obtained means found across all the BFI traits in our participants.

If it is true that substance abuse counseling students have high rates of substance abuse histories than other academic disciplines, this implies that substance abuse counseling students will have added academic, intrapersonal and interpersonal challenges when compared with the general student body on campus. They may have lower rates of retention, lower levels of self-esteem and Conscientiousness, lack adequate support systems, and have higher levels of co-occurring mental health issues.

If we better understand the challenges that substance abuse counseling students face, we can implement and develop counseling training programs that adequately prepare students to face the growing challenges ahead. This could begin with cultivating conscientious habits that

aid in students developing self-discipline, dutifulness and the competency to counsel individuals in the worst addiction epidemic in American history.

Substance abuse is at crisis levels in the United States. Of critical concern right now is the opioid epidemic, which has resulted in surging numbers of drug overdoses and deaths. As counselor educators we are preparing future counselors to provide treatment to individuals suffering from acute and severe substance use disorders. Developing research that provides further insight, implementing training programs that meet the needs of a potentially at-risk student population, and effectively preparing future counselors to work with some of the nation's most vulnerable could in fact be an antidote to one of the greatest social ills of our time.

References

Allport, G. W. (1967). *Pattern and growth in personality (1961)*. London.

American Psychological Association. (2019). *Personality*. [online] Available at:

https://www.apa.org/topics/personality/ [Accessed 2 Oct. 2019].

Andreassen, C., Griffiths, M., Gjertsen, S., Krossbakken, E., Kvam, S. and Pallesen, S. (2013).

The relationships between behavioral addictions and the five-factor model of

personality. *Journal of Behavioral Addictions*, 2(2), pp.90-99.

Avdic, A., & Komarraju, M. (2010). Motivation types and their role on student performance.

PsycEXTRA Dataset. doi:10.1037/e566842012-395

Bakker, A.B. & Demerouti, E. (2007). The job demands-resources model: State of the art.

Journal of Managerial Psychology, 22(3), 309-28.

Barrick, M. R., & Mount, M. K. (2015). Select on conscientiousness and emotional stability.

Handbook of Principles of Organizational Behavior, 19-39.

doi:10.1002/9781119206422.ch2

Ben-Zur, H., & Michael, K. (2007). Burnout, social support, and coping at work among social

workers, psychologists, and nurses: The role of challenge/control appraisals. *Social

Work in Health Care*, 45, 63-82.

Block, J. (1978). *The Q-sort method in personality assessment and psychiatric research*. Palo

Alto, Calif.: Consulting Psychologists Press.

Booth-Kewley, S., & Vickers, R. R. (1994). Associations between major domains of personality

and health behavior. *Journal of Personality, 62*(3), 281-298. doi:10.1111/j.1467-

6494.1994.tb00298.x

Bouchard, T. J., & Mcgue, M. (2002). Genetic and environmental influences on human

psychological differences. *Journal of Neurobiology, 54*(1), 4-45. doi:10.1002/neu.10160

Carver, C. S., & Scheier, M. F. (2014). Dispositional optimism. *Trends in Cognitive Sciences, 18*(6), 293-299. doi:10.1016/j.tics.2014.02.003

Chamorro, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of Research in Personality, 37*(4), 319-338.

Chamorro-Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology, 93*(1), 116-130.

Costa, P. X., & Mccrae, R. R. (1985). NEO Personality Inventory. *PsycTESTS Dataset*. doi:10.1037/t07564-000

Costa, P. T., & Mccrae, R. R. (1996). Mood and personality in adulthood. *Handbook of Emotion, Adult Development, and Aging,* 369-383. doi:10.1016/b978-012464995-8/50021-2

Costa, P. T., & Mccrae, R. R. (1997). Longitudinal stability of adult personality. *Handbook of Personality Psychology,* 269-290. doi:10.1016/b978-012134645-4/50012-3

Costa, P. T., Jr., & McCrae, R. R. (2006). Age changes in personality and their origins. *Psychological Bulletin, 132*(1), 26-28.

Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Los Angeles, CA: Russell Sage Foundation.

David, W., & Clark, L. A. (1994). Positive and negative affect schedule expanded version. *PsycTESTS Dataset*. doi:10.1037/t04754-000

Digman, J. M. (1997). Higher-order factors of the big five. *Journal of Personality and Social Psychology, 73*(6), 1246-1256. doi:10.1037/0022-3514.73.6.1246

Dubey, C., Arora, M., Gupta, S. and Kumar, B. (2010). Five factor correlates: A comparison of substance abusers and non-substance abusers. *Journal of the Indian Academy of Applied Psychology*, 36(1), pp.107-114.

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087-1101.

Duckworth, A., and Seligman, M. (2017). The science and practice of self-control. *Perspectives on Psychological Science*, 12(5), pp.715-718.

Duckworth, A., & Seligman, M. (2005). Self-discipline out does IQ in predicting academic performance of adolescents. *Psychological Science, 16*(12), 939-944. doi:10.1111/j.1467-9280.2005.01641.x

Entwistle, N. J., & Entwistle, D. (1970). The relationships between personality, study methods and academic performance. *British Journal of Educational Psychology, 40*(2), 132-143. doi:10.1111/j.2044-8279.1970.tb02113.x

Eysenck, H. J. (1991). Dimensions of personality: The biosocial approach to personality. In J. Strelau & A. Angleitner (Eds.), *Perspectives on individual differences. Explorations in temperament: International perspectives on theory and measurement* (pp. 87-103). New York, NY, US: Plenum Press.

Furnham, A., & Chamorro-Premuzic, T. (2006). Personality, intelligence and general knowledge. *Learning and Individual Differences, 16*(1), 79-90.

Furnham, A., & Medhurst, S. (1995). Personality correlates of academic seminar behaviour: A study of four instruments. *Personality and Individual Differences, 19*(2), 197-208. doi:10.1016/0191-8869(95)00026-3

Furnham, A., Monsen, J. and Ahmetoglu, G. (2009). Typical intellectual engagement, Big Five
personality traits, approaches to learning and cognitive ability predictors of academic
performance. *British Journal of Educational Psychology*, 79(4), pp.769-782.

Furnham, A., Zhang, J., & Chamorro-Premuzic, T. (2006). The relationship between
psychometric and self-estimated intelligence, creativity, personality and academic
achievement. *Imagination, Cognition and Personality, 25*(2), 119-145.

Garcia-Argibay, M. (2018). The Relationship between the big five personality traits, impulsivity,
and anabolic steroid use. *Substance Use & Misuse*, *54*(2), 236-246. doi:
10.1080/10826084.2018.1512630

Goldberg, L., Johnson, J., Eber, H., Hogan, R., Ashton, M., Cloninger, C. and Gough, H. (2006).
The international personality item pool and the future of public-domain personality
measures. *Journal of Research in Personality*, 40(1), pp.84-96.

Hakini, S., Hejazi, E., & Lavasani, M. G. (2011). The relationships between personality traits
and students' academic achievement. *Procedia - Social and Behavioral Sciences, 29*,
836-845. doi:10.1016/j.sbspro.2011.11.312

Hakulinen, C., & Keltikangas-Järvinen, L. (2015). Personality and health. *International
Encyclopedia of the Social & Behavioral Sciences,* 792-796. doi:10.1016/b978-0-08-
097086-8.14114-5

Heppner, P. P., Cook, S. W., Wright, D. M., & Johnson, W. C. (1995). Progress in resolving
problems: A problem-focused style of coping. *Journal of Counseling Psychology, 42*(3),
279-293.

Jain, K. (2014). Big five personality types & knowledge hiding behaviour: A theoretical
framework. *Archives of Business Research*, 2(5), pp.47-56.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The big five inventory--Versions 4a and 54. Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big-five trait taxonomy: history, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), Handbook of personality: Theory and research (pp. 114-158). New York, NY: Guilford Press.

John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 102-138). New York, NY, US: Guilford Press.

Judge, T. A., & Zapata, C. P. (2015). The person-situation debate revisited: Effect of situation strength and trait activation on the validity of the big five personality traits in predicting job performance. *Academy of Management Journal, 58*(4), 1149-1170.

Kessler, R. C., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Wittchen, H. (2012). Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *International Journal of Methods in Psychiatric Research, 21*(3), 169-184. doi:10.1002/mpr.1359

King, K., Meehan, B., Trim, R., & Chassin, L. (2006). Substance use and academic outcomes: Synthesizing findings and future directions. *Addiction*, *101*(12), 1688-1689. doi: 10.1111/j.1360-0443.2006.01695.x

Komarraju, M., Karau, S. J., & Schmeck, R. R. (2009). Role of the big five personality traits in predicting college students academic motivation and achievement. *Learning and Individual Differences, 19*(1), 47-52. doi:10.1016/j.lindif.2008.07.001

Komarraju, M., Tincher, C., Avdic, A., & Williams, T. (2011). Great expectations: Student identity and beliefs about intelligence. *PsycEXTRA Dataset*. doi:10.1037/e683152011-616

Kotov, R., Gamez, S. and Watson, D. (2010). *Linking "big" personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. - PubMed - NCBI*. [online] Ncbi.nlm.nih.gov. Available at: https://www.ncbi.nlm.nih.gov/pubmed/20804236

Lounsbury, J. W., Loveland, J. M., Sundstrom, E. D., Gibson, L. W., Drost, A. W., & Hamrick, F. L. (2003). An investigation of personality traits in relation to career satisfaction. *Journal of Career Assessment, 11*(3), 287-307.

Lounsbury, J. W., Sundstrom, E., Loveland, J. M., & Gibson, L. W. (2003). Intelligence, "Big Five" personality traits, and work drive as predictors of course grade. *Personality and Individual Differences, 35*(6), 1231-1239.

Martin, J. H., Montgomery, R. L., & Saphian, D. (2006). Personality, achievement test scores, and high school percentile as predictors of academic performance across four years of coursework. *Journal of Research in Personality, 40*(4), 424-431. doi:10.1016/j.jrp.2005.02.001

Mason, M. J., Keyser-Marcus, L., Snipes, D., Benotsch, E., & Sood, B. (2013). Perceived mental health treatment need and substance use correlates among young adults. *Psychiatric Services, 64*(9), 871-877. doi:10.1176/appi.ps.201200159

Matthews, G., Deary, I. J., & Whiteman, M. C. (2006). Personality traits (2nd ed.). Cambridge, England: Cambridge University Press.

Mcabee, S. T., Oswald, F. L., & Connelly, B. S. (2014). Academic performance dimensions: Behavioural indicators. *PsycTESTS Dataset*. doi:10.1037/t55522-000

Mccrae, R. R., & Costa, P. T. (n.d.). Cross-cultural perspectives on adult personality trait

    development. *Handbook of Personality Development*. doi:10.4324/9781315805610.ch7

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its

    applications. Journal of Personality, 60, 175-215.

McCrae, R. R. and Costa, P. (1994). The stability of personality: Observations and evaluations.

    Current Directions in Psychological Science, 3(6), pp.173-175.

Mccrae, R. R., Costa, P. T., & Jr. (2003). Personality in adulthood. doi:10.4324/9780203428412

Mccrae, R. R., & Costa, P. T. (2004). NEO five-factor inventory--Revised. *PsycTESTS Dataset*.

    doi:10.1037/t07553-000

McCrae, R. R., & Costa, P. T. (2004). A contemplated revision of the NEO five-factor inventory.

    Personality and Individual Differences, 36(3), 587-596.

McCrae, R. R., & Costa, P. T., Jr. (2008a). Empirical and theoretical status of the five-factor

    model of personality traits. In G. Boyle, G. Matthews, & D. Saklofske (Eds.), Sage

    Handbook of personality theory and assessment (Vol. 1, pp. 273-294). Los Angeles:

    Russell Sage Foundation.

McCrae, R. R., & Costa, P. T., Jr. (2008b). The five-factor theory of personality. In O. P. John,

    R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and Research*

    (3rd ed., pp. 159-181). New York: Guilford.

McCrae, R. R., & Costa, P. T., Jr. (2008a). Empirical and theoretical status of the five-factor

    model of personality traits. In G. Boyle, G. Matthews, & D. Saklofske (Eds.),

    Handbook of personality theory and assessment (Vol. 1, pp. 273-294). Los Angeles:

    Russell Sage Foundation.

McCrae, R. R., & Costa, P. T., Jr. (2008b). The five-factor theory of personality. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 159-181). New York: Guilford.

Melissa, C., Sampo, C. & Paunonen, V. (2007). Big five personality predictors of post-secondary academic performance. *Personality and Individual Differences*, 43, 437-448.

Mills, J. S., & Blankstein, K. R. (2000). Perfectionism, intrinsic vs extrinsic motivation, and motivated strategies for learning: A multidimensional analysis of university students. *Personality and Individual Differences, 29*(6), 1191-1204.

Mount, M. K., Barrick, M. R., & Stewart, G. L. (1998). Five-factor model of personality and performance in jobs involving interpersonal interactions. *Human Performance, 11*(2-3), 145-165. doi:10.1080/08959285.1998.9668029

National Survey on Drug Use and Health, Impact Assessment. (2019). Retrieved 1 May 2019, from https://www.samhsa.gov/data/sites/default/files/NSDUHmrbQxRIAR2015.pdf

Nettle, D. (2006). The evolution of personality variation in humans and other animals. *American Psychologist, 61*(6), 622-631.

Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology, 93*(1), 116-130. doi:10.1037/0022-3514.93.1.116

Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology, 93*(1), 116-130. doi:10.1037/0022-3514.93.1.116

Ozer, D. J., & Benet-Martínez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57*(1), 401-421. doi:10.1146/annurev.psych.57.102904.190127

Pace, V. L., & Brannick, M. T. (2010). How similar are personality scales of the "same" construct? A meta-analytic investigation. *Personality and Individual Differences, 49*(7), 669-676. doi:10.1016/j.paid.2010.06.014

Part 2C Women and Substance Abuse. (2010). *Oxford Textbook of Women and Mental Health*. doi:10.1093/med/9780199214365.010.0005

Paunonen, S. V., & Nicol, A. A. (2001). The personality hierarchy and the prediction of work behaviors. *Personality Psychology in the Workplace.,* 161-191. doi:10.1037/10434-007

Paunonen, S. V. (2003). Big five factors of personality and replicated predictions of behavior. *Journal of Personality & Social Psychology, 84*(2), 411-422. doi:10.1037//0022-3514.84.2.411h

Peterson, C. H., Casillas, A., & Robbins, S. B. (2006). The student readiness inventory and the big five: examining social desirability and college academic performance. *Personality and Individual Differences, 41*(4), 663-673. doi:10.1016/j.paid.2006.03.006

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*(2), 322-338.

Poropat, A. E. (2015). Personality and educational outcomes. *International Encyclopedia of the Social & Behavioral Sciences,* 787-791. doi:10.1016/b978-0-08-097086-8.25079-4

Revelle, W., & Wilt, J. (2013). The general factor of personality: A general critique. *Journal of Research in Personality, 47*(5), 493-504. doi:10.1016/j.jrp.2013.04.012

Ridgell, S. D., & Lounsbury, J. W. (2004). Predicting academic success: General intelligence, "Big Five" personality traits, and work drive. *College Student Journal, 38*(4), 607-619.

Robbins, S., Allen, J., Casillas, A., Peterson, C., & Le, H. (2006). Unraveling the differential

    effects of motivational and skills, social, and self-management measures from traditional

    predictors of college outcomes. *Journal of Educational Psychology, 98*(3), 598-616.

    doi:10.1037/0022-0663.98.3.598

Robbins, S., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do

    psychosocial and study skill factors predict college outcomes? A meta-analysis.

    Psychological Bulletin, 130(2), 261-288.

Rosander, P., Bäckström, M. and Stenberg, G. (2011). Personality traits and general intelligence

    as predictors of academic performance: A structural equation modelling approach.

    Learning and Individual Differences, 21(5), pp.590-596.

Roksa, J., & Kinsley, P. (2018). The role of family support in facilitating academic success of

    low-income students. *Research In Higher Education*, *60*(4), 415-436. doi:

    10.1007/s11162-018-9517-z

Schaufeli, W., Bakker, A., & Salanova, M. (2006). The measurement of work engagement with a

    short questionnaire. *Educational And Psychological Measurement*, *66*(4), 701-716.

Smillie, L. D., Yeo, G. B., Furnham, A. F., & Jackson, C. J. (2006). Benefits of all work and no

    play: The relationship between neuroticism and performance as a function of resource

    allocation. *Journal of Applied Psychology, 91*(1), 139-155.

Stephens, N., Hamedani, M., & Destin, M. (2014). Closing the social-class achievement

    gap. *Psychological Science*, *25*(4), 943-953. doi: 10.1177/0956797613518349

Soldz, S., & Vaillant, G. E. (1999). The big five personality traits and the life course: A 45-year

    longitudinal study. *Journal of Research in Personality, 33*(2), 208-232.

    doi:10.1006/jrpe.1999.2243

Specht, J., Egloff, B. and Schmukle, S. (2011). Stability and change of personality across the life

    course: The impact of age and major life events on mean-level and rank-order stability

    of the Big Five. *Journal of Personality and Social Psychology*, 101(4), pp.862-882.

Sutin, A., Evans, M., & Zonderman, A. (2013). Personality traits and illicit substances: The

    moderating role of poverty. *Drug And Alcohol Dependence*, *131*(3), 247-251. doi:

    10.1016/j.drugalcdep.2012.10.020

Sutin, A. R., Mccrae, R. R., & Costa, P. T. (2011). The neuroscience of personality traits:

    Descriptions and prescriptions. *Oxford Handbooks Online*.

    doi:10.1093/oxfordhb/9780195342161.013.0015

Terracciano, A., Löckenhoff, C., Crum, R., Bienvenu, O. and Costa, P. (2008). Five-Factor

    Model personality profiles of drug users. *BMC Psychiatry*, 8(1).

Terracciano, A., Costa, P. T., Jr., & McCrae, R. R. (2006). Personality plasticity after age 30.

    Personality and Social Psychology Bulletin, 32, 999-1009.

Thalmayer, A. G., & Saucier, G. (2011). The personality grand prix: comparative validity of big

    five and big six questionnaires. *PsycEXTRA Dataset*. doi:10.1037/e657572011-001

Trapmann, S., Hell, B., Hirn, J. W., & Schuler, H. (2007). Meta-analysis on the relationship

    between Big Five and academic success. *PsycEXTRA Dataset*. doi:10.1037/e518532013-

    271

Vander Elst, T., Richter, A., Sverke, M., Näswall, K., De Cuyper, N., & De Witte, H. (2014).

    Threat of losing valued job features: The role of perceived control in mediating the

    effect of qualitative job insecurity on job strain and psychological withdrawal. *Work &*

    Stress, 1-22. doi: 10.1080/02678373.2014.899651

Vollrath, M., & Torgersen, S. (2000). Personality types and coping. *Personality and Individual Differences, 29*(2), 367-378.

Vollrath, M., & Torgersen, S. (2008). Personality types and risky health behaviors in Norwegian students. *Scandinavian Journal of Psychology,* 287-292.

von Stumm, S. and Furnham, A. (2012). Learning approaches: Associations with typical intellectual engagement, intelligence and the big five. *Personality and Individual Differences*, 53(5), pp.720-723.

Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. *Handbook of Personality Psychology,* 767-793. doi:10.1016/b978-012134645-4/50030-5

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*(2), 219-235.

Whitmore, C. B., & Dunsmore, J. C. (2014). Social interaction measure. *PsycTESTS Dataset*. doi:10.1037/t33818-000

Zellars, K. L., Perrewé, P. L., Hochwarter, W. A., & Anderson, K. S. (2006). The interactive effects of positive affect and conscientiousness on strain. *Journal of Occupational Health Psychology, 11*(3), 281-289.

Zhao, H., & Seibert, S. E. (2006). The Big Five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology, 91*(2), 259-271.

Big Five Inventory (BFI)

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1. _____ Is talkative

2. _____ Tends to find fault with others

3. _____ Does a thorough job

4. _____ Is depressed, blue

5. _____ Is original, comes up with new ideas

6. _____ Is reserved

7. _____ Is helpful and unselfish with others

8. _____ Can be somewhat careless

9. _____ Is relaxed, handles stress well.

10. _____ Is curious about many different things

11. _____ Is full of energy

12. _____ Starts quarrels with others

13. _____ Is a reliable worker

14. _____ Can be tense

15. _____ Is ingenious, a deep thinker

16. _____ Generates a lot of enthusiasm

17. _____ Has a forgiving nature

18. _____ Tends to be disorganized

19. _____ Worries a lot

20. _____ Has an active imagination

21. _____ Tends to be quiet

22. _____ Is generally trusting

23. _____ Tends to be lazy

24. _____ Is emotionally stable, not easily upset

25. _____ Is inventive

26. _____ Has an assertive personality

27. _____ Can be cold and aloof

28. _____ Perseveres until the task is finished

29. _____ Can be moody

30. _____ Values artistic, aesthetic experiences

31. _____ Is sometimes shy, inhibited

32. _____ Is considerate and kind to almost everyone

33. _____ Does things efficiently

34. _____ Remains calm in tense situations

35. _____ Prefers work that is routine

36. _____ Is outgoing, sociable

37. _____ Is sometimes rude to others

38. _____ Makes plans and follows through with them

39. _____ Gets nervous easily

40. _____ Likes to reflect, play with ideas

41. _____ Has few artistic interests

42. _____ Likes to cooperate with others

43. _____ Is easily distracted

44. _____ Is sophisticated in art, music and literature

Appendix B

Demographics Questionnaire

1. Gender: What is your gender?

   a) Male
   b) Female
   c) Transgender
   d) Other
   e) Prefer not to respond

2. What is your date of birth? <u>MM/YYYY</u>

3. Ethnic origin: Please specify your ethnicity.

   a) White
   b) Hispanic or Latino
   c) Black or African American
   d) Native American or American Indian
   e) Asian / Pacific Islander
   f) Other

4. Enrollment: What is your enrollment status?

   a) Part-time
   b) Full-time

5. What is your cumulative GPA? <u>X.XX</u>

6. Are the first person in your immediate family to attend college?

   a) yes
   b) no
   c) I do not know.

Substance Abuse

7. Personal substance use status:
[ ] No history of abuse at all
[ ] A brief history of recreational use
[ ] Currently in recovery from addiction

8. If in recovery, when was your date of sobriety? <u>MM/YYYY</u>

9. Family alcohol/drug abuse history:

[ ] No family history of abuse at all

[ ] Father

[ ] Mother

[ ] Stepparent/live-in

[ ] Uncle(s)/aunt(s)

[ ] Cousin(s)

[ ] Grandparent(s)

[ ] Spouse/significant other

[ ] Sibling(s)

[ ] Children

[ ] Other _____

10. Substances Used (Check all that apply):

[ ]ALCOHOL

[ ]CANNABIS: Marijuana, hash oil, pot, weed, blow

[ ]STIMULANTS: Cocaine, crack, blow

[ ]STIMULANTS: Methamphetamine — meth, ice, crank

[ ]AMPHETAMINES/OTHER STIMULANTS: Ritalin, Adderall, speed, bennies, uppers

[ ]BENZODIAZEPINES/ TRANQUILIZERS: Valium, Librium, Xanax, Diazepam, roofies, downers

[ ]SEDATIVES/HYPNOTICS/BARBITURATES: Amytal, Seconal, Dalmane, Quaalude, Phenobarbital

[ ]HEROIN: smack, scat, brown sugar, dope

[ ]STREET OR ILLICIT METHADONE

[ ]OTHER OPIOIDS: Tylenol #2 & #3, Percodan, Percocet, Opium, Morphine, Demerol, Dilaudid

[ ]HALLUCINOGENS: LSD, PCP, mescaline, peyote, mushrooms, ketamine, ecstasy (MDMA)

[ ]INHALANTS: glue, gasoline, aerosols, paint thinner, poppers, rush, whippets

[ ]STEROIDS: Deca-Durabolin, Durabolin, Equipoise, Winstrol, Anadrol, Oxandrin, roids, juice

[ ]ILLEGAL USE OF PRESCRIPTION DRUGS

11. Which substance did you most frequently use (Check only one):

[ ]ALCOHOL

[ ]CANNABIS: Marijuana, hash oil, pot, weed, blow

[ ]STIMULANTS: Cocaine, crack, blow

[ ]STIMULANTS: Methamphetamine — meth, ice, crank

[ ]AMPHETAMINES/OTHER STIMULANTS: Ritalin, Adderall, speed, bennies, uppers

[ ]BENZODIAZEPINES/ TRANQUILIZERS: Valium, Librium, Xanax, Diazepam, roofies, downers

[ ]SEDATIVES/HYPNOTICS/BARBITURATES: Amytal, Seconal, Dalmane, Quaalude, Phenobarbital

[ ]HEROIN: smack, scat, brown sugar, dope

[ ]STREET OR ILLICIT METHADONE

[ ]OTHER OPIOIDS: Tylenol #2 & #3, Percodan, Percocet, Opium, Morphine, Demerol, Dilaudid

[ ]HALLUCINOGENS: LSD, PCP, mescaline, peyote, mushrooms, ketamine, ecstasy (MDMA)

[ ]INHALANTS: glue, gasoline, aerosols, paint thinner, poppers, rush, whippets

[ ]STEROIDS: Deca-Durabolin, Durabolin, Equipoise, Winstrol, Anadrol, Oxandrin, roids, juice

[ ]ILLEGAL USE OF PRESCRIPTION DRUGS

Appendix C

Recruitment Email

Hello Human Services students,

You are invited to participate in an online research opportunity.

The researcher is investigating personality, substance abuse history and academic success. The study is expected to take twenty minutes to complete. While there is no direct compensation for your participation in this study do know that your participation will help us further understand our student body.

If you would like to participate in this study, please click on the following link: http://stmarys.az1.qualtrics.com/jfe/form/SV_0fxmR3jGHzpWtlr

Once you click the link, you will be taken to the Qualtrics website where you will complete the research study.

If you have any question about this research opportunity, please contact Christi Myers at cmyers3@mail.stmarytx.edu.

Thank you for your consideration.

The Human Services Department

Appendix D:

Informed Consent Form

The Big Five Inventory, Substance Abuse History and Academic Success among Students Majoring in Substance Abuse Counseling

You are being invited to participate in a research study about personality traits and academic success among substance abuse counseling students. This research is being conducted by Christi Myers at St. Mary's University. This study constitutes the research aspect of her dissertation. The objective of this research is to attempt to examine academic success in substance abuse counseling students. The study will take about 30 minutes to complete.

There are no known risks if you decide to participate in this research, nor are there any costs for participating in the study. If you are experiencing stress/anxiety during the administration, you are free to terminate. If you feel you would like to speak to a mental health professional, you can call ███. The information you provide will help to understand personality traits in substance abuse counseling students and their academic success. In addition, what I learn from this study should provide general benefits to students, colleges/universities, faculty and researchers in our community.

This survey is anonymous. To help protect your confidentiality, the surveys do not contain information that will personally identify you. The results of this study will be used for scholarly purposes only.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you have any questions or concerns about completing those questionnaires or about being in this study, you may contact me, Christi Myers, at St. Mary's University Counselor Education and Supervision program, cmyers3@mail.stmarytx.edu You may also contact the faculty adviser for this research, Dr. Dan Ratliff at dratliff@stmarytx.edu

ANY QUESTIONS REGARDING YOUR RIGHTS AS A RESEARCH PARTICIPANT MAY BE ADDRESSED BY THE ST. MARY'S UNIVERSITY INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS. ONE CAMINO SANTA MARIA. SAN ANTONIO, TX 78228. CHAIR, INSTITUTIONAL REVIEW BOARD. 210-436-3736 or email at IRBCommitteeChair@stmarytx.edu. ALL RESEARCH PROJECTS CARRIED OUT MEET THE REQUIREMENTS OF THE UNIVERSITY AND FEDERAL GOVERNMENT.

By submitting this form you are indicating that you have read the description of the study, are over the age of 18, and that you agree to the terms as described. Thank you for your participation and collaboration in this research study.

Respectfully,

Christi Myers, MA, LPC, LCDC

Appendix E

Letter of Support

████████████

Chair, Department of Public Policy & Services

████████████████

1819 N Main Ave,

San Antonio, TX 78212

April 29, 2019

St. Mary's University IRB Committee

1 Camino Santa Maria,

San Antonio, TX 78228

To: St. Mary's University IRB Committee

This letter is in support of Christi Myers' dissertation research study to be conducted with students enrolled in the Human Services: Addiction Counseling program at ███████████████████████. I understand that her research will receive approval from St. Mary's IRB prior to data collection with our students. Ms. Myers will provide us with documentation of IRB approval from St. Mary's before invitations to participate in this study are sent to our students.

Please feel free to contact me with any questions. I can be reached through email at ████████████████

Sincerely,

████████████████████

███████████