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The Relationship Between Personal Values and Personality Traits in Inpatient Behavioral Patients

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THE RELATIONSHIP BETWEEN PERSONAL VALUES AND PERSONALITY TRAITS IN INPATIENT BEHAVIORAL PATIENTS

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DISSERTATION APPROVAL

This is to certify that the thesis presented to us by Chelsea Frank, M.S.

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COMMITTEE MEMBERS' SIGNATURES

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Abstract

Inpatient behavioral-health hospital admission has become an important therapeutic option for severely ill psychiatric patients and accounts for one third of the national mental-healthcare costs. After discharge, approximately 40% of patients with psychiatric problems are rehospitalized within 1 year of release from an inpatient behavioral-health hospital. Currently, no clear agreement exists within the psychology field as to which variables predict readmission. Identifying personal values and personality traits in assessment may be beneficial to help understand individual's better, thereby informing treatment planning to help reduce the rate of readmission. The present study examined the relationship between personal values and personality traits in an inpatient behavioral hospital. The sample consisted of patients from a behavioral-health hospital in the northeastern region of the United States. Data were collected from 101 adult participants during their stay at the hospital from September 2015 to August 2016. The current study used a cross-sectional, correlational design to determine the relationship between scores on the Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) and the Personal Values Card Sort (Miller, Matthews, & Willbourne, 2001). The analysis revealed no significant correlation between personal values and personality traits for this inpatient sample. The personal value of family was found to be the most prevalent personal value, with 47 of 101 participants choosing family as one of their top five personal values. Additionally, none of the five personality traits on the TIPI were highly correlated, demonstrating evidence for psychometric validity of the TIPI for this inpatient sample. These results indicate the independent contributions of both the TIPI and Personal Values Card Sort, as well as the importance of considering the value of family

to inform the assessment and treatment, in addition to increasing motivation in behavioral-hospital inpatients.

Keywords: inpatient behavioral hospital, inpatient behavioral patients, personality, personality traits, personality disorders, personal values, race, age, gender, insurance companies, personality measures, personal values measures, values card sort, ten item personality inventory

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Chapter 1: Introduction

Statement of the Problem

Inpatient behavioral-health hospital admission has become an important therapeutic option for severely ill psychiatric patients and accounts for one third of national mental- healthcare costs (Bao & Sturm, 2001; Zhang, Harvey, & Andrew, 2011). Approximately 40% of patients with psychiatric problems are rehospitalized within 1 year of discharge from inpatient behavioral-health hospitals (Boulding, Glickman, Manarry, Schulman, & Staelin, 2011; Thompson, Neighbors, Munday, & Trierweller, 2003). Hospital readmission rates are an important measure of the quality of patient care, as high-quality care and positive outcomes should be expected to result in substantially ameliorating presenting problems, stability at discharge, and reduction in readmission rates (Benbassat & Taragin, 2000; Boulding et al., 2011; Campbell, Roland, & Buetow, 2000).

Two variables that patients have identified as important indicators of high-quality care are good communication between patients and staff and staff exhibiting knowledge of methods to improve patient health (Garson, Yong, Yock, & McClellan, 2006; Thornton, Powe, Roter, & Cooper, 2011). Improving patient quality of care is a fundamental component of enhancing the value of the healthcare system and improving outcomes (Mohammed et al., 2016).

At the time of this writing, no clear agreement exists within the field as to the variables that predict readmission (Hamilton et al., 2015; Mark et al., 2013). However, evidence shows that decreased satisfaction with nursing staff, inadequate discharge plans, and poor aftercare attendance contribute to rehospitalization (Hamilton et al., 2015; Mark

et al., 2013). Although interventions have attempted to address these variables, readmission rates are still on the rise, suggesting a need to find other factors that may contribute to relapse and rehospitalization (Boulding et al., 2011; Hamilton et al., 2015; Larrabee et al., 2004; Mark et al., 2013).

The amount of research is surprisingly limited regarding the influence of various inpatient behavioral interventions on readmission rates, cost, and improvement in patient quality of care (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Paul & Menditto, 1992). To be effective, minimally, an inpatient behavioral-health treatment program should decrease the problem behaviors responsible for hospitalization, and the individual should be released with improved levels of functioning and skills that reduce the need for rehospitalization (Paul & Menditto, 1992). Currently, ethical, legal, and financial demands require a detailed treatment plan before treatment can begin, requiring therapists to identify immediately the treatment they will use for their patients (Corrigan, Holmes, & Luchinis, 1993; Harkness & Lilienfeld, 1997). Effective treatment exists, as symptoms, social function, and quality of life of patients with severe mental illness have been shown to improve significantly when these patients participate in certain individualized behavioral treatments (Corrigan et al., 1993; Harkness & Lilienfeld, 1997). Individuals benefit best from treatment that better addresses their specific needs or deficits (Project MATCH Research Group, 1997). Finding effective and efficient methods and identifying the most appropriate treatment for each patient depending on his or her specific needs or deficits could help increase quality of care and reduce readmission rate and cost (Harkness & Lilienfeld, 1997).

Until now, few attempts have been made to develop specific treatments to match personality styles and personal values, but doing so may improve treatment outcomes at inpatient behavioral-health hospitals (Staiger, Kambouropoulos, & Dawe, 2007). Personality is a psychological aspect of an individual that is pervasive (i.e., carried from one situation to another), enduring, and generally stable (Boyce, Wood, & Powdthavee, 2013). Personality traits are characteristics of individuals that explain their thoughts, feelings, actions, and interpretations of life events (Boyce et al., 2013; Butrus & Witenberg, 2015). In fact, personality is the most consistent predictor of subjective well-being (Boyce et al., 2013). Using personality traits in assessment is recommended as a means to personalize treatment, thereby improving patient quality of care and reducing readmission rates and costs at inpatient behavioral hospitals (Roccas, Sagiv, Schwartz, & Knafo, 2002). Certain personality traits can increase risks for suicidal behavior, leading individuals to voluntary or involuntary admission to inpatient behavioral-health hospitals for acute care (Duberstein et al., 2000). Identifying personality traits that increase the likelihood for suicidal behavior can help to prevent suicide by defining and then targeting high-risk individuals (Duberstein et al., 2000).

Values are abstract, cognitive representations of desirable goals. When particular values are strong and salient to individuals, they are generally motivated to behave in ways that are consistent with their goals (Boyce et al., 2013; Feather, 1995; Roccas et al., 2002). Different values are important to different people, and the strength of a value can affect the amount of effort a person puts into an activity and the choices he or she makes between alternative activities (Feather, 1995). Many clinicians now acknowledge that personal values need to be considered in therapy, as they help predict the client's world

views and beliefs (Fife & Whiting, 2007; Hodge, 2011). Such knowledge can assist in treatment planning and in selecting specific interventions that are most congruent with patients' values and goals (Fife & Whiting, 2007; Hodge, 2011).

The Schwartz theory, the most widely used personal-value theory, includes the following 10 value types: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism (Hanel & Wolfradt, 2016; Schwartz et al., 2012). Understanding individual values and the ways people prioritize them can be useful in understanding those individuals and guiding treatment planning and goals (Dobewall, Aavik, Konstabel, Schwartz, & Realo, 2014; Feather, 1995).

A number of popular theories conceptualize human personality. The five-factor model of personality (FFM; Costa & McCrae 1992; Goldberg, 1990) is currently the most widely accepted approach for understanding personality (Butrus & Witenberg, 2015; Costa & McCrae 1992; Goldberg, 1990; Roccas et al., 2002). The FFM consists of five basic traits describing an individual’s personality: neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience (Goldberg, 1990; Roccas et al., 2002). Understanding personality traits can be useful for understanding individuals and, in the clinical context, planning the interventions to assist them (Kotov, Gamez, Schmidt, & Watson, 2010; Wiggins & Pincus, 1989).

Although personality traits and personal values are considered independent constructs and have not been extensively researched together, current research has found that personality traits and personal values are distinct but related constructs (Roccas et al., 2002). Personality traits shape personal values in the interaction with the local environment, demonstrating that personality traits are antecedents of personal values

(McCrae et al., 2000). McAdams (1996) formulated a personality system assigning personality traits as Level 1, personal values as Level 2, and self-identity as Level 3. This personality system states that personality traits are biologically inferred, thereby shaping personal values in the environment and then shaping self-identity (McAdams, 1996). The FFM states that values may be influenced by personality traits because people behave in ways that are consistent with their personal values (Bardi, Lee, Hofman-Towfigh, & Soutar, 2009; Dobewall et al., 2014; Rokeach, 1973). Additionally, individuals may also adjust their personal values in order to reduce the discrepancy between their personal values and personality traits (Bem, 1972).

All in all, identifying personal values and personality traits in assessment may help to understand individuals better, thereby informing treatment planning and interventions to improve quality of care and, ultimately, reducing the rate of readmission and cost within the inpatient behavioral-health population (Dobewall et al., 2014; Ehrhart et al., 2009; Feather, 1995; Hanel & Wolfradt, 2016; Staiger et al., 2007).

Purpose of the Study

The purpose of the study was to determine if personal values could predict personality traits of patients at an inpatient behavioral hospital. Little research has examined the connection between personality traits and personal values in this setting (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn, Vannicelli, Longabaugh, Scheff, 1976). It was hoped that determining the relationship between personal values and personality traits and considering them in assessment and treatment planning could ultimately help increase quality of care, reduce readmission rates and cost, speed up the process, and increase effectiveness of individualized behavioral treatments at inpatient

behavioral hospitals (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn et al., 1976). Personality traits and personal values have been found to be important factors when tailoring interventions (Hodge, 2011; Staiger et al., 2007).

Increasing the understanding of the association between personal values and personality traits may be beneficial, as knowing the personality traits of individuals can help decipher what these individuals are capable of and motivated to do to match the personal values they find most important to them (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn et al., 1976). It is also hoped that expanding the knowledge in this area may improve the process of assessment at inpatient behavioral hospitals, a crucial factor because the length of stay is only 7 to 10 days (Masters et al., 2014). Furthermore, having such knowledge may also contribute to planning individualized behavioral treatment plans by furthering the understanding of individuals. As a result, patient quality of care can increase and readmission rates, as well as costs at inpatient behavioral hospitals, can be reduced (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn et al., 1976).

Chapter 2: Review of the Literature

Inpatient Behavioral Hospitals

Individuals diagnosed with a severe and persistent mental illness experience difficulties in functioning during daily activities (Ruggeri, Leese, Thornicroft, Bisoffi, & Tansella, 2000). To be diagnosed with a severe and persistent mental illness, an individual needs to meet four criteria: a psychotic or personality disorder, the need for long-term treatment, chronic duration, and impairment in everyday functioning (Ruggeri et al., 2000). When individuals are severely psychologically impaired, a 24-hour residential inpatient behavioral hospital may be required (Paul & Menditto, 1992). Inpatient behavioral hospitals are leaders in the mental-health system for acute care in the United States and account for one third of national mental-healthcare costs (Bao & Sturm, 2001; Paul & Menditto, 1992; Zhang et al., 2011). The primary goal of all inpatient behavioral hospitals is to provide effective treatments that improve the functioning of patients to a level that is safe for their release into less restrictive settings, ideally without relapse and without the need to return to an inpatient behavioral hospital (Paul & Menditto, 1992).

The first data collection on patients at inpatient behavioral hospitals was in 1831, when only four hospitals existed, with 150 patients and a budget of $30,000 (Manderscheid, Atay, & Crider, 2009). These four hospitals were Pennsylvania Hospital, in Philadelphia, Pennsylvania, founded in 1751; Eastern State Hospital in Williamsburg, Virginia, founded in 1773; New York Hospital in Manhattan, New York, founded in 1792; and Friends Hospital in Philadelphia, Pennsylvania, founded in 1817 (Manderscheid et al., 2009). A few years later, inpatient behavioral hospitals became

long-term-care institutions for individuals who were regarded as unable to care for themselves or whose behavior was deemed too threatening to themselves and others to live on their own (Manderscheid et al., 2009).

By 2002, annual admissions to inpatient behavioral hospitals numbered 160,000, and by 2003, 9 million dollars was spent on inpatient behavioral hospitals, with 70% of the funds coming from mental-health agencies (Manderscheid et al., 2009). Between 2002 and 2005, the number of inpatient behavioral hospitals decreased from 220 to 204, but admissions increased by 21.1%, from 156,000 to 189,000. Concerning gender, during this same time period, the admissions of male individuals increased by 28.1%, from 103,156 to 132,154, and the admission of female individuals increased by 7.4%, from 52,581 to 56,495 (Manderscheid et al., 2009). Research shows that male individuals are more frequently hospitalized than female individuals, in part because men are perceived as more dangerous and a greater threat to society than women (Stroup & Manderscheid, 1988). Pertaining to age, during the same time period, admissions of individuals aged 18 to 25 years increased by 19.8%, from 24,079 to 28,853; those aged 25 to 44 years increased by 15.8%, from 76,212 to 88,230; and those aged 45 to 64 years increased by 33.3%, from 35,144 to 46,854 (Manderscheid et al., 2009). Additionally, concerning diagnoses, schizophrenia at 24% and affective disorders at 16.3%, including depression, anxiety, and bipolar disorder, are the most prevalent diagnoses made at inpatient behavioral hospitals (Manderscheid et al., 2009).

At present, many inpatient behavioral hospitals use cognitive-behavioral therapy (CBT; Beck, 1970), which encompasses techniques from both cognitive and behavioral psychology (Owen, Sellwood, Kan, Murray, & Sarsam, 2015). The cognitive aspect

focuses on the covert behavior that underlies present problems, including maladaptive thoughts and beliefs, while the behavioral aspect focuses on the overt behavior that can beobserved (Beck, 1970). CBT is the most widely studied and empirically supported treatment for mood and affective disorders, substance use disorders, and, currently, disorders with psychosis (Tang, Li, Rogers, & Ballou, 2015). CBT is useful at inpatient behavioral hospitals, as it encompasses techniques that both reduce symptoms and empower patients to gain more control and understanding of their whole body, ultimately increasing quality of care (Owen et al., 2015). Tang et al. (2015) examined the effectiveness of an intensive 10-day CBT group with patients at an inpatient behavioral hospital and found that the group significantly reduced symptoms of depression, anxiety, and overall psychological health from pretest (M = 27.17, SD = 11.72) to posttest (M = 17.19, SD = 8.88). Tang et al. (2015) used the Behavior and Symptom Identification Scale-24 to measure depression, the Penn State Worry Questionnaire-Abbreviated to measure anxiety, and the Schwartz Outcome Scale to assess overall psychological health.

Most inpatient behavioral hospitals also use the milieu/therapeutic community approach, which involves the use of group activities, group counseling sessions, and daily community meetings (Paul & Menditto, 1992). Unfortunately, this approach often discourages individualized care (Paul & Menditto, 1992). As an alternative, the individualized/supportive-care approach involves providing specific treatments for each patient and employs an interdisciplinary team to coordinate and monitor the treatments and outcomes (Paul & Menditto, 1992). Group counseling sessions and family therapy sessions may also be included in the individualized/supportive-care approach (Paul & Menditto, 1992).

A study employing the milieu/therapeutic community approach or the individualized/supportive-care approach found that 77% of the patients whose staff used the individualized/supportive-care approach, specifically including family sessions, sustained improvements after discharge, while only 55% of the patients whose staff used the milieu/therapeutic community approach sustained improvements after discharge (Haas et al., 1988). Staff at inpatient behavioral hospitals who use the individualized/supportive-care approach can be extremely helpful in saving patients' lives and increasing well-being (Paul & Menditto, 1992).

Differences between gender and gender experience at inpatient behavioral hospitals have received little attention (Elliott et al., 2012). Women use more healthcare services than men do, and physicians behave differently toward women and men, often based on assumptions about gender (Elliott et al., 2012; Safran, Rogers, Tarlov, McHorney, & Ware, 1997). One study found that women reported less positive experiences than men did on cleanliness, quiet, communication about medication, pain management, staff responsiveness, nurse communication, and discharge planning (Elliott et al., 2012). The only exception was women had a more favorable view of physician communication than men did (Elliott et al., 2012). The study also found that a less positive experience was even more prominent in older, less healthy, more educated women (Elliott et al., 2012). A second study found that men defined high quality of care as having friendly and helpful nurses, while women equated high quality of care to getting respect from staff (Foss & Hofoss, 2004). Although a few studies have looked into differences regarding women and men at inpatient behavioral hospitals, more research needs to be performed (Elliott et al., 2012).

Assessment and Treatment Planning at Inpatient Behavioral Hospitals. The duration of stay at an inpatient behavioral hospital has changed drastically since inpatient behavioral hospitals first opened in 1751 (Masters, Baldessarini, Ongur, & Centorrino, 2014). In the past, patients remain at inpatient behavioral hospitals until their symptoms were treated to resolution; however, treatment currently is targeted toward stabilizing patients and minimizing symptoms, resulting in an average stay of only 7 to 10 days (Kalra, Fisher, & Axelrod, 2010). The reduced length of stay increases the importance of quickly assessing each patient's unique, therapeutic needs (Masters et al., 2014). Although the major motivation to shorten length of hospital stay may be to limit hospital costs, premature discharge of patients can decrease quality of care and increase the risk of relapse and readmission, ultimately increasing hospital costs (Masters et al., 2014).

In the past, when hospital stays were of far greater duration, assessment and treatment planning emerged throughout a much longer hospital stay of over a period of weeks or months (Harkness & Lilienfeld, 1997). However, times have changed because of ethical, legal, and financial demands, especially because managed-care companies now require a detailed treatment plan before treatment even begins (Harkness & Lilienfeld, 1997). Currently, assessing whether or not an individual needs inpatient behavioral care is often determined within 24 hours at an inpatient behavioral hospital (Ziegenbein, Anreis, Bruggen, Ohlmeier, & Kropp, 2006). Prospective patients are informed that a staff member and psychiatrist will evaluate them within 24 hours (Ziegenbein et al., 2006). Patients may then be discharged; voluntarily admitted, meaning they freely consent to treatment; or involuntarily admitted, meaning another person deems them to be in danger of harming themselves or others (Ziegenbein et al., 2006). Generally, within

the initial 24 hours, an admissions staff member briefly assesses each patient's medical history and presenting symptoms, and then a psychiatrist completes a brief psychiatric assessment to determine an appropriate clinical diagnosis (Ziegenbein et al., 2006). Owing to time constraints, psychometrically validated assessment measures are often not employed, a possible cause for concern because of the increased risk of misdiagnosis inherent to such an unstructured assessment (Ziegenbein et al., 2006).

Assessment is a critical step in developing a proper treatment plan (Harkness & Lilienfeld, 1997). After all, without proper assessment, the clinical hermeutics error could occur (i.e., underestimating the importance of properly diagnosing and fully understanding the uniqueness of the individual; Harkness & Lilienfeld, 1997). Inadequate assessment in treatment planning results in overestimating target problems and prescribing inappropriate interventions and is unlikely to lead to an understanding of each individual's unique personality (Harkness & Lilienfeld, 1997). Because of pressure to reduce length of stay further, staff must be able to assess a patient quickly and accurately so that they may properly plan treatment and provide appropriate high quality of care as soon as possible during the brief hospital stay (Masters et al., 2014).

The American Psychological Association requires that professionals rely on empirically supported scientific information when writing a treatment plan (Harkness & Lilienfeld, 1997; Paul & Menditto, 1992). However, in actual practice in hospital settings, treatment planning typically revolves more around subjective data because of the current demand to write up treatment plans almost immediately upon admission, thereby possibly precluding sufficient evaluation (Harkness & Lilienfeld, 1997; Paul & Menditto,

1992). To guide cost-efficient and high quality of care, Paul and Menditto (1992) posited that a nomothetic approach is imperative in inpatient behavioral hospitals.

Treatment planning is a complex process that includes assessing the patient for problem areas, identifying the patient's goals, determining which intervention is necessary to achieve those goals, determining the techniques from that specific intervention that will be used, implementing the techniques, and then assessing the process throughout (Noell & Gansle, 2016). Although treatment planning is complex and time consuming, it is crucial to guiding treatment (Noell & Gansle, 2016). Different approaches are used to guide treatment planning (Beltz et al., 2016). For example, an idiographic approach involves finding interventions that help specific individuals (Beltz, Wright, Sprague, & Molenaar., 2016). A nomothetic approach involves finding empirically supported interventions that help all individuals dealing with similar problems (Beltz et al., 2016; Persons, 2006). A nomothetic approach is appealing because it allows clinicians to form treatment plans rapidly, as it generalizes interventions that would be best for a group of people who share a certain disorder, symptom cluster, risk factor, or treatment profile (Beltz et al., 2016). Without using adequate empirically supported assessments to guide treatment planning, the clinical hermeneutics error occurs, involving ignoring test findings, potentially leading to the use of inappropriate interventions and inadequate care (Harkness & Lilienfeld, 1997; Persons, 2006).

Quality of Care and Readmission at Inpatient Behavioral Hospitals. Hospital readmission rates are an important measure of quality of care (Benbassat & Taragin, 2000; Boulding et al**.,** 2011; Campbell et al., 2000). High quality of care is considered to be achieved when the patients' presenting problems are resolved and the patients are

stable after discharge (Boulding, Glickman, Manarry, Schulman, & Staelin**,** 2011; Campbell et al., 2000). Failure to achieve high quality of care has occurred when hospital readmission follows within a short amount of time after a previous discharge from an inpatient behavioral hospital; such readmission would not have been necessary if appropriate care had been given (Benbassat & Taragin, 2000; Boulding et al.**,** 2011; Campbell et al., 2000; Lyons et al., 1997).

Despite guidelines, standards, and inspections at mental-health services, many inpatient behavioral hospitals repeat procedures that have previously led to adversity, low-quality care, and high readmission rates (Patterson, Smith, Mcintosh, Mccomish, & Wilkinson, 2013). As approximately 40% of patients with psychiatric disorders are rehospitalized within 1 year of discharge, healthcare payers, policy makers, and providers are understandably concerned about the high readmission rates following inpatient behavioral hospitalization (Boulding et al., 2011; Hamilton et al., 2015; Thompson et al., 2003). Research has also found that pertaining to Medicare recipients, 12.4% of those with a mental disorder, 9.3% with a substance use disorder, and 21.7% with both diagnoses concurrently are readmitted within 30 days (Boulding et al., 2011; Mark et al., 2013; Thompson et al., 2003). Patients readmitted to inpatient behavioral hospitals are referred to as “revolving-door” patients (Hamilton et al., 2015; Mark et al., 2013). In an attempt to rectify these issues, the Affordable Care Act intended to develop and implement readmission reduction strategies to improve healthcare quality, although no clear agreement within the literature exists as to which variables conclusively predict readmission (Hamilton et al., 2015; Mark et al., 2013). The inconsistent research and treatment methodology, difficulty following up on individuals after discharge from

behavioral hospitals, and limited empirical research assessing clinical outcome of inpatient behavioral treatment in general make finding definite predictors for readmission challenging (Langdon, Yaguez, Brown, & Hope, 2001; Lyons et al., 1997).

Although some predictors of inpatient readmission have been studied, no definitive predictor for readmission exists (Hamilton et al., 2015; Paul & Menditto, 1992). Moreover, readmission rates are still on the rise, demonstrating the need for greater understanding of predictors (Hamilton et al., 2015; Paul & Menditto, 1992). The weak predictors of patients who will readmit during the first week following discharge include patients of low socioeconomic status, suicidal patients who need intensive care while at the hospital, patients who do not attend to postdischarge aftercare regimens, and patients with coexisting substance-related disorders (Hamilton et al., 2015; Paul & Menditto, 1992). Larger inpatient behavioral hospitals, lower staff-patient ratios, inconsistent financial support after discharge, and nonadherence with psychopharmacological medication have also been found to be associated with readmission within 30 days (Boden, Brandt, Kieler, Anderson, & Reufors, 2011; Paul & Menditto, 1992). Lastly, decreased satisfaction with nursing staff, inadequate discharge plans, poor aftercare attendance, and a shorter length of stay are associated with higher readmission rates (Edell, Hoffman, DiPietro, & Harcherik, 1990; Hamilton et al., 2015; Mark et al., 2013). Although attempts have been made to address these variables, readmission rates are still on the rise, suggesting a need to find other factors that may contribute to rehospitalization (Boulding et al., 2011; Hamilton et al., 2015; Larrabee et al., 2004; Mark et al., 2013; Webb, Yaguez, & Langdon, 2007).

Recently, the Value-Based Purchasing (VBP) program was implemented by the Centers for Medicare and Medicaid Services (Mohamed et al., 2016). This program places emphasis on patient-centered care, including outcome and personal experience by patients (Mohammed et al., 2016). Identifying and improving patient experience of care is a key component for providing high quality of care (Mohammed et al., 2016). Although standardized measures have been used traditionally to obtain information about the experiences patients have at inpatient behavioral hospitals, patients have many beliefs and expectations about their healthcare that are not always addressed in standardized measures that may not adequately measure patient satisfaction and dissatisfaction (Mohammed et al., 2016). Patient satisfaction is a predictor of willingness to follow treatment plans and adherence to suggested interventions (Larrabee et al., 2004). Other factors identified as predictors of patient satisfaction include age, education level, satisfaction with life, physical-health status, socioeconomic status, and psychiatric diagnosis (Larrabee et al., 2004).

Corrigan et al. (1993) asked staff members at an inpatient behavioral hospital to identify the barriers they perceived to impede high quality of care, thereby resulting in failure to sustain improvements and leading to readmission. The top four reported barriers were institutional constraints (i.e., lack of sufficient resources), lack of support from colleagues, opposition to use of certain interventions, and patients' dissatisfaction with the interventions. Mohammed et al. (2016) found that patients identified good communication with staff, personal involvement in care, and individualized care with their treatment regimen all increased patients' perceptions of high quality of care and patient experience. Although researchers have assessed the relative impact of these

variables on outcome, cost, and quality of care, readmission rates are still on the rise, suggesting a need to find other factors that may contribute to rehospitalization (Boulding et al., 2011; Hamilton et al., 2015; Larrabee et al., 2004; Mark et al., 2013). Other variables of interest include patients' personality traits and personal values (Roccas et al., 2002).

Personality

Personality is a stable psychological aspect of an individual that is pervasive (i.e., carried from one situation to another), enduring, and innate (Boyce et al., 2013). In fact, personality is the most consistent predictor of subjective well-being (Boyce et al., 2013). Personality predicts well-being, as it controls the way individuals respond to important life events, including unemployment, disability, grief, and loss (Boyce & Wood, 2011). Personality traits are characteristics of individuals that explain their thoughts, feelings, actions, and interpretations of life events (Butrus & Witenberg, 2015; Harkness & Lilienfeld, 1997). Personality traits also differentiate individuals from one another and allow for generalizations regarding the ways others with similar traits are likely to act (McCrae & John, 1992). Using personality traits in assessment could be beneficial in understanding the individual, tailoring interventions to increase patient quality of care, and reducing readmission rates and costs at inpatient behavioral hospitals (Roccas et al., 2002).

Until now, few attempts have been made to develop specific inpatient treatments to match personality styles, but doing so may improve treatment outcomes at inpatient behavioral hospitals (Staiger et al., 2007). Research has found that individuals create environments that support and maintain their personality traits, even if they are not aware

of doing so (Harkness & Lilienfeld, 1997). Clinicians can help their patients live a life that is consistent with their personality traits, while also giving them the most potential for health, happiness, and well-being (Harkness & Lilienfeld, 1997).

The Five-Factor Model (FMM) of Personality Traits. The FFM (Goldberg, 1990) is currently the most widely accepted model for understanding personality (Butrus & Witenberg, 2015; Costa & Widiger 2002; Goldberg, 1990; Gosling, Rentfrow, & Swann, 2003; Roccas et al., 2002). In 1936, Allport and Odbert created the first personality trait list by looking in the dictionary and listing 4,000 personality traits (as cited in Goldberg, 1990). In 1943, Raymond Cattell was the first scientist to apply empirical procedures to construct a personality trait classification system, which entailed decreasing the 4,000 personality traits listed by Allport and Odbert by factor analysis, and Cattell then lessened the number to 16 scales (Goldberg, 1990). While analyzing the 16 scales by orthogonal rotational methods, Robert McCrae and Paul Costa found that only five factors were replicable, naming them the FFM (Goldberg, 1990). The five basic traits of the FFM are neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience (Goldberg, 1990).

The FFM (Goldberg, 1990) is a hierarchical model of personality traits with five factors representing personality. The five factors are hypothetical constructs inferred from self-reports representing the actions, skills, habits, and preferences of individuals (Jang, Angleitner, Riemann, McCrae, & Livesley, 1998). Although the FFM is not a theory of personality, the FFM embraces the theories arising from trait theory, which states that individuals can be characterized in terms of enduring patterns of thoughts, feelings, and actions (McCrae & John, 1992). Additionally, the FFM can be assessed

quantitatively, and personality traits are consistent across varying social settings (McCrae & John, 1992).

The FFM also acknowledges four assumptions about human nature: knowability, rationality, variability, and proactivity (Hjelle & Siegler, 1976). Knowability states that personality can be studied scientifically and that identifying an individual's personality can help the clinician understand the individual further (Hjelle & Siegler, 1976). Rationality assumes that individuals are capable of understanding themselves and others (Hjelle & Siegler, 1976). Variability indicates that individuals differ from each other, and proactivity assumes that personality is actively involved in shaping individuals' behaviors and lives (Hjelle & Siegler, 1976).

Further defining the five factors, neuroticism represents the tendency for an individual to respond with negative affectivity (i.e., negative emotions to threatening situations, stressors, frustrations, and loss) and to dwell on what they perceive as personal inadequacies (Harkness & Lilienfeld, 1997). Negative affectivity can prevent individuals from controlling their negative emotions and from achieving goals (Kanfer & Heggestad, 1999). The negative emotions experienced include worry, anxiety, insecurity, shame, embarrassment, anger, and self-consciousness, all of which have been found to lead to mental and physical disorders, including mood, anxiety, and somatoform disorders (Boyce et al., 2013; Costa, Terracciano, & McCrae, 2001; Harkness & Lilienfeld, 1997; McCrae & Costa, 1987; Watson & Clark, 1994). When individuals experience these negative emotions, they have difficulty controlling them in productive ways, leading them to cope by aggression, isolation, and substance use (Staiger et al., 2007). Neuroticism is also linked to mistrust of others and irrational beliefs, leading to poor

coping responses, including self-blame, overeating, smoking, and excessive drinking (Costa & McCrae, 1980). Symptoms of depression and anxiety also are associated with neuroticism (Clark, Watson, & Mineka, 1994). Individuals who are low in neuroticism demonstrate less self-efficacy, which is the belief that one is capable of successfully performing and achieving one's goals (Judge, Erez, & Bono, 1998). Additionally, individuals who score low on neuroticism are regarded as high on emotional stability, demonstrating that emotional stability is the opposite dimension of neuroticism (Parks & Guay, 2009). An emotionally stable individual is self-confident, resilient, and well adjusted (Parks & Guay, 2009; Renau, Oberst, Gosling, Rusinol, & Chamarro, 2013).

Extroversion is the tendency to experience positive affect, leading individuals to enjoy the company of others, be able to deal with stress, and believe that their lives have meaning (Boyce et al., 2013; Eysenck & Eysenck, 1967). This trait also allows individuals to be affectionate, friendly, and talkative and to be able to enjoy daily activities (McCrae & Costa, 1987). Individuals high on extroversion are active and crave stimulation, while individuals low on extroversion are reserved, independent, and quiet (Costa & Widiger, 2002).

Agreeableness represents a tendency to act in harmony with others' interests (Boyce et al., 2013). Individuals with this trait are regarded as pleasant, warm, and likeable, leading them to experience better quality relationships and well-being (Boyce et al., 2013). Individuals who are high on agreeableness are good-natured, trusting, helpful, forgiving, and selfless (Costa & Widiger, 2002). Individuals low on agreeableness are mistrustful, skeptical, unsympathetic, uncooperative, abrasive, vengeful, and stubborn (Costa & Widiger, 2002; McCrae & Costa, 1987).

Conscientiousness is found to positively impact motivation and the achievement of goals (Parks & Guay, 2009). Motivation induces arousal, direction, and intensity, thereby leading individuals to be interested in a goal, choose to pursue that goal, and put much effort toward achieving that goal (Boyce et al., 2013; Mitchell, 1997). These individuals are governed by conscious, careful, and thorough thought, and they adhere to plans, schedules, and requirements, helping them to achieve their goals (Boyce et al., 2013). Individuals with a high level of conscientiousness are hard working, confident, resourceful, patient, cooperative, dependable, and moral, while individuals low on conscientiousness are unreliable, lazy, careless, and selfish (Cheng & Ickes, 2009; Costa & Widiger, 2002). Lastly, conscientiousness is linked to perfectionism, which is the belief that anything not deemed as flawless is unacceptable, leading these individuals to set excessively high standards for themselves (Stoeber, Otto, & Dalbert, 2009). When those standards are not achieved, for some, especially for those high on neuroticism, symptoms of depression and anxiety and thoughts of suicide can develop (Stoeber, Otto, & Dalbert, 2009).

Openness to experience is linked to intelligence and artistic abilities (Boyce et al., 2013). These individuals are also imaginative, brave, and adventurous and have broad interests (McCrae & Costa, 1987). These individuals have extensive curiosity and interest in all aspects of life, including thoughts, ideas, experiences, feelings, and art (McCrae & Costa, 1997). Lastly, individuals low on openness to experience are conservative and rigid in their beliefs (Costa & Widiger, 2002).

The FFM is both valid and reliable (McCrae & Costa, 1997). A comparison of the results of two assessments that measure all five personality traits of the FFM, the 40-item

bipolar Adjective Rating Scale, a measure that has respondents describe themselves, and the 144-item NEO Personality Inventory (NEO-PI), a personality measure that uses the personality factors of the FFM, found convergent and discriminant validity between all five personality traits (McCrae & Costa, 1987). The FFM has been found to be reliable and valid also when administered in a variety of languages, cultures, and countries, including Austria, Belgium, Canada, Croatia, Czech Republic, Estonia, France, Switzerland, Germany, Hong Kong, India, Indonesia, Italy, Japan, Malaysia, Netherlands, Peru, Philippines, Portugal, South Africa, South Korea, Spain, Taiwan, Turkey, United States, Serbia, and Zimbabwe (Allik, 2005; Digman, 1997; McCrae & Costa, 1987; McCrae & Costa, 1997). Four thousand languages are spoken throughout the world. Studies on the universality among personality traits have looked at language families, which are groups of languages that have a common historical origin, including the families of German, Portuguese, Hebrew, Chinese, Korean, and Japanese (McCrae & Costa, 1997). The Hebrew, Portuguese, and German cultures have been shaped by Judeo-Christian traditions, and Japanese, Chinese, and Korean cultures have been shaped by Buddhist and Confucian traditions (McCrae & Costa, 1997). A study looking at factor congruence coefficients found that the personality traits from the FFM could be translated into each of the language families, as all but four reached a factor loading of .90, and anything .90 or greater gives evidence that a factor has been replicated (McCrae & Costa, 1997).

FFM and personality disorders. Personality disorders (PDs) are enduring and maladaptive patterns of behavior and traits that deviate from those of the general population and are stable over time (Costa & Widiger, 2002; Samuel & Widiger, 2008;

Zimmerman, Rothschild, & Chelminski, 2005). PDs are associated with higher rates of self-injurious behaviors, leading to the need for a higher level of care (Budge et al., 2013). The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5;* American Psychiatric Association [APA], 2013) states that prevalence rates of PDs range from 6 to 13% of the population, and they are highly comorbid with clinical syndromes, including anxiety and depression. The *DSM-5* (2013) includes 10 personality disorders, which are also the same 10 personality disorders that were included in the *Diagnostic and Statistical Manual of Mental Disorders (*4th ed.; *DSM-IV*; American Psychiatric Association [APA], 1994) with no changes in criteria (Krueger & Eaton, 2010). The 10 PDs are paranoid PD, schizoid PD, schizotypal PD, antisocial PD, borderline PD, histrionic PD, narcissistic PD, avoidant PD, dependent PD, and obsessive-compulsive PD (OCPD; Costa & Widiger, 2002).

PDs always have been poorly understood compared to other disorders in the *DSM-5* (2013; Skodol, Bender, Morey, & Oldham, 2013). Unlike the *Diagnostic and Statistical Manual of Mental Disorders* (1994), the *DSM-5* (2013) does not have a five multiaxial assessment system, which differentiated between clinical disorders, PDs, and intellectual disorders (Yalch & Hopwood, 2016). As PDs are currently not differentiated between clinical syndromes by diagnostic axes II versus I, respectively, professionals have become even less cognizant of PDs, and the diagnostic category has become even more confusing to psychiatrists and many others in the field (Yalch & Hopwood, 2016). The *DSM-5* (2013) includes the 10 previous PDs as well as a trait-specified personality diagnosis in which the patients do not meet full criteria for a PD but, nonetheless, have personality-related impairment in daily functioning (Yalch & Hopwood, 2016). This new

PD diagnosis includes 25 different personality traits, requiring psychiatrists to learn how personality traits and PDs are related (Yalch & Hopwood, 2016). Costa and McCrae (1992) found that PDs can be understood in terms of the FFM because the criteria for PDs correlate with and are closely linked to personality traits (Costa & Widiger, 2002).

PDs are associated with high rates of social and occupational impairment and predict slower recovery (Skodol et al., 2013). Zimmerman et al. (2005), from a sample of 859 individuals at an outpatient agency who had previously not been diagnosed with a PD, found that 270 individuals met criteria for at least one PD after being interviewed with the structured interview for the *DSM-IV* (1994) interview. This study demonstrates the need to evaluate all individuals for PDs for the purpose of accurate case conceptualization and treatment planning (Zimmerman et al., 2005).

The *DSM-5* (2013) lists all the criteria for each PD. Individuals diagnosed with paranoid PD distrust others, as they believe others are deceiving them. Individuals diagnosed with schizoid PD detach themselves from interpersonal relationships because they have no desire to form meaningful relationships. Individuals diagnosed with schizotypal PD have discomfort forming interpersonal relationships because they have social and interpersonal deficits and odd behavior. Individuals diagnosed with antisocial PD disregard the rights of others. They are also impulsive, irritable, and lack remorse. Individuals diagnosed with borderline PD constantly worry about being abandoned, leading to unstable and intense interpersonal relationships; these individuals also are impulsive and reactive in mood. Individuals diagnosed with histrionic PD are excessively emotional and seek attention from others, leading them to feel uncomfortable when they are not the center of attention. Individuals diagnosed with narcissistic PD lack empathy,

have a sense of entitlement, and take advantage of others. Individuals diagnosed with avoidant PD feel inadequate and are hypersensitive to negative evaluations by others, leading them to avoid relationships with others. Individuals diagnosed with dependent PD have an excessive need to be taken care of by others, leading them to be submissive and to do anything they can to maintain relationships with others. Finally, individuals diagnosed with OCPD are preoccupied with order, perfectionism, and control, leading these individuals to lack flexibility and openness to others' ideas (Costa & Widiger, 2002).

Samuel and Widiger (2008) and Saulsman and Page (2002) found a relationship between the domains of the FFM and PDs. Saulsman and Page (2004) conducted a meta-analysis of 15 studies examining the relationship between the FFM and PDs in the *DSM-IV* (1994). Results of this study found a positive correlation between both narcissistic PD and histrionic PD and extraversion, while avoidant PD was negatively correlated with extraversion. Narcisstic PD was also found to have a negative relationship with agreeableness. Schizoid PD, schizotypal PD, avoidant PD, and dependent PD were all found to be positively correlated with neuroticism. Schizotypal PD also had a negative correlation with extraversion and agreeableness. Both paranoid PD and borderline PD were positively correlated with neuroticism and negatively correlated with agreeableness. Antisocial PD was found to be negatively correlated with agreeableness and conscientiousness. Finally, OCPD positively correlated with conscientiousness.

Samuel and Widiger (2008) found similar results after completing their own meta-analysis, further confirming a relationship between the domains of the FFM and PDs. Using measures that assess for the personality traits under the FFM can be

extremely valuable to help identify the possible diagnosis of a PD to tailor accurate treatment plans (Samuel & Widiger, 2008).

PDs and Reimbursement by Insurance Companies. At present, mental illnesses are treated as illnesses that need to be cured, not as life-long problems that need to be managed (Whooley, 2010). Because of this interpretation of mental illnesses, insurance companies are putting constraints on reimbursements (Whooley, 2010). Many insurance companies refuse to reimburse for the treatment of PDs because they are aware that PDs are chronic and they believe PDs cannot be "cured" by any type of treatment currently available (Kernberg & Yeomans, 2013). Because of this refusal, psychiatrists at inpatient behavioral hospitals often intentionally misdiagnose patients with PD instead with mood or other disorders to guarantee that all of their patients will be financially reimbursed (Kernberg & Yeomans, 2013; Whooley, 2010). Misdiagnosing borderline PD for bipolar disorder, for example, can lead to inappropriate treatment planning and inappropriate treatment, thus leading to low quality of care and increased readmission rates at inpatient behavioral hospitals (Harkness & Lilienfeld, 1997). Although psychiatrists at inpatient behavioral hospitals are hesitant to diagnose PDs because of the constraints made by insurance companies, proper assessment is important to identify the underlying personality traits to tailor interventions appropriately, leading to higher quality of care and a decrease in readmission rates (Roccas et al., 2002).

Combinations of personality traits on the FFM. Torgersen (1980) investigated the effects combinations among personality traits can have on personality and determined that individuals who are low in extraversion, neuroticism, and conscientiousness are emotionally flat, unresponsive to situational cues, not interested in social norms, and low

in ambition. They are known as the spectator type. Being low in extroversion and conscientiousness but high in neuroticism can lead an individual to be self-conscious, poorly organized, and dependent on others' opinions. They are known as the insecure type. Individuals who are low in extraversion and neuroticism but high in conscientiousness are emotionally stable and are effective in managing daily life tasks, but they are also guarded and rigid. They are known as the sceptic type. Those who are high in neuroticism and conscientiousness but low in extraversion are known as the brooder type, leading an individual to be shy, withdrawn, ambivalent, insecure, and indecisive (Torgersen, 1980).

Torgersen (1980) also found that individuals who are low in neuroticism and conscientiousness but high in extraversion are found to be sociable, pleasure seeking, physically and emotionally healthy, but also not dependable. They are known as the hedonist type. Individuals who are high in extraversion and neuroticism but low in conscientiousness are found to be pleasure and attention seeking and emotionally reactive. They are known as the impulsive type. Those who are high in extraversion and conscientiousness but low in neuroticism are socially secure, independent, dominant, and goal oriented. They are known as the entrepreneur type. Lastly, individuals who are high in extraversion and neuroticism but low in conscientiousness are found to be emotionally intense, sensitive, dependent, reliable, and value order. They are known as the complicated type (Torgersen, 1980). Torgersen (1980 confirmed that combinations of different personality traits in the FFM can affect individuals' behaviors, further helping identify the unique qualities of each individual and demonstrating the importance of matching treatment to personality.

Matching Treatment to Personality. Building motivation for treatment and crafting treatment to the individual are important (Miller & Rollnick, 2013). A beneficial strategy to increase motivation and engagement in the treatment plan is to match treatment to personality traits (Harkness & Lilienfeld, 1997). Individuals benefit more from treatment that better addresses their specific needs or deficits and addresses their goals, which are generally consistent with their individual personality traits (Project MATCH Research Group, 1997). For example, Staiger et al. (2007) found that individuals who have high levels of sensation seeking, a characteristic of neuroticism, and individuals who have the perception that everything needs to be perfect, a feature of conscientiousness, are found to have high dropout rates during treatment and poorer treatment outcomes if they stay in treatment. Additionally, Staiger et al. (2007) stated that individuals who are low on conscientiousness have higher rates of impulsivity, possibly playing a role in substance use and self-harm and leading to the need to tailor interventions that address this specific personality trait to ameliorate these specific behaviors. Furthermore, hypersensitivity and negative affect, a trait of individuals high on neuroticism, arefound in individuals diagnosed with anxiety disorders and depression, leading again to the need to tailor interventions that address this specific personality trait (Staiger et al., 2007).

For instance, Project MATCH set out to find whether matching treatment to personality traits could improve retention rates of and outcomes for individuals diagnosed with substance use disorder. Project MATCH used CBT, motivational enhancement therapy (MET), or a 12-step program, finding that individuals with high levels of anger, an intense emotion found in individuals high in neuroticism, had best outcomes using

MET (Project MATCH Research Group, 1997; Staiger et al., 2007). Additionally, Staiger et al. (2007) found that individuals who exhibit the personality trait of reward-impulsivity, who are low on conscientiousness, benefited from using contingency management (CM). In CM, individuals are rewarded every time they achieve their specified goals (Staiger et al., 2007). In this study, Staiger et al. (2007) found that 84% of substance users completed the CM program and 69% remained abstinent, while only 22% in the control group, who did not tailor to personality traits, completed the program, and only 39% remained abstinent. Understanding personality traits can help therapists tailor specific techniques to aid in achieving better treatment outcomes (Staiger et al., 2007).

Neurobiology of Personality Traits. The focus on psychological mechanisms underlying personality, which includes the cognitive, affective, and behavioral aspects, has dominated the study of personality, but newer research has now advanced in studying the biological mechanisms as well (DeYoung et al., 2010; Riccelli, Toschi, Nigro, Terracciano, & Passamonti, 2017). The field of personality neuroscience, which is a division of the general study of personality that tests the neurobiological dimensions of personality traits and the brain regions, has emerged (DeYoung et al., 2010). Two studies tested personality traits and their corresponding brain regions (DeYoung et al., 2010; Riccelli et al., 2017). DeYoung et al. (2010) conducted the first study, using 116 adults aged 18 to 58 years who filled out the NEO Personality Inventory, Revised (NEO-PI-R), a 240-item self-report inventory, to assess their corresponding FFM personality traits, and a 3-T Allegra System was used to obtain a high-resolution structural image of their whole brain. Additionally, Riccelli et al. (2017) conducted the second study, using 507

adults aged 22 to 36 years who filled out the NEO-PI-R, and a 3-Tesla Siemens Skyra unit was used to obtain a high-resolution structural image of the brain.

The DeYoung et al. (2010) and Riccelli et al. (2017) studies had similar findings. The participants who scored highest on extroversion had the highest volume shown on the medial orbitofrontal cortex in the first study (DeYoung et al., 2010; Riccelli et al., 2017). This result makes sense, as extraversion is linked to positive emotions(i.e., the ability to experience pleasure and reward), and the medial orbitofrontal cortex is involved in reward sensitivity (Boyce et al., 2013; DeYoung et al., 2010; Eysenck & Eysenck, 1967; Riccelli et al., 2017). Participants who scored highest on neuroticism had increased volume in the midcingulate gyrus and reduced volume in both the dorsomedial prefrontal cortex (PFC) and the posterior hippocampus (DeYoung et al., 2010; Riccelli et al., 2017). These results are promising, as neuroticism is linked to the tendency to experience negative emotions, including anxiety, irritability, depression, stress, and lower self-esteem, and reduced hippocampal volume is associated with increased stress and anxiety (DeYoung et al., 2010; Harkness & Lilienfeld, 1997; Riccelli et al., 2017). Additionally, increased volume in the midcingulate gyrus is associated with increased responses to both physical and emotional pain, and decreased volume in the dorsomedial PFC is associated with lower self-esteem (DeYoung et al., 2010; Riccelli et al., 2017). The participants who scored highest on agreeableness in both studies had increased volume in the posterior cingulate cortex, the fusiform gyrus, and the superior PFC (DeYoung et al., 2010; Riccelli et al., 2017). Agreeableness is associated with the desire to help others and the ability to be cooperative and polite, and increased volume in the posterior cingulate cortex is involved in the need and desire to understand others. The

fusiform gyrus is linked to facial recognition, and the superior PFC is linked to greater social recognition (Boyce et al., 2013; DeYoung et al., 2010; Riccelli et al., 2017).

The same two studies by DeYoung et al. (2010) and Riccelli et al. (2017) found that participants who scored highest on conscientiousness had higher volumes in the middle frontal gyrus in the left lateral PFC. This result makes sense, as conscientiousness is linked to the ability to constrain impulses, follow rules, make plans, and achieve goals. On the other hand, the middle frontal gyrus is involved in maintaining working memory and executing plans (DeYoung et al., 2010; Parks & Guay, 2009; Riccelli et al., 2017). The participants who scored highest on openness to experience had higher volumes in the parietal cortex in both studies (DeYoung et al., 2010; Riccelli et al., 2017). Openness to experience is associated with the desire and ability to engage in artistic activities and to process abstract and perceptual information, and the parietal cortex is linked to working memory and the ability to engage and regulate attention during activities (Boyce et al., 2013; DeYoung et al., 2010; Riccelli et al., 2017). These two studies demonstrated that personality traits have underlying biological and psychological mechanisms (DeYoung et al., 2010; Riccelli et al., 2017).

Age and Personality Development. Although personality traits have been found to be relatively stable throughout life, Soto, Gosling, John, and Potter (2011) determined that the biological, social, and psychological changes that happen during childhood (6-12 years of age), adolescence (13-18 years of age), and adulthood (18-65 years of age) affect personality traits. During childhood, children often try to behave in accordance with the rules of their parents, but by adolescence most of these individuals begin to become more autonomous and behave as they perceive is right (Soto et al., 2011).

Additionally, Soto et al. (2011) stated that many of the changes that occur to female adolescents beginning at age 11 years and male adolescents beginning at age 13 years most affect personality traits, and such changes continue throughout adulthood. The changes that occur with adolescents is because puberty accelerates growth and changes body shape, while secondary sex characteristics further develop (Marshall & Tanner, 1986). Socially, adolescents' relationships with and attitudes toward adults and peers change, and psychologically, they begin to establish their unique identities (Buhrmester, 1996; Erikson, 1968). Soto et al. (2011) found that from late childhood to early adolescence, agreeableness, extraversion, conscientiousness, and openness to experience decreased for both male and female individuals, while neuroticism decreased for female but increased for male individuals (Soto et al., 2011). Additionally, the same researchers found that conscientiousness, agreeableness, and openness to experience increased for both female and male individuals during the transition from adolescence into early adulthood (Soto et al., 2011). Neuroticism declined for male individuals, but stayed relatively constant for female individuals during the transition from adolescence into early adulthood, while extraversion was stable for both female and male individualss (Soto et al., 2011). Lastly, pertaining to the transition from early adulthood into older adulthood for male and female individuals, Soto et al. (2011) found that agreeableness, conscientiousness, and openness to experience continued to increase for both sexes; extraversion was stable; and neuroticism decreased for both sexes (Soto et al., 2011).

Stress and Personality. Vollrath and Torgersen (2000) found that personality contributes to both stress and coping, possibly further affecting an individual's response to life events. The researchers found that individuals high in neuroticism experienced

intense stress and negative emotions during daily events, no matter whether the situation was deemed positive or negative, whereas individuals high in extraversion were able to experience intense pleasure during positive situations (Vollrath & Torgersen, 2000). Regarding coping during stressful situations, the same researchers found that individuals who were high in neuroticism engaged in passive and maladaptive ways of coping, individuals high in extraversion engaged in active coping strategies and sought out social support, and individuals high in conscientiousness engaged in planning and active problem solving (Vollrath & Torgersen, 2000).

Genes and Personality. Genetic factors also influence personality traits (Jang et al., 1998). Genes are a distal cause of personality traits, mediated by neurochemical and neurophysiological mechanisms (Hettema & Deary, 1993). Genetic factors are inferred to be the cause when the monozygotic (MZ; i.e., identical) twin correlational score significantly exceeds that of the dizygotic (DZ; i.e., fraternal) twin score (Jang et al., 1998). Jang et al. (1998) compared 183 MZ and 175 DZ Canadian twins and 435 MZ and 205 DZ German twins using the NEO-PI-R, a 240-item self-report inventory that measures all five personality factors and their corresponding facets, and found that the MZ personality traits were significantly more similar than those of DZ twins. The only exception was the personality trait of agreeableness, which showed the same correlation in both twin groups. As the MZ personality traits, except for agreeableness, were higher than those of the DZ twins, the presence of genetic influences on each personality trait was supported (Jang et al., 1998).

Gender and Personality. Gender differences in personality traits are supported in many empirical studies, and biology and social psychology theorists have tried to explain

the differences (Buss, 1995; Costa et al., 2001). The biological theory states that differences arise from innate temperamental differences (Maccoby & Jacklin, 1974), while the evolutionary/social psychological theory states that differences arise from gender roles that evolved and were thereby assigned to women and men, who then selected for certain behaviors that conferred reproductive fitness (Buss, 1995). Gender roles are thus influenced by expectations and social norms in regard to how each gender "should behave" (Eagly, 1987).

Women score higher than men on neuroticism, especially with the facets of anxiety and depression, but the results with anger are mixed (Feingold, 1994; Kling, Hyde, Showers, & Buswell, 1999; Nolen-Hoeksema, 1987; Weisberg, Deyoung, & Hirsh, 2011). Eisenberg et al. (1989) found that women are more sensitive to emotion and can encode nonverbal signals of emotion better than men, possibly a reason women score higher than men on neuroticism. Sutarso, Baggett, Sutarso, and Tapia (1996) stated that women are more empathetic, supportive, and emotionally self-aware than men when making decisions on emotional intelligence.

Emotional intelligence is the ability to monitor and identify one’s emotions and the emotions of others to guide decisions (Sutarso et al., 1996). Winstead, Derlega, and Unger (1999) found men scored higher than women on conscientiousness. Newer research has found conflicting results, stating that women scored higher than men on conscientiousness, leading to the need for more research regarding gender and decision making (Schmitt, Voracek, Realo, & Allik, 2008). Additionally, past research has found mixed results between the personality traits of agreeableness and extroversion and gender, whereas newer research has found that women score higher than men on these

specific personality traits (Feingold, 1994; Schmitt et al., 2008). Since mixed results have been found between anger, conscientiousness, agreeableness, and extroversion, more research needs to be conducted before confident conclusions can be reached regarding gender and personality (Costa et al., 2001).

Intellect, Education Level, and Personality. Although early research found that intelligence is the most important factor in predicting academic achievement and the motivation to partake in higher education, present research has determined that personality traits as measured by the FFM are better predictors (Binet & Simon, 1916; Cheng & Ickes, 2009: Ridgell & Lounsbury, 2004). Intelligence refers to specific abilities an individual is born with that help facilitate learning, whereas personality includes innate and learned attributes that enhance or inhibit the use of those specific abilities (Chamorro-Premuzic & Furnham, 2003). Although some individuals may be born with high levels of intelligence, certain personality traits may interfere with full use of their intellectual abilities and therefore impair academic success (Chamorro-Premuzic & Furnham, 2003).

For example, Paunonen and Nicol (2001) found that high scores in agreeableness, conscientiousness, and openness to experience correlated with individuals' greater academic success, compared to individuals who scored highest on neuroticism and extraversion. A high level of conscientiousness is theorized to increase the ability to monitor personal progress and positively predicts performance on examinations (i.e., above-average grade point average) and academic success (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011; Komarraju & Karau, 2005). Individuals high in conscientiousness have the capability to develop an organized study plan, acquire the

resources needed, and carry it out in a responsible way (Cheng & Ickes, 2009). Furthermore, when comparing personality traits and SAT scores, the comparison found that higher levels of conscientiousness, not SAT scores, predicted high grade point average in college (Conrad 2006).

Two studies found that openness to experience increases positive attitudes toward school activities and the ability to think critically (Caprara et al., 2011; Komarraju & Karau, 2005). The same two studies found that a high level of neuroticism reduced academic performance and led these individuals to drop out of school (Caprara et al., 2011; Komarraju & Karau, 2005). Those individuals were not motivated to use productive study methods and had low self-esteem (Caprara et al., 2011; Komarraju & Karau, 2005). Additionally, having a high level of agreeableness was found to positively associate with academic performance and good grades because these individuals were motivated to stay in school and use appropriate study methods (Chamorro-Premuzic & Furnham, 2003; Farsides & Woodfield, 2003). These results provide evidence that intellect is an important predictor of academic success, but personality assessments measuring the FFM are powerful enough to explain much of the variance in academic performance (Busato, Prins, Elshout, & Hamaker, 1999).

Personal Values

Personal values are enduring beliefs that are universal and help guide individuals to attain basic needs to survive, assist in promoting the welfare of others, and provide the methods needed to interact successfully with others (Rokeach, 1973; Schwartz et al., 2012). Personal values also have cognitive, affective, and behavioral components; individuals are aware of their values, they feel emotionally toward them, and they often

behave in ways consistent with their values (Rokeach, 1973). Goal-directed behavior is influenced and motivated by personal values, as individuals express stronger preferences for values they perceive they lack, thus helping guide their drive to live up to those specific values (Peng, Nisbett, & Wong, 1997). Furthermore, the motivation to live up to one's personal values is associated with greater success in therapy, as it promotes better subjective well-being, more positive attitude, and higher levels of satisfaction and commitment (Feather, 1995; Fung et al., 2016; Schwartz et al., 2012; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001).

Personal Values and the Working Alliance. Incorporating personal values during therapy sessions helps to increase the working alliance (Roest Helm, Strijbosch, Brandenburg, & Stams, 2016). Greenson (1967) first introduced the term *working alliance* in 1967. The working alliance includes three components: the patient-therapist relationship (Bond), agreement on goals (Goals), and collaboration on tasks (Tasks; Bordin, 1979). Greenson (1967) saw that the collaboration between the client and therapist is one of the main components for success in treatment outcomes. The ability to be empathetic and provide unconditional positive regard is needed by the therapist to establish a bond with the patient (Horvath & Symonds, 1991). If the bond between the patient and therapist is not established, the two other components of the working alliance, tasks and goals, cannot be established (Horvath & Symonds, 1991). Patients need to feel understood, appreciated, and supported to establish a bond with their therapist (Horvath & Symonds, 1991) One method to increase the bond between the client and therapist is to discuss the personal values of the client. Therapists now acknowledge that attention to personal values is important to include in therapy, as they help decipher the client's world

views and beliefs and influence goal selection (Fife & Whiting, 2007; Hodge, 2011). Including personal values in therapy will also help assist in treatment planning and selecting the most congruent intervention (Fife & Whiting, 2007; Hodge, 2011). In many cases, personal values were not used in therapy in the past because of their religious and moral undertones, and many therapists did not know how to address them with their clients (Bart, 1998; Hodge, 2011; Richards & Bergin, 1997). Researchers have found that 81% of the general public believes having their values integrated into the therapy process is helpful (Bart, 1998; Hodge, 2011; Richards & Bergin, 1997). All in all, to enhance their understanding of patients and establish the working alliance, therapists need to incorporate personal values in sessions with their patients (Bart, 1998; Hodge, 2011).

Personal Values and Trust at Inpatient Behavioral Hospitals. Individuals need to have trust during their stay at inpatient behavioral hospitals to be motivated to participate in the care given to them during their stay (Devos, Spini, & Schwartz, 2002). Trust in inpatient behavioral hospitals refers to the confidence individuals have that the staff is competent, is able to fulfill its obligations, and acts in responsible ways (Devos et al., 2002). Trusting the staff goes beyond positive and negative attitudes patients have toward the staff; it instead refers to the beliefs, values, and expectations patients hold on to (Devos et al., 2002). Devos et al. (2002) measured trust and personal values within an inpatient behavioral hospital through the Value Inventory, a value scale that measures 57 personal values on a 3-point Likert scale. Their study included nine institutions and also a questionnaire requiring participants to state their religious affiliations. Devos et al. (2002) found that certain personal values can help increase or decrease a patient's trust of inpatient behavioral hospitals. Devos et al. (2002) found that patients who value

conservation, particularly the value of security, are more likely to trust inpatient behavioral hospitals than patients who do not value conservation because inpatient behavioral hospitals provide support. The same research found that patients who value openness to change, particularly the value of freedom, are more skeptical toward inpatient behavioral hospitals because inpatient behavioral hospitals restrict their perceived rights (Devos et al., 2002). Lastly, the same research also found that patients who described themselves as religious and valued religion and spirituality were more trusting toward inpatient behavioral hospitals than individuals who described themselves as less religious or did not value religion or spirituality. Understanding the values that are important to each individual can help determine the behavior of each individual at an inpatient behavioral hospital.

The Theory of Basic Human Values. The theory of basic human values, developed by Shalom Schwartz, is the most well-known and used theory explaining personal values (Schwartz et al., 2012). The theory comprises 10 different value types: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Hanel & Wolfradt, 2016; Schwartz et al., 2012). Individuals who value power desire social status, control over others, and wealth, while individuals who value achievement desire personal success, in regard to being competent, ambitious, capable, and influential (Feather, 1995; Schwartz, 1994). Individuals who value hedonism desire enjoyment in life, while individuals who value stimulation want an exciting life full of risk and change (Feather, 1995; Schwartz, 1994). Additionally, individuals who value self-direction yearn for independence, freedom, creativity, curiosity, and cleanliness (Feather, 1995; Schwartz, 1994).

Individuals who value universalism want to protect others through social justice and yearn for world peace and for everyone to appreciate, tolerate, and understand others (Feather, 1995; Schwartz et al., 2012). Individuals who value benevolence believe that honesty, loyalty, helpfulness, forgivingness, and responsibility are important, while individuals who value tradition desire to hold onto the customs and ideas from their own cultures and religions (Feather, 1995; Schwartz, 1994). Lastly, individuals who value conformity desire to honor their parents and elders and want to be obedient and polite, while individuals who value security desire lasting relationships with others, safety, national security, and a life of harmony and balance (Feather, 1995; Schwartz, 1994; Schwartz et al., 2012).

History of the 10 Personal Values. The 10 value types of the theory of basic human values emerged from analyses of 56 different values empirically found to be universal in 75 countries (Feather, 1995; Paez & De-Juanas, 2015; Schwartz, 2012). Each of the 10 different values is formed as a circumplex model arranged as four higher order value types: openness to change (self-direction, stimulation, and hedonism), conservation (conformity, tradition, and security), self-transcendence (achievement and power), and self-enhancement (universalism and benevolence) (Feather, 1995; Paez & De-Juanas, 2015). The four higher order value types then are separated into bipolar dimensions: openness to change versus conservation and self-transcendence versus self-enhancement (Feather, 1995; Schwartz, 1992). The values on opposite sides of the value circle are not antonyms but opposing motivations, as they lead to opposite behaviors and judgments, while values next to each other lead to similar behaviors and judgments (Bardi et al., 2009). For example, openness to change and conservation are opposite on the circle

because openness to change motivates individuals to embrace independent thought and follow their own interests, while conservation motivates individuals to refrain from independent thought and to follow others (Bardi et al., 2009; Feather, 1995; Paez & De-Juanas, 2015). Self-enhancement and self-transcendence are opposite from each other on the circle because self-enhancement motivates individuals to enhance their personal interests at the expense of others, while self-transcendence motivates individuals to promote the welfare of others (Bardi et al., 2009; Feather, 1995; Paez & De-Juanas, 2015; Schwartz, 1992). Openness to change and self-enhancement are on the same side of the circle because both embrace independence, while conservation and self-transcendence are on the same side of the circle because both embrace the welfare of others (Bardi et al., 2009; Feather, 1995; Paez & De-Juanas, 2015; Schwartz, 1992).

The Relationship Among Various Personal Values. Schwartz (1994) found that certain values from the theory of basic human values positively correlate with each other. For example, power and achievement relate to one another because both emphasize social dominance and self-esteem, whereas self-direction and universalism rely on one's judgment and living in existence with others (Schwartz, 1994). Achievement and hedonism both involve a desire for a pleasurable life, whereas hedonism and self-direction both involve interest in novelty and mastery (Schwartz, 1994). Universalism and benevolence both entail yearning to help others and limiting the need for self-interests, whereas benevolence and conformity desire close relationships with others (Schwartz, 1994). Conformity and tradition both involve neglecting individual desires for the sake of following socially sanctioned rules, whereas tradition and security involve preserving socially sanctioned rules (Schwartz, 1994). Benevolence and conformity are

compatible because both entail individuals behaving in a way that is acceptable to others around them (Ros, Schwartz, & Surkiss, 1999). Security and power emphasize controlling relationships with others and resources given (Ros et al., 1999). Self-direction and stimulation are positively correlated as they are both based on motivation for innovation (Parks-Leduc, Feldman, & Mardi, 2014). Lastly, conformity and security emphasize protecting others and world peace, whereas security and power stress controlling relationships and resources to stop the threat of uncertainties (Schwartz, 1994).

Although research has found that certain values from the theory of basic human values negatively correlate with each other, some values conflict with each other (Schwartz, 1994). For instance, achievement conflicts with benevolence because wanting personal success decreases the desire to enhance the welfare of others (Ros et al., 1999). Tradition negatively correlates with stimulation because the desire to follow cultural and religious customs reduces the desire to seek new ideas and customs (Ros et al., 1999). Lastly, self-direction and conformity negatively correlate, as self-direction motivates independence while conformity motivates dependence (Parks-Leduc et al., 2015).

Gender and Personal Values. Feather (1984) and Rokeach (1973) originally found that women and men differ on the personal values they find important, attributing the differences to socialization. These results were found because men are generally raised to be career oriented and materialistic and to value money, achievement, and pleasure seeking, whereas women are generally raised to be caregivers, and to value religion, emotional well-being, and peace (Dio, Saragovi, Koestner, & Aube, 1996; Rokeach, 1973). Research using the Rokeach Value Survey (RVS) has found that men

assigned freedom, pleasure, an exciting life, social recognition, ambition, independence, capability, imagination, having a comfortable life, a sense of accomplishment, and being logical as most important (Dio et al., 1996; Feather, 1984; Rokeach, 1973). The same studies found that women assigned love, happiness, cleanliness, salvation, wisdom, forgiveness, helpfulness, honesty, inner harmony, world peace, salvation, self-respect, cheerfulness, and being polite as most important (Dio et al., 1996; Feather, 1984; Rokeach, 1973). Men assigned harmony, happiness, forgiveness, and helpfulness as least important, whereas women assigned an exciting life, pleasure, and ambition as least important (Feather, 1984). Additionally, college men placed higher value on a comfortable life, an exciting life, pleasure, and recognition, whereas women college students placed higher value on equality, harmony, peace, and self-respect (Dio et al., 1996). Lastly, an additional study found that women assigned the personal values of family, health, and friends as most important (Neittaanmaki, Gross, Virjo, Hyppola, & Kumpusalo, 1999). These studies have not been replicated, demonstrating the need for additional studies to help support these researchers' findings.

Stability of Personal Values. Although past research found that personal values are stable throughout life, evidence shows that the personal values individuals find most important may change depending on age, societal changes, and educational programs (Bardi et al., 2009; Chatard & Selimbegovic, 2007; Feather, 1995). Changes in values also occur as a result of cognitive dissonance, specifically when individuals find inconsistency between their values and their behaviors, leading them to change their personal values to restore consistency (Rokeach, 1968). Furthermore, holding opposite values on the value circle as most important correlates with internal conflict, decreased

well-being, and social problems (Bardi et al., 2009; Schwartz, 1992). Such dissonance between values is hypothesized to lead to change in the values that are most important to an individual (Bardi et al., 2009; Schwartz, 1992). Values also change in response to cultural influences, socialization, development, role requirements, and personal experiences that lead people to adapt to changes (Veccione et al., 2016). A study found that individuals aged 24 years listed different values most important to them, a result of adapting to challenges they faced during this period (Veccione et al., 2016).

Age and Personal Values. Regarding age, Bardi et al. (2009) found that personal values change because of physiological changes and adapting to new situations. For example, enjoyment in physical activities may change in older age because the five senses are less sharp, leading older adults to change the activities they value as the result of having difficulty performing certain physical activities. Additionally, valuing achievement may change in older age because those individuals already have their careers established (Bardi et al., 2009). Using the RVS, young adults starting at age 18 years with a mean age of 19 years ranked the values of friendship, happiness, and freedom as most important, while older adults starting at age 48 years with the mean age of 48 years ranked family, security, happiness, and self-respect as most important (Feather, 1984). Young adults ranked social recognition, national security, and salvation as least important, while older adults ranked pleasure, social recognition, and salvation as their least important (Feather, 1994). Additionally, achievement was more important to young adults than older adults because, as one would assume young adults are more focused than older adults on building their careers (Bardi et al., 2009).

Education and Personal Values. Rokeach (1973) studied the relationship between education level and personal values using the RVS and found that education level does change the rank order of personal values individuals report as most important to them. For example, individuals who never received a high-school diploma ranked the values of a world at peace, family security, freedom, happiness, and self-respect as their most important terminal values, while they ranked honest, ambitious, responsible, forgiving, and helpful as their most important instrumental values. Terminal values are goals individuals want to achieve during their lifetimes, while instrumental values are the methods individuals use to achieve those terminal values. Individuals whose highest degree was a high-school diploma ranked the values of family security, a world at peace, freedom, happiness, and self-respect as their most important instrumental values, while they ranked honesty, responsibility, ambition, broadmindedness, and forgiveness as their most important terminal values. Individuals who received a college degree ranked the values of family security, a world at peace, freedom, wisdom, and a sense of accomplishment as their most important instrumental values, while they ranked honesty, responsibility, broadmindedness, ambition, and courageousness as their most important terminal values (Rokeach, 1973). Additionally, individuals who received a graduate degree ranked the values of world at peace, wisdom, freedom, a sense of accomplishment, and family security as their most important instrumental values, while they ranked honest, responsible, broadminded, courageous, and ambitious as their most important terminal values. In conclusion, Rokeach (1973) found that individuals at different educational levels differentially endorse various personal values. No new research has been done on the topic of educational level and personal values.

Personal Value of Family. Bowlby (1951) stated that infants have an innate need to attach to one main attachment figure, and any disruption in attachment can lead to mental-health and behavioral problems later in life. Additionally, disruption of attachment figures during early childhood can lead to difficulties forming healthy relationships to other individuals later in life (Vicedo, 2015).

Bolby, Ainsworth, Boston, and Rosenbluth (1944) found that a significantly high proportion of juveniles arrested for stealing had suffered prolonged separation from their mothers during their first 5 years of life, and many of those juveniles were unable to form any permanent and mutually satisfying relationships with other people. To flourish in life and form healthy relationships, children require nurturing care, which is an environment sensitive to health and nutritional needs, emotional support, love, responsiveness, protection, and opportunities for play and exploration, both at home and in the community (Black et al., 2017).

Maslow (1943) theorized that humans have certain needs, and when certain needs are not satisfied, humans are motivated to fulfill those needs. The theory of human motivation states that humans desire physiological needs (food, water, and shelter), safety (security), belongingness and love (intimate relationships), esteem (prestige and a feeling of accomplishment), and self-actualization (achieving one's full potential; Maslow, 1943). To expand on Maslow's belongingness and love need, the belongingness hypothesis states that humans have a pervasive drive to form and maintain lasting, positive, and significant interpersonal relationships (Baumeister & Leary, 1995). To satisfy this drive, humans need to have frequent pleasant interactions with other people, and these interactions must be stable (Baumeister & Leary, 1995). Humans' thoughts,

emotions, and behaviors regarding themselves and their world are largely dictated by this drive for belongingness and love (Baumeister & Leary, 1995). Humans' physical and psychological well-being increases when positive interpersonal relationships are formed and maintained (Verhagen, Lodder, & Baumeister, 2018). The formulation of healthy relationships is associated with positive emotions, including joy, and the threat of not attaining healthy relationships is associated with negative emotions, including anxiety, depression, low self-esteem, jealousy, and grief (Leary, 1990). Regarding anxiety, research has found that children as young as 1 year old show signs of separation anxiety when separated from their attachment figures, and adults show the same signs when separated from loved ones for an extended period (Leary, 1990). Additionally, memories of past rejections and imagining social rejection increase anxiety and loneliness (Leary, 1990). Loneliness is "an individual's subjective perception of deficiencies in his or her social relationships" (Baumeister & Leary, 1995). To decrease the feeling of loneliness, humans desire to be surrounded by others whom they consider to be family, including anyone with whom they perceive to have a deep loving relationship and who they perceive love them back (Leary, 1990). When humans perceive that they lack social support from family, physical and psychological well-being decreases (Baumeister & Leary, 1995).

Social relationships and the presence of social support are necessary to increase resiliency, have a sense of personal control, experience positive emotions, and have improved mental-health outcomes (Munson et al., 2015). Social support consists of verbal and nonverbal information provided to individuals to help increase emotional, physical, and behavioral well-being (Munson, Brown, Spencer, Edguer, & Tracy, 2015).

Patients at inpatient behavioral hospitals may benefit in treatment when they perceive that they have social support during their stay at the hospital and when they are discharged (Sledge et al., 2011). Risk aversion, in this case the risk of losing access to family, is a common psychological phenomenon that can increase the perceived value of the lost stimulus (Kahneman, 1981). Research has found that patients who receive social support and have a sense of belongingness to others have fewer hospital readmissions (Sledge et al., 2011). Additionally, patients at inpatient behavioral hospitals may benefit when they are able to share stories with other peers who have had similar experiences, including strained relationships with family members and social supports (Munson et al., 2015). Qualitative research found that individuals struggling emotionally stated the importance of discussing how to cope with mental-health challenges and to increase healthy relationships with peers who have shared experiences (Munson et al., 2015). Providing group therapy at inpatient behavioral hospitals that specifically addresses the topic of family and social support may be beneficial to increase overall well-being, and decrease readmission rates of patients (Sledge et al., 2011).

The Relationship between Personality Traits and Personal Values

Personality traits and personal values have been extensively researched separately, but little research has examined their relationship with one another, theoretically or empirically (Oliver & Mooradian, 2003). Past researchers stated that personality traits and personal values are distinct from each other in that traits describe how people think and feel, which results in a certain behavior, whereas values reflect motivation and desires, which may not result in a specific behavior (Parks-Leduc et al., 2014; Roccas et al., 2002). For example, an individual who is high on the personality trait

of openness to experience is likely to engage in creative thinking and the creative arts, but an individual who values creativity believes creativity is important, but may not actually engage in creative thinking and the creative arts (Parks-Leduc et al., 2014).

Early theorists posited that personality traits are completely distinct from personal values; however, current research has found that personality traits and personal values are distinct but related constructs with regard to environment (Roccas et al., 2002). The development of comprehensive, theory-based models of both personality traits and personal values, such as the FFM and the Schwartz theory of basic human values; the development and validation of measures (e.g., the Ten Item Personality Inventory [TIPI]; Ehrhart et al., 2009); and the Rokeach Value Survey (RVS) developed by Milton Rokeach for individuals aged 11 to 90 years (Braithwaite & Law, 1985) have made the study of the relationship between these two important constructs easier (Ehrhart et al., 2009; Oliver & Mooradian, 2003). The validated measures include the TIPI (Gosling et al., 2003a), the RVS (Braithwaite & Law, 1985), and the Personal Values Card Sort (Miller, Matthews, & Wilbourne, 2001).

One way that personality traits and personal values are similar is that they both are grounded in the lexical hypothesis, which states that all descriptors can be encoded in language, specifically from a dictionary. Both constructs were conceptualized and operationalized in this way (Parks-Leduc et al., 2014). Personality traits and personal values are also based on cognition and emotion, as traits are grounded on thoughts and emotions and values can elicit both positive or negative emotions (Locke, 1997; Schwartz, 1992; Sheldon & Elliott, 1999).

McCrae et al. (2000) theorized that personality traits shape personal values in the interaction with the local environment, demonstrating that personality traits are antecedents of personal values. Personality traits are influenced by nature (i.e., genes) while personal values are influenced by nurture (i.e., environment; Schermer, Vernon, Maio, & Jang, 2011). McAdams (1996) formulated a personality system assigning personality traits as Level 1, personal values as Level 2, and self-identity as Level 3. The personality system states that personality traits are biologically inferred, shaping personal values in the environment and consequently shaping self-identity. Additionally, Bem (1972) found that individuals adjust their personal values in order to reduce the discrepancy between their personal values and personality traits. Furthermore, contextual stressors, such as stress, pressure from others, and restrictions given to individuals from social institutions, have been found to influence personal values and personality traits (Van de Vliert, 2013).

A meta-analysis revealed a strong significant and positive correlation between the personal values of self-direction, stimulation, and universalism with the personality trait of openness to experience (Parks-Leduc et al., 2014; Roccas et al., 2002). The reason that a strong correlation exists between the trait of openness to experience and the value of universalism is because both pertain to being open to ideas and behaviors that are different from oneself's (Oliver & Mooradian, 2003; Parks-Leduc et al., 2014; Roccas et al., 2002; Schwartz, 1992). The correlation between the trait of openness to experience and the value of self-direction is strong, as both relate to creativity and curiosity (Parks-Leduc et al., 2014). Additionally, the meta-analysis also revealed a negative correlation

between the values of security, conformity, and tradition and the personality trait of openness to experience (Parks-Leduc et al., 2014; Roccas et al., 2002).

The same Parks-Leduc et al. (2014) meta-analysis revealed a strong positive correlation between the personal values of benevolence and transcendence with the personality trait of agreeableness. The meta-analysis also revealed a negative correlation between the personal values of power and achievement with the personality trait of agreeableness (Parks-Leduc et al., 2014). The reason the values of transcendence and benevolence positively correlate with the trait of agreeableness is hypothesized to be their shared emphasis on the need and capability to care and cooperate with others (Oliver & Mooradian, 2003; Parks-Leduc et al., 2014; Roccas et al., 2002). Lastly, power and achievement negatively correlate to agreeableness because agreeableness emphasizes the capability and need to help others, while the values of power and achievement emphasize the desire for independence and control of others (Oliver & Mooradian, 2003; Parks-Leduc et al., 2014; Roccas et al., 2002).

Roccas et al. (2002) conducted a study of 246 Israeli students and found a positive correlation between the personal value of conservation and the personality trait of conscientiousness. They also found a negative correlation between the personal value of transcendence and the personality trait of conscientiousness. These results were found because both conservation and conscientiousness increase an individual's desire to help keep the world safe (Roccas et al., 2002). Parks-Leduc et al. (2014) found a positive correlation between the personal values of achievement and stimulation with the personality trait of extroversion. Furthermore, individuals who have the personality trait of extroversion and who value stimulation experience an increased need to be energetic

and assertive, whereas individuals who have the personality trait of extroversion and who value achievement have an increased desire to be ambitious (Luk & Bond, 1993; Parks-Leduc et al., 2014; Roccas et al., 2002).

Although significant and positive relationships have been found between personality traits and personal values, an exception is neuroticism, which does not correlate with any certain personal values (Sagiv, Roccas, & Hazan, 2004). Neuroticism not correlating to any personal value is likely related to the supposition that neuroticism is primarily an affective trait, as individuals high on this trait are easily distressed and have difficulty using healthy coping strategies, whereas personal values are based on positive principles and well-being (Sagiv et al., 2004). Since personal values are not directly related to well-being or distress, finding a relationship in the literature between neuroticism and certain personal values would be unlikely (Sagiv et al., 2004). When researching the comparison, Parks-Leduc et al. (2014) found that neuroticism did not correlate with any values. Neuroticism might correlate with cognitions other than personal values, such as cognitive distortions. Cognitive distortions are dysfunctional thoughts and schemas that predispose individuals to experience negative emotional states and maladaptive behavior (Beck, Rush, Shaw, & Emery, 1979). Schemas guide how individuals perceive themselves, others, and the world around them (Beck et al., 1979). Using the Cognitive Distortions Questionnaire (CD-Quest; Kaplan et al., 2017), a questionnaire that assesses cognitive distortions, Kaplan et al. found that the CD-Quest significantly positively correlated with neuroticism. The positive correlation found between the CD-Quest and neuroticism makes sense because neuroticism represents the tendency for individuals to respond with negative emotions, including worry, anxiety,

insecurity, shame, embarrassment, anger, and self-consciousness, that lead these individuals to dwell on self-perceived personal inadequacies (Harkness & Lilienfeld, 1997).

Measures of Personality

Gosling et al. (2003a) developed the TIPI, a self-report inventory. The TIPI is a brief measure that contains 10 items for each of the five traits of the FFM (Ehrhart et al., 2009; Renau et al., 2013). Traits measured by the TIPI include emotional stability, conscientiousness, openness to experience, extraversion, and agreeableness. Each of the 10 items includes two descriptors separated by a comma, using the common stem, "I see myself as." Each of the items is rated on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). The 10 items are (a) Extraverted, enthusiastic, (b) Critical, quarrelsome, (c) Dependable, self-disciplined, (d) Anxious, easily upset, (e) Open to new experiences, complex, (f) Reserved, quiet, (g) Sympathetic, warm, (h) Disorganized, careless, (i) Calm, emotionally stable, and (j) Conventional, unreactive.

The TIPI uses emotional stability instead of neuroticism (Ehrhart et al., 2009). Emotional stability is the opposite dimension of neuroticism. An individual with emotional stability is self-confident, resilient, and well adjusted (Parks & Guay, 2009). Individuals who score low on emotional stability are regarded as high on neuroticism (Renau et al., 2013). The items use a 7-point Likert scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*) that takes 1 minute to complete (Gosling et al., 2003a). The use of this brief personality trait assessment is best when brevity takes priority, including in inpatient behavioral hospitals (Saucier, 1994).

The recent demand for personality measures that are both time and cost efficient led to the development of the TIPI (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans, Kuppens, & Allik, 2008). Although single-item scales are usually psychometrically inferior to multiple-item scales, single-item measures do have advantages (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). These advantages include giving the option of a brief assessment in situations when efficiency is needed and helping to reduce fatigue, frustration, boredom, and feelings of burden among both staff and patients (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). The TIPI is a shortened version of the 44-item Big-Five Inventory (BFI; Ehrhart et al., 2009), whereas the BFI is a shortened version of the NEO-PI-R; Costa & McCrae, 1992), a 240-item self-report inventory that measures all five personality factors and their corresponding facets. Both the BFI and the NEO-PI-R have been found to be reliable and valid (Butrus & Witenberg, 2015; Ehrhart et al., 2009). The TIPI can be completed in as little as 1 minute, whereas the NEO-PI-R takes 45 minutes to complete and the BFI takes 15 minutes (Gosling et al., 2003a).

Measures of Personal Values

Milton Rokeach (1968) developed the RVS to assess the personal values of individuals. The RVS is a simple and efficient way to discover the importance of specific values to individuals and is the most widely known and applied measurement of personal values (Gibbins & Walker, 2001; Homer & Kahle, 1988). The RVS uses 18 terminal and 18 instrumental personal values (Rokeach, 1968). Terminal values are goals individuals want to achieve during their lifetimes, while instrumental values are the methods the individuals use to achieve those terminal values (Rokeach, 1973). The personal values

from the RVS share most of the values from the theory of basic human values developed by Shalom Schwartz and are also comprised from a list of personality traits developed by Allport and Odbert in 1936, which helped form the FFM (Braithwaite & Law, 1985; Vauclair, Hanke, Fischer, & Fontaine, 2011). Rokeach proposed that terminal values number more than 18, but he was able to reduce the number by removing values that were highly correlated with each other and those that were too specific using factor analysis (Gibbins & Walker, 2001). Respondents of the RVS rank the 18 terminal values in order of importance to them, and then they rank the 18 instrumental values in order of importance to them (Rokeach, 1968). The two sets of hierarchies represent the value system of each respondent, demonstrating the values that are most important to them and the values that are least important (Rokeach, 1968).

Rokeach's terminal values include true friendship, mature love, self-respect, happiness, inner harmony, equality, freedom, pleasure, social recognition, wisdom, salvation, family security, national security, a sense of accomplishment, a world of beauty, a world of peace, a confortable life, and an exciting life, and after the initial 18, health was added to the list (Gibbins & Walker, 2001). The instrumental values include cheerfulness, ambition, love, cleanliness, self-control, capability, courage, politeness, honesty, imagination, independence, intellect, broad-mindedness, logic, obedience, helpfulness, responsibility, and forgiveness (Rokeach, 1968).After positing the initial 18 terminal values, Rokeach added loyalty to the list (Gibbins & Walker, 2001).

Braithwaite and Law (1985) found that while interviewing participants to find out the values that are most important to them, they brought up more values that were not included in the RVS, thus initiating the development of newer value surveys to extend the

number of values listed. William Miller took the initiative and developed the Personal Values Card Sort to include additional personal values to be used predominantly as a clinical tool. The Personal Values Card Sort extends the RVS. The Personal Values Card Sort is a self-report inventory created by Miller, C'de Baca, Matthews, and Willbourne at the University of New Mexico in 2001. Participants sort out 83 value cards in terms of each card's relative importance to the participants. The value cards are placed into three columns consisting of "Very Important to Me," "Important to Me," and "Not Important to Me." Forming personal-value hierarchies allows the formation of numerous permutations and combinations, helping to explain the reasons for variations in attitudes and behaviors seen in all individuals (Rokeach, 1979). Ranking personal values in hierarchies also allows individuals to assess their own values according to their own beliefs, thereby helping to show their independent judgments (Peng et al., 1997). Ranking personal values in a hierarchy is superior to rating each one, as ranking gives better predictive validity and reduces the likelihood of the social-desirability effect (Rokeach, 1973; Rokeach & Ball-Rokeach, 1989).

Chapter 3: Hypothesis

It is hypothesized that the personal values of industry, virtue, cooperation, dependability, and ecology will be positively correlated with the personality trait of Conscientiousness. These specific personal values will be operationalized as participant selection of one or more of these values as the top five choices on the Personal Values Card Sort (Miller et al., 2001). Conscientiousness will be operationalized as the average rating of the two items on the Conscientiousness Scale of the Ten Item Personality Inventory (TIPI; Gosling et al., 2014).

Hypothesis Rationale: It is hypothesized that the personal values of industry, virtue, cooperation, dependability, and ecology will predict the personality trait of Conscientiousness because individuals with a high level of conscientiousness are found to be hardworking, corresponding to the personal value of industry (To work hard and well at my life tasks; Miller et al., 2001); moral, corresponding to the personal value of virtue (To live a morally and pure and excellent life; Miller et al., 2001); cooperative, which is the same as the personal value of cooperation (To work collaboratively with others; Miller et al., 2001); and dependable, which is the same as the personal value of dependability (To be reliable and trustworthy; Cheng & Ickes, 2009; Miller et al., 2001). Additionally**,** it is hypothesized that ecology will predict conscientiousness, since a study of 246 Israeli students found a positive correlation between the personal value of conservation and the personality trait of conscientiousness (Roccas et al., 2002). Conservation is the desire to preserve and protect the environment, which relates to the personal value of ecology (To live in harmony with the environment; Miller et al., 2001; Roccas et al., 2002).

Chapter 4: Method

Design and Design Justification

This study is a cross-sectional correlational design.

Participants

Participants were recruited from three adult units located in a for-profit inpatient behavioral-health facility situated in a major metropolitan region of the northeastern United States.

Participants were included if they were current patients at the for-profit inpatient behavioral-health facility, verbally consented to participate, and were cooperative and responsive enough to complete the measures at the facility. Additionally, participants had to be 18 years of age or older, and they had to have been assessed by a psychiatrist at the facility. Participants were excluded if they were not a current patient at the for-profit inpatient behavioral-health facility, if they were 17 years old or younger, or if they refused or were unable to complete the measures. Participants were screened by the admissions department, psychiatrists, and psychologists on staff at the hospital to determine elegibility on admission, psychiatric diagnosis, and subsequent screenings. The psychiatric diagnoses of each participant were not recorded for this study.

A power analysis was conducted using “G power” in order to determine a sufficient sample size for the proposed analyses. For 80% power at the .008 level of significance for a medium effect size of .30 using correlational analysis, 110 participants were required. This study recruited 101 participants.

Measures

Ten Item Personality Inventory. The Ten Item Personality Inventory (TIPI) is a 10-item self-report inventory created by Gosling, Rentfrow, and Swann in 2003. The TIPI is a brief measure of the five-factor model (FFM) of personality (Gosling et al., 2003a). The TIPI includes two items for each of the five traits of the FFM (Ehrhart et al., 2009; Renau et al., 2013). Items include emotional stability, conscientiousness, openness to experience, extraversion, and agreeableness. Emotional stability is the opposite dimension of neuroticism and is defined as being self-confident, resilient, and well adjusted (Parks & Guay, 2009). Individuals who score low on emotional stability are regarded as high on neuroticism (Renau et al., 2013).

All items are scored on a 7-point Likert scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*), and the assessment takes as little as 1 minute to complete (Gosling et al., 2003a). The availability of this brief personality trait assessment may be preferable in situations when brevity takes priority, such as occurs in inpatient hospitals (Saucier, 1994).

The increasing demand for personality measures that are both time and cost efficient led to the development of the TIPI (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). Although brief scales are usually psychometrically inferior to longer and more in-depth scales, brief scales do have advantages (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). These advantages include giving the option to use brief assessments in situations when quickness is needed and helping to reduce fatigue, frustration, boredom, and feelings of burden (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). The TIPI is a shortened version of the 44-item Big-Five Inventory (BFI; Ehrhart et al., 2009), and the BFI is a shortened version of the NEO

Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992), a 240-item self-report inventory that measures all five personality factors and their corresponding facets. Both the BFI and the NEO-PI-R have been found to be reliable and valid (Butrus & Witenberg, 2015; Ehrhart et al., 2009)

The advantage of the TIPI, especially in an inpatient facility, is that its brevity and efficiency require only 1 minute to complete, whereas the NEO-PI-R requires 45 minutes to complete and the BFI requires 15 minutes (Gosling et al., 2003a). Gosling et al. (2003b) compared the TIPI to the BFI in a sample of 1,800 university students and found external validity (r = .90), convergent validity (r = .77), discriminant validity (r = .77), and test-retest reliability (r = .72) for the TIPI (Gosling et al., 2003b). Nunes, Limpo, Lima, and Castro (2018) assessed the test-retest reliability of the TIPI by having 81 undergraduate college students complete the TIPI and then complete the TIPI again 4 weeks later. Results found very good temporal stability (r = .71) and high convergence (r = .78) with the BFI. Additionally, factorial analysis found that all items loaded on the expected dimensions.

Personal Values Card Sort. The Personal Values Card Sort is a self-report inventory created by Miller, C'de Baca, Matthews, and Willbourne at the University of New Mexico in 2001. The Personal Values Card Sort is an extension of the Rokeach Value Survey (RVS), developed by Milton Rokeach for individuals aged 11 to 90 years (Braithwaite & Law, 1985). The RVS uses 18 terminal and 18 instrumental personal values (Rokeach, 1968). Terminal values are goals individuals want to achieve during their lifetimes, while instrumental values are the methods the individuals use to achieve those terminal values (Rokeach, 1973). Braithwaite and Law (1985) found that while

interviewing participants to find out the values that were most important to them, more values were brought up that were not included in the RVS, thus initiating the development of newer value surveys to extend the number of values listed. William Miller took the initiative and developed the Personal Values Card Sort to include additional personal values to be used predominantly as a clinical tool to start a conversation to find out more information about the individual and to begin to form goals.

During administration of the Personal Values Card Sort, participants sort out 83 value cards in terms of each card's relative importance to the participants. The value cards are placed into three columns: "Very Important to Me," "Important to Me," and "Not Important to Me." After the participants finish sorting out the cards into the three columns, they then rank the value cards in order of most important to least important from the column titled, "Most Important to Me." The values placed in the "Important to Me" and "Not Important to Me" columns are not used. The scorer then records the top five personal-values cards from the "Very Important to Me" column. Participants then hierarchically organize in terms of their importance their top five, selected personal values. Participants are then encouraged to explore the meaning of the top five values, including sense of obligation (Feather, 1995; Fife & Whiting, 2007).

Forming personal-values hierarchies allows numerous permutations and combinations of values for a variety of patients (Rokeach, 1979). Ranking personal values in hierarchies also allows individuals to assess their own values according to their own beliefs (Peng et al., 1997). Additionally, ranking personal values in a hierarchy

reduces the likelihood of the social-desirability effect (Rokeach, 1973; Rokeach & Ball-Rokeach, 1989).

Although a literature review revealed that the Personal Values Card Sort has not yet been tested for validity or reliability, other measures that used some of the same personal values, although in limited number, have been studied extensively.

Procedure

The data from this study are archival data previously collected in 2016. The current study used archival data previously gathered from group sessions with patients from an inpatient behavioral hospital. A licensed psychologist asked each patient at the inpatient hospital if he or she would like to volunteer to complete the two measures. All participants who verbally consented to volunteer to participate in research were administered the TIPI and Personal Values Card Sort by the licensed psychologist. Each participant first completed the TIPI, and then completed the Personal Values Card Sort. Participants had 45 minutes to complete the two measures, as that was the length of group therapy at the inpatient hospital. The data were collected and recorded into Excel, and the data were deidentified and kept anonymous. The responsible investigator transferred the data to IBM SPSS Statistics and analyzed the data to determine the relationship between personality values and personality traits.

Chapter 5: Results

Statistical Analyses

Using archival data, this study employed a multiple regression analysis to determine the association between personality traits and personal values. To determine if personal values predicted personality traits of patients in an inpatient behavioral hospital, a sample of archival data originally collected by a licensed clinical psychologist was used. The study's total sample size was 101 participants who met criteria. Each participant was deidentified for name and diagnosis. Gender was almost evenly matched, as 50 participants (49.50%) identified as female and 51 participants (50.50%) identified as male.

Hypothesis

The hypothesis of the study predicted that the personal values of industry, virtue, cooperation, dependability, and ecology would be positively correlated with the personality trait of Conscientiousness. These specific personal values were operationalized as participant selection of one or more of these values as the top five choices on the Personal Values Card Sort. Conscientiousness was operationalized as the average rating of the two items on the Conscientiousness Scale of the Ten Item Personality Inventory (TIPI; Gosling, Rentrow, & Potter, 2014).

To test the hypothesis, each of the five values of the Personal Values Card Sort (i.e., industry, virtue, cooperation, dependability, and ecology; see Table 1) was coded as either 0, absent from the top five, or 1, present in the top five, and the score on the TIPI for Conscientiousness was calculated by taking the average of the two items on the Conscientiousness scale (Gosling et al., 2014; Miller et al., 2001). Forced entry on SPSS

was used, in which all predictors are forced into the model simultaneously. A power analysis was conducted using "G power" in order to determine a sufficient sample size for the proposed analysis. For 80% power at the .008 level of significant for a medium effect size of .30 using correlational analysis, 110 participants were required.

Table 1

Relevant Personal Values Card Sort Values and Definitions

Personal Values Card Sort	
Personal Values (Independent Variable)	Personal Values: Definition
1. Industry	1. To work hard and well at my life tasks
2. Virtue	2. To live a morally pure and excellent life
3. Cooperation	3. To work collaboratively with others
4. Dependability	4. To be reliable and trustworthy
5. Ecology	5. To live in harmony with the environment

Given the number of correlations calculated on the same data, and to control for the increased likelihood of a Type 1 error, a Bonferroni correction was used such that a more stringent level of significance was employed. The Bonferroni correction helps control for power and the Type 1 error by not mistaking an effect is significant when it is not (Field, 2014). At the .05 level divided by the five tests of significance, the Bonferroni correction was calculated at the .01 level. When analyzed for predication, none of the five personal values of industry, virtue, cooperation, dependability, and ecology predicted the

personality trait of Conscientiousness. As no prediction was found, multiple regression could not be used as explained later.

A point-biserial correlation was calculated for further exploration using industry, virtue, cooperation, dependability, and ecology to assess the degree of the relationship between each of the Personal Values Card Sort variables and Conscientiousness. A point-biserial correlation is used when one of the two variables is dichotomous, meaning that the variables are categorical with only two categories (Field, 2014. Regarding the point-biserial correlation, the Cronbach's alpha was calculated to determine internal consistency. The Cronbach's alpha was at 0.20, demonstrating unacceptable reliability in regard to the correlation between the TIPI and the Personal Values Cart Sort. An accepted value of Cronbach is at 0.70, and any value below is an unreliable scale (Field, 2014). As the Cronbach's alpha score for this study was found to be at 0.20, the Personal Values Card Sort variables and the personality factor of Conscientiousness are unlikely to be related to each other.

The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was found not to be significant at a score of 0.55. Kaiser (1974) stated that a KMO value found in the 0.50 level is considered a "miserable score," demonstrating that it is unlikely to be able to extract distinctive reliable factors (as cited in Field, 2014, p. 685). Additionally, Kaiser recommended that a researcher who gets a KMO score in the 0.50 level should either collect more data or rethink which variables to include (Field, 2014, p. 685). As the KMO score for this study was found to be at 0.55, the variables are likely not related, and factor analysis should not be done.

The Bartlett's test of sphericity score was found to be not significant at 0.60. The Barlett's test of sphericity determines if variables are related and suitable for structure detection (Field, 2014). When a Bartlett score is 0.05 or less, a factor analysis would be suitable to determine the degree to which the variables are related (Field, 2014). Since the Bartlett score for this study was found to be at 0.60, the variables are unlikely related.

Although not included in the hypothesis, the personal value of family was found to be the most frequently chosen of the top five personal values, with 47 (46.5%) of 101 participants choosing family in their top five values. The definition of family in regard to the Personal Values Card Sort is "To have a happy, loving family" (Miller et al., 2001). Additionally, similarities were found in the percentages of female and male individuals who chose family as either their top personal value or one of their top five values (See Table 2). Furthermore, the top five most frequently selected personal values in order are Family (To have a happy, loving family; Miller et al., 2001), Loved (To be loved by those close to me; Miller et al., 2001), Self-esteem (To feel good about self; Miller et al., 2001), Humor (To see the humorous side of myself and the world; Miller et al., 2001), and God's Will (To seek and obey the will of God; Miller et al., 2001; See Figure). The difference between the number of participants who chose the top most selected personal value of family (Family = 47 participants) and the second most selected personal value of loved (Loved = 21 participants) was significant. The personal value of family being chosen as the top most selected value shows that the personal value of family is the most important for patients at an inpatient behavioral hospital. Overall, although the Personal Values Card Sort is clinically useful to identify and increase motivation, it does not seem to be related to personality factors among inpatients at behavioral hospitals.

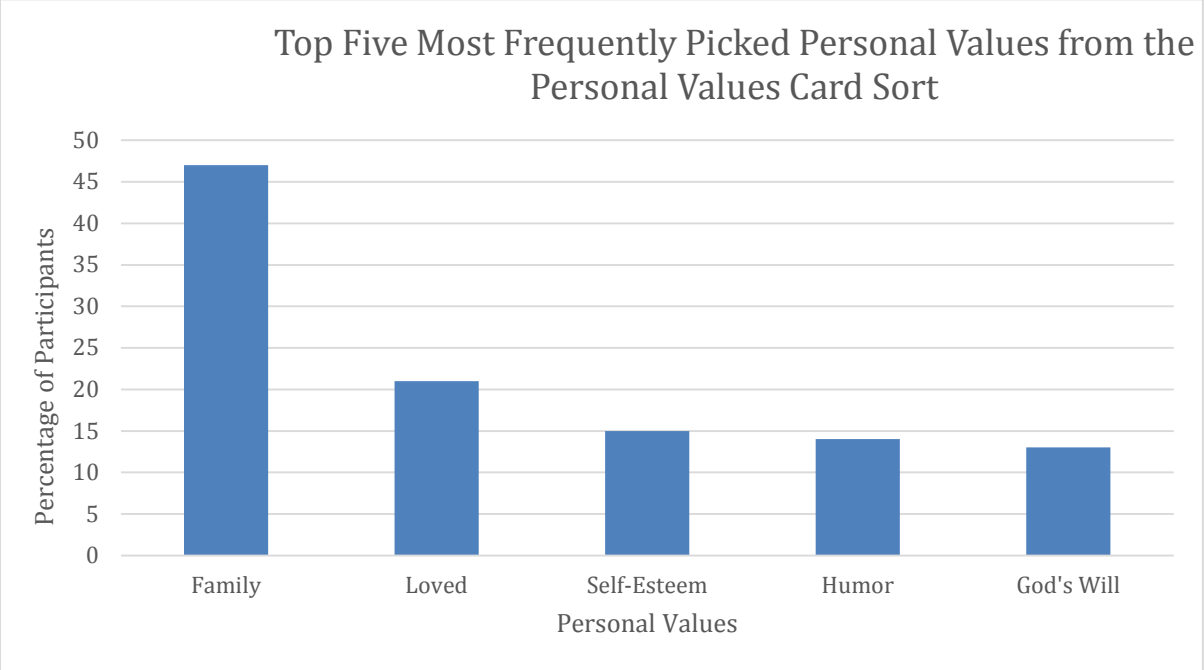
Table 2

Participant Selection for the Personal Value of Family in Regard to Overall Sample and Gender Differences

Personal Values Card Sort Personal Value: Family	
Family and Gender	
Description of Family	To have a happy, loving family
Percent of Total Participants Who Chose Family as *Their Top* Personal Value	21.8% (22 out of 101 Participants)
Percent of Total Female Participants Who Chose Family as *Their Top* Personal Value	24.0% (12 out of 50 female participants)
Percent of Male Participants Who Chose Family as *Their Top* Personal Value	19.60% (10 out 51 male participants)
Percent of Participants Who Chose Family as *One of Their Top Five* Most Important Values	46.5% (47 of 101 participants)
Percent of Female Participants Who Chose Family as *One of Their Top Five* Most Important Values	44.0% (22 of 50 female participants)
Percent of Male Participants Who Chose Family as *One of Their Top Five* Most Important Values	49.0% (25 of 51 male participants)

Figure

Participant Selection for the Top Five Most Frequently Picked Personal Values from the Personal Values Card Sort



As illustrated in the correlation matrix (See Table 3), the correlational analysis of the TIPI found that none of the five personality traits was highly correlated. A correlational analysis examines the relationship between two variables and determines the strength between those variables (Field, 2014). To test the correlational matrix, the covariance of the five variables was calculated. None of the scores was found to be significant at the .05 level, and the scores ranged from -.06 to .21, showing that the five factors of the TIPI had a statistically insignificant relationship. This analysis provides further evidence for the validity of the TIPI and its five factors.

Table 3

Correlations for the TIPI 5 Factors

Correlation Matrix						
		Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness
Extraversion	Pearson Correlation	1	-0.06	0.15	0.18	0.13
	Sig (2-tailed)	-	0.63	0.21	0.12	0.27
	N	101	101	101	101	101
Agreeableness	Pearson Correlation	-0.06	1	-0.04	-0.02	0.05
	Sig (2-tailed)	0.63	-	0.71	0.84	0.70
	N	101	101	101	101	101
Conscientiousness	Pearson Correlation	0.15	-0.04	1	0.21	-0.02
	Sig (2-tailed)	0.21	0.71	-	0.07	0.84
	N	101	101	101	101	101
Emotional Stability	Pearson Correlation	0.18	-0.02	0.21	1	0.01
	Sig (2-tailed)	0.12	0.84	0.72	-	0.94
	N	101	101	101	101	101
Openness	Pearson Correlation	0.13	0.05	-0.02	0.01	1
	Sig (2-tailed)	0.27	0.70	0.84	0.94	-
	N	101	101	101	101	101

Chapter 6: Discussion

This study examined the relationship between personal values and personality traits in an inpatient behavioral hospital population to add to the sparse and inconclusive literature on variables that predict readmission. Previous research found that inpatient behavioral-health hospital admission has become an important therapeutic option for severely ill psychiatric patients and accounts for one third of the national mental-healthcare costs in the United States (Bao & Sturm, 2001; Zhang et al., 2011). Approximately 40% of patients with psychiatric problems are rehospitalized within 1 year of discharge at inpatient behavioral-health hospitals, and one fifth of Medicare recipients are readmitted within 30 days, resulting in a total annual cost of 17.4 billion dollars (Boulding et al., 2011; Thompson et al., 2003). Hospital readmission rates are an important measure for understanding the effectiveness and quality of care, as one would expect that effective, high-quality care should result in patients' presenting problems being substantially resolved, patients being stable at discharge, and patient readmission should not be required (Benbassat & Taragin, 2000; Boulding et al**.,** 2011; Campbell et al., 2000.

In an attempt to rectify these issues, one of the provisions of the Affordable Care Act recommended development and implementation of readmission reduction strategies to improve healthcare quality, although it offered no specific guidelines, and no clear agreement within the literature exists as to which variables conclusively predict readmission (Hamilton et al., 2015; Mark et al., 2013). The inconsistent treatment methodology, difficulty following up on individuals after discharge from behavioral hospitals, and limited and inconsistent empirical research assessing clinical outcomes of

inpatient behavioral treatment, in general, make finding definite predictors for readmission challenging (Langdon et al., 2001; Lyons et al., 1997).

Past research has found that assessing for personality traits and personal values at outpatient counseling agencies can improve treatment planning and treatment outcomes because of the ability to tailor the treatment plan to each specific individual. It is hoped that the information gained from this study may be used to inform future studies to determine if assessing personality traits and personal values in assessment, treatment planning, and interventions within the inpatient behavioral-hospital population can improve quality of care and reduce the rate of readmission and cost. Additionally, because the hypothesis that the personal values of industry, virtue, cooperation, dependability, and ecology would be positively correlated with the personality trait of Conscientiousness was not supported, results support the proposition that personality traits and personal values, as measured by the Conscientiousness scale of the Ten Item Personality Inventory (TIPI; Gosling et al., 2014) and participant selection of one or more of these values as the top five choices on the Personal Values Card Sort (Miller et al., 2001), are both independent and offer their own unique value to assessment and treatment planning at inpatient behavioral hospitals.

Clinical Implications

Research has found that individuals create environments that support and maintain their personality traits, even if they are not aware of doing so (Harkness & Lilienfeld, 1997). Clinicians can help their patients to live lives that are consistent with their personality traits while also helping them to adapt so that they can attain the maximum potential for health, happiness, and well-being for themselves and their

significant others (Harkness & Lilienfeld, 1997). Additionally, clinicians now acknowledge that attention to personal values is an important factor to consider in therapy, as it helps increase the working alliance (Roest al., 2016). The working alliance includes three components: the patient-therapist relationship (Bond), agreement on goals (Goals), and collaboration on tasks (Tasks; Bordin, 1979). Greenson (1967) saw that the collaboration between the client and therapist is one of the main components for success in treatment outcomes, and if the bond between the patient and therapist is not established, the two other components of the working alliance, tasks and goals, cannot be established (Horvath & Symonds, 1991). Patients need to feel understood, appreciated, and supported to establish a bond with their therapist (Horvath & Symonds, 1991). One method to increase the bond between the client and therapist is to discuss the personal values of the patient, as they help decipher the client's world views and beliefs and influence goal selection (Fife & Whiting, 2007; Hodge, 2011). Including personal values in therapy also helps assist in treatment planning and in selecting the most congruent intervention (Fife & Whiting, 2007; Hodge, 2011). Researchers have found that 81% of the general public desires and finds helpful having their values integrated into the therapy process, demonstrating the need to incorporate personal values in session (Bart, 1998; Hodge, 2011; Richards & Bergin, 1997).

Bem (1972) found that individuals adjust their personal values in order to reduce the discrepancy between their personal values and personality traits. Understanding the association between personal values and personality traits may be beneficial because personality traits can help decipher an individual's capabilities and motivation, while increasing salience of personal values can further increase motivation and meaning

(Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn et al., 1976). It is also hoped that expanding the knowledge in these areas may improve the process of assessment and treatment planning at inpatient behavioral hospitals, a crucial factor because of the brevity of stay, typically only 7 to 10 days (Masters et al., 2014). Furthermore, improved individualized behavioral-treatment plans can help to increase patient quality of care and reduce readmission rates and costs at inpatient behavioral hospitals (Fischer & Boer, 2015; Oliver & Mooradian, 2003; Wahburn et al., 1976).

Until now, few attempts have been made to develop specific treatments to match both personality styles and personal values, but doing so may improve treatment outcomes at inpatient behavioral hospitals, ultimately improving quality of care and reducing the rate of readmission and cost (Staiger et al., 2007).

Summary of Findings

Results did not support the hypothesis that the personal values of industry, virtue, cooperation, dependability, and ecology, as measured by the Personal Values Card Sort, would be positively correlated with the personality trait of Conscientiousness, as measured by the TIPI.

The five factor model **(**FFM) is currently the most widely accepted model for understanding personality (e.g., Butrus & Witenberg, 2015). The FFM is a hierarchical model of personality traits with five factors representing personality. The five factors are hypothetical constructs inferred from self-reports representing the actions, skills, habits, and preferences of individuals (Jang et al., 1998). The FFM embraces the theories arising from trait theory, which states that individuals can be characterized in terms of enduring patterns of thoughts, feelings, and actions. Because personality traits are consistent across

varying social settings, they are useful for assessment and prediction of behavior and can inform effective treatment planning (McCrae & John, 1992).

The TIPI, used in the current study, is a brief measure of the five traits of the FFM (Ehrhart et al., 2009; Renau et al., 2013) and is comprised of only 10 items, making it the most efficient of the existing measures and, thus, more appropriate for inpatient settings, which are fast paced and involve patients who are highly stressed and may have limited executive functioning. FFM traits measured by the TIPI include emotional stability, conscientiousness, openness to experience, extraversion, and agreeableness. Conscientiousness is found to positively impact motivation and the achievement of goals and can predict perseverance and success in reaching goal attainment (Parks & Guay, 2009). Individuals with a high level of conscientiousness are hardworking, confident, resourceful, patient, cooperative, dependable, and moral, while individuals low on conscientiousness are seen as unreliable, lazy, careless, and selfish (Cheng & Ickes, 2009; Costa & Widiger, 2002). As conscientiousness increases motivation, it has been found to predict individuals who will adhere to plans and achieve goals they set during individual therapy (Boyce et al., 2013; Mitchell, 1997).

The Personal Values Card Sort is a self-report inventory created by Miller, Baca, Matthews, and Willbourne at the University of New Mexico in 2001. Participants sort out 83 value cards in terms of each card's relative importance to the participants, selecting their top five values in terms of importance. Values are conceptualized as an aspect of obligation, motivating them to action when brought to mind and leading individuals to feel frustrated when their most important values are not achieved (Feather, 1995; Fife & Whiting, 2007).

Idiosyncratic personal-value hierarchies allow for innumerable permutations, helping to explain the wonderful variations in attitudes and behaviors seen in all individuals (Rokeach, 1979). Ranking personal values in hierarchies also allows individuals to assess and increase awareness of their own values, helping to show their motivation and independent judgments (Peng et al., 1997). McCrae et al. (2000) suggested that personality traits shape personal values in the interaction with the local environment, theorizing that personality traits are antecedents of personal values. Additionally, according to Schermer et al. (2011), personality traits and personal values are both influenced by nature (i.e., genes) and nurture (i.e., environment). The original hypothesis predicted that the personal values of industry, virtue, cooperation, dependability, and ecology would be positively correlated with the personality trait of Conscientiousness. Results did not support the hypothesis. Although past research shows that the TIPI and Personal Values Card Sort are clinically useful to understand individuals better and inform treatment planning, the personal values measured in this study were not statistically related to the personality factor of conscientiousness, as measured by the TIPI, with individuals at an inpatient behavioral hospital.

Although not included in the hypothesis, the personal value of family (To have a happy, loving family) was found to be the most frequently endorsed of the top five values (See Table 3). Forty-seven percent (46.5%) of 101 participants chose the personal value of family as one of their top five personal values. Additionally, the number of male and female participants who chose the personal value of family as one of their top five personal values differed only slightly (M = 49.0%; F = 44.0%). This slight difference demonstrates that family is important to both genders. As the study found that almost

half of the participants chose the personal value of family and both genders found the personal value of family important, incorporating the topic of family during group therapy sessions at inpatient behavioral hospitals may be particularly relevant and beneficial, as doing so may improve motivation, treatment relevance, and effectiveness and, thereby, help to improve outcome and decrease readmission rates and cost at inpatient behavioral hospitals.

The finding that family was so highly valued among participants should not be surprising, especially in an inpatient facility, in which family contact is limited, if not impossible. The desire and need to have supportive people in one's life is essential for overall well-being (Black et al., 2017). John Bowlby (1951) postulated that infants have an innate need to bond to a main attachment figure, and any disruption in attachment can lead to mental-health and behavioral problems later in life. Bowlby, Ainsworth, Boston, and Rosenbluth (1944) found that a significantly high proportion of juveniles arrested for stealing had suffered prolonged separation from their mothers during their first 5 years of life, and many of these juveniles were unable to form any permanent and mutually satisfying relationships with other people. The belongingness hypothesis states that humans have a pervasive drive to form and maintain lasting, positive, and significant interpersonal relationships (Baumeister & Leary, 1995). To satisfy this drive, humans need to have frequent pleasant interactions with other people, and these interactions must be stable (Baumeister & Leary, 1995).

Consequently, admission to inpatient facilities may increase awareness that one has lost access to family, thus highlighting the perception of loss of access to significant others. Risk aversion, in this case, the risk of losing access to family, is a common

psychological phenomenon that can increase the perceived value of the lost stimulus (Kahneman, 1981). In general, human physical and psychological well-being increases when positive interpersonal relationships are formed and maintained (Verhagen et al., 2018). The formulation of healthy relationships is usually associated with positive emotions, including happiness, joy, and love. Conversely, the threat of losing healthy relationships and isolation from loved ones is associated with negative emotions, including anxiety, depression, low self-esteem, jealousy, and grief (Leary, 1990). Additionally, memories of past rejections and imagining social rejection increase anxiety and loneliness (Leary, 1990). Loneliness is "an individual's subjective perception of deficiencies in his or her social relationships" (Baumeister & Leary, 1995, p. 507). To decrease the feeling of loneliness, humans usually desire to be surrounded by others whom they consider to be family, including anyone with whom they perceive they have a deep loving relationship and who they perceive love them back (Leary, 1990). When humans perceive that they lack social support from family, physical and psychological well-being decreases (Baumeister & Leary, 1995).

Social relationships and the presence of social support are necessary to increase resiliency, have a sense of personal control, experience positive emotions, and have improved mental-health outcomes (Munson et al., 2015). Social support consists of verbal and nonverbal information provided to individuals to help increase emotional, physical, and behavioral well-being and can extend to anyone, including family, peers, and professionals (Munson et al., 2015). Patients at inpatient behavioral hospitals may benefit from treatment when they perceive that they have social support during their stay at the hospital and when they are discharged (Sledge et al., 2011). Research has found

that patients who receive social support and have a sense of belongingness to others have fewer hospital readmissions (Sledge et al., 2011). Additionally, patients at inpatient behavioral hospitals may benefit when they are able to share stories with other peers who have similar experiences, including strained relationships with family members and social supports (Munson et al., 2015). Qualitative research found that individuals struggling emotionally endorsed the benefit of discussing how to cope with mental-health challenges and improve healthy relationships with peers who have shared experiences (Munson et al., 2015). This study seems to indicate that providing group therapy at inpatient behavioral hospitals that specifically addresses the topic of family, as well as of other social relationships, may be beneficial to increase overall well-being and decrease readmission rates (Sledge et al., 2011).

Additionally, the five personality traits as measured by the TIPI were determined to have no significant correlation, supporting the notion that each can be conceptualized as an independent trait. As shown in Table 3, correlations on the TIPI traits ranged from -.06 to .21. This analysis gives evidence for the validity of the TIPI in an inpatient population. The recent demand for personality measures that are both time and cost effective have led to the development of the TIPI (Ehrhart et al., 2009; Gosling et al., 2003a; Hofmans et al., 2008). Although brief measures are usually psychometrically inferior to longer, multiple-item scales (Gosling et al., 2003b), brief measures do have advantages, including giving the option of assessments in situations when efficiency is needed and helping to reduce fatigue, frustration, boredom, and feelings of burden among both staff and patients (Ehrhart et al., 2009; Gosling et al., 2003b; Hofmans et al., 2008).

The TIPI is a shortened version of the 44-item Big-Five Inventory (BFI; Ehrhart et al., 2009), whereas the BFI is a shortened version of the NEO Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992), a 240-item self-report inventory that measures all fivepersonality factors and their corresponding facets. Both the BFI and the NEO-PI-R have been found to be reliable and valid (Butrus & Witenberg, 2015; Ehrhart et al., 2009). The TIPI can be completed in as little as 1 minute, whereas the NEO-PI-R requires 45 minutes to complete and the BFI requires 15 minutes (Gosling et al., 2003a), a duration that could be prohibitive to inpatient patients and staff. As this study further supports the validity of the TIPI, inpatient behavioral hospitals might consider using this personality measure to save time, decrease cost, and inform treatment planning.

Limitations

This study has several limitations. First, the psychometric validity and reliability of the Personal Values Card Sort has yet to be tested. Although, anecdotally, this instrument has been found to be clinically useful in a wide variety of contexts and across cultures (Brad Rosenfield, personal communication, February 16, 2019), the validity and reliability of the Personal Values Card Sort has yet to be empirically validated. The Personal Values Card Sort provides a variety of personal values that are not included in the Rokeach Value Survey (RVS). Researchers found that while interviewing participants to find out the values that are most important to them, more values were brought up that were not included in the RVS, thereby initiating the development of the Personal Values Card Sort (Braithwaite & Law, 1985). As William Miller stated, “The Value Card Sort was created to be a clinical tool, a basis for a

conversation. There is no gold standard measure of a person's values against which to compare it to" (Personal Communication on December 26, 2016). Without validity and reliability, one cannot determine whether the Personal Values Card Sort actually measures personal values and does so consistently over time.

A second limitation pertains to confounding variables affecting the internal validity of results. Although sex, age, and educational status were identified for each participant of the study, other variables that could affect results were not recorded. These potential confounding variables include diagnosis, culture, and religion, and if whether participants were readmitted to the inpatient hospital. This lack of information on these variables could affect the relationship between personal values and personality traits. Moreover, only data on the top five values were collected, without attention to the order of selection. Thus, information on the top value was not available. Of course, participants' top values could have been very informative.

A final limitation deals with the small sample size of the study. Because there was not enough power to test the other four personality traits of the FFM, as 143 participants would have been needed and only 101 subjects verbally consented to participate, only one personality trait, in this case Conscientiousness, could be tested.

Future Directions

Future research should address the concerns of external validity, internal validity, reliability, and validity of the TIPI and the Personal Values Card Sort in inpatient populations. To increase external validity, this study should be replicated using both a larger sample size and in multiple inpatient behavioral hospitals across various regions.

To increase internal validity, control of potentially confounding variables should be managed, as was unachievable with the present archival dataset. These variables include diagnosis, readmission status, religion, and culture. Additionally, test-retest reliability of the TIPI for this population should be further studied by giving the TIPI to individuals at two different times.

Although the hypothesis in this study was not supported, future research should focus on personal values, especially the value of family, and personality traits in assessment, motivation, treatment planning, intervention, to hopefully, lower readmission rates and increases quality of care. Consequently, longitudinal research should be launched to investigate the utility of the TIPI and Personal Values Card Sort in predicting readmission to inpatient behavioral hospitals after discharge, as well as quality of care.

Although previous research has determined that the TIPI can correctly assess for personality traits, no evidence shows that the TIPI is related to *DSM-5* (2013) clinical syndromes or personality disorders. Thus, future researchers could determine if the TIPI, a particularly brief measure, can be used to inform the *DSM-5* (2013) to increase efficiency of diagnosis and treatment planning. Additionally, future studies could focus on identifying and matching treatment interventions for personality traits, similar to Project Match (1997).

Lastly, little research has considered the relationship between personal values and personality traits in regard to age, gender, and education level within an inpatient behavioral population. Future studies should determine if differences exist between personality traits and personal values among age, gender, and education level to provide

further data to help tailor interventions to each individual (Feather, 1984; Fung et al., 2016).

Summary and Conclusions

This study examined the relationship between personal values and personality traits in patients in an inpatient behavioral hospital to add to the sparse literature on variables that could inform assessment, treatment planning, treatment response, and readmission to inpatient behavioral hospitals. Results did not find a significant relationship between personal values and personality traits. Further analysis revealed that the personal value of family (To have a happy, loving family) was the most prevalent reported value in this population, by far, with 46.5% of 101 participants choosing the personal value of family as one of their top five personal values. An insignificant difference was found between the percentage of female and male participants who chose the personal value of family (M = 49.0%; F = 44.0%).

Prior research has found that patients who receive social support and have a sense of belongingness to others, especially to family members, have fewer hospital readmissions (Sledge et al., 2011). Additionally, therapists now acknowledge that attention to personal values is important to include in therapy, as it helps increase the working alliance, decipher the client's world views and beliefs, and influence goal selection (Fife & Whiting, 2007; Hodge, 2011). Past researchers have found that 81% of the general public desires and finds helpful the integration of their values into the therapy process (Bart, 1998; Hodge, 2011; Richards & Bergin, 1997). Furthermore, the study determined good psychometric support for the TIPI. These findings suggest that including personal values in the therapy process, incorporating the topic of family during

group therapy sessions at inpatient behavioral hospitals for both male and female individuals, and incorporating the TIPI during assessment may be beneficial, and that each may provide added benefit.

Finally, this study provides evidence of internal validity for the TIPI in an inpatient population. It is hoped that these results may help improve assessment and treatment and overall wellness and decrease readmission rates and cost for patients at inpatient behavioral hospitals by allowing for more individualization in assessment and treatment planning.

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