PERSONALITY AND MENTAL HEALTH ATTITUDES
AMONG US ARMY ROTC CADETS

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With the current military mental health crisis, it is important to understand the role of the leader in military mental health. First, the impact of military leader behaviors on the well-being of military personnel is reviewed. Next, the role of leader attitudes as a precursor to leader behaviors is discussed. The relation of leader behaviors to leader personality using the NEO Five Factor Model (FFM) is reviewed, as well as the relation of prejudicial attitudes to the NEO FFM personality factors. A research project is described that attempted to draw these concepts together, assessing the NEO FFM personality dimensions and mental health attitudes of US Army ROTC cadets, the future leaders of the US Army. No significant relations were observed between NEO FFM personality traits and mental health attitudes, even after controlling for Impression Management. Also, the predicted positive correlation between positive mental health attitudes and Impression Management was not found. These results suggest that more research and more refined measures are needed in the area of leader attitudes toward soldier mental health problems, and how those attitudes might impact the soldiers.
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CHAPTER 1

INTRODUCTION

1.1 Military Mental Health Crisis

The United States military is no doubt experiencing a mental health crisis (Morrison, 2012). The United States military has been involved in combat operations for over a decade, exposing military personnel to challenges including combat-related trauma, multiple deployments, and prolonged stress and anxiety. Remaining mentally fit in a combat environment is a monumental task, and this task is made even more difficult when military personnel are unsure of how their mental health concerns will be perceived by their social support system and command structure. The military mental health crisis is arguably due to the two-fold effect of mental health issues resulting from military service and the subsequent barriers to care found within the military environment.

Military personnel are often reluctant to seek mental health services due to the various perceived barriers associated with seeking treatment (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004). Barriers to care, which are discussed in detail in the following section, include perceived stigma by the individual’s unit members or unit leadership, being seen as weak or incapable of performing their job tasks, or being blamed for the problem. The following review of literature demonstrates that military leadership impacts the well-being of their subordinates, specifically that military leaders have the ability to either worsen or lessen the barriers to care for their subordinates. Additionally, the present research investigates the role of leadership behaviors, attitudes, and personality on soldier well-being.
1.2 Barriers to Care

An often cited study conducted by researchers at the Department of Psychiatry and Behavioral Sciences at the Walter Reed Army Institute of Research assessed US Army and Marine combat infantry units before \( n = 2530 \) or after \( n = 3671 \) their deployments to either Iraq or Afghanistan (Hoge et al., 2004). They evaluated participants for major depression, generalized anxiety, and post-traumatic stress disorder (PTSD). They found that the responses of 11.2% of Afghanistan veterans and 15.6-17.1% of Iraq veterans indicated the presence of a mental disorder, and only 23-40% of those sought mental health care. Far less than half of military personnel in need of mental health services sought them. Additionally, those whose responses indicated the presence of a mental disorder were twice as likely as those whose responses did not indicate the presence of a mental disorder to report concern about possible stigmatization and other barriers to seeking mental health care. This finding is alarming because it indicates that those with the most need of mental health services are also the most likely to perceive barriers to seeking mental health care.

The same researchers (Hoge et al., 2004) sought to identify the perceived barriers to care preventing military personnel from seeking mental health care. Among respondents who met criteria for a mental disorder \( n = 731 \), respondents indicated barriers to care such as worries that they would be seen weak (65%), unit leadership might treat them differently (63%), members of their unit might have less confidence in them (59%), they would have difficulties getting time off work for treatment (55%), leaders would blame them for the problem (51%), it might harm their career (50%), they would have difficulties scheduling appointments (45%), they would be embarrassed (41%), mental health professionals might not be trustworthy (38%), the cost of mental health care is too much (25%), mental health care does not work (25%), they
would not know where to get help (22%), and they might lack adequate transportation (18%; Hoge et al., 2004).

The findings reviewed above are consistent with trends within military culture. The barriers that were most often endorsed by respondents support that great value is placed on personal strength, one’s ability to perform assigned tasks, and being a good soldier or Marine. Military personnel do not want their peers or leaders thinking less of them or their abilities. Because seeking mental health services is often seen as a weakness and inability to perform one’s duties, soldiers may forego seeking needed mental health services rather than face possible stigmatization.

The barriers to care discussed above are diverse, ranging from difficulties scheduling an appointment to being perceived as weak, however most of the barriers endorsed by 50% or more of the sample relate to perceived stigmatization by leaders and peers.

1.3 Military Leader Behaviors Affect Soldier Well-Being

Military leaders are highly influential of the command climate. They set the standards within their units and therefore they have the ability to address mental health stigma. Thus military leaders can act as either barriers or gateways to care by either reinforcing or challenging soldiers’ beliefs that seeking mental health services could damage their professional reputation. Military leaders influence whether help-seeking behavior is framed as either a weakness or a strength. The research discussed below further demonstrates that the behaviors of military leaders can affect the well-being of their soldiers.

A group of military researchers investigated the effect of leadership and unit cohesion on stigma and perceived barriers to care in soldiers post-combat (Wright, Cabrera, Adler, Bliese,
Hoge, & Castro, 2009). Wright et al. (2009) anonymously surveyed 680 soldiers three months after returning from a 15-month, combat-support deployment to Iraq. Soldiers were given a stigma and barriers to care scale consisting of 16 items and a scale of leader behavior consisting of 4 items, both of which are measures used in previous research (Castro, Adler, & Bievenu; Thomas & Bliese, 2004). All items were measured using a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Respondents were asked, “Thinking about your unit, rate how often the following occur. In your unit, Officers: (1) …tell soldiers when they have done a good job. (2)…embarrass soldiers in front of other soldiers. (3)…try to look good to higher-ups by assigning extra missions or details [duties] to soldiers. (4)…exhibit clear thinking and reasonable action under stress.”

This leadership scale has been used in research which demonstrated that positive ratings of leaders were related to better mental health among soldiers and adherence to good battlefield ethics, even when controlling for the level of combat exposure (Office of the Surgeon General Multinational Force-Iraq and Office of the Surgeon General United States Army Medical Command, 2006). Both measures of stigma and perceived barriers to care yielded independent effects for leadership while controlling for the effects of mental health symptoms. Additionally, analysis revealed significant interaction effects between leadership and cohesion in predicting stigma and barriers to care in soldiers post-combat. Thus participants who rated their unit leadership more highly and who reported higher unit cohesion evidenced dramatically lower scores on both stigma and perceived barriers to care than all others.

Britt, Wright, and Moore (2012) also examined leadership behaviors as predictors of stigma and practical barriers to mental health treatment. They randomly surveyed 1,455 active duty soldiers from a brigade combat team that participated in a 15-month deployment to
Afghanistan. The soldiers completed measures of noncommissioned officer (NCO) and officer leadership, stigma, practical barriers to getting mental health treatment at 2, 3, and 4 months following the deployment. Multiple analyses indicated that positive and negative NCO and officer leader behaviors were predictive of overall stigma and barriers to care, across the three measurement times. There was a larger effect size for negative leader behaviors than for positive leader behaviors, however both positive and negative leader behaviors each accounted for variance in stigma across time conditions. In predicting barriers to care, Britt et al. (2012) noted both positive and negative leader (NCO and officer) behaviors significantly predicted variance in barriers to care, with a larger effect size for positive leader behaviors. The researchers concluded that leader behaviors impact overall stigma and barriers to care.

Not only can effective leadership reduce stigma and practical barriers to mental health treatment, Bartone (2006) argued that effective, hardy leaders can actually increase hardy, resilient cognitions and behaviors in their units. He found that leaders who are high in hardiness may influence their soldiers to respond to stressful circumstances in ways that are characteristic of people who are high in hardiness.

Britt, Davison, Bliese, and Castro (2004) compiled research demonstrating the effects of perceived leader behaviors at the unit level on unit and soldier well-being and motivation. Researchers used multilevel modeling to examine the importance of leader behaviors as a predictor of stress, as a buffer against the negative effects of stress, and as facilitators of variables that have been found to buffer soldiers from the negative effects of stress.

They noted that although leaders do not have control over many of the stressors in soldiers’ lives, research consistently shows that positive leader behaviors, such as providing support and structure, are capable of reducing the level of stressors experienced by soldiers,
including reduced within-group conflict, perceived role ambiguity, and feelings of task insignificance.

Several studies also support the claims of Britt and colleagues (2004) that leader behaviors act as buffers against the negative effects of stressors. For example, Bliese and Halverson (2002) surveyed soldiers during a deployment to Haiti and found that companies with leaders who were perceived as unsupportive reported higher levels of psychological hostility when faced with insignificant work tasks. This suggests that supportive leadership can protect the psychological well-being of soldiers against the stressor of meaningless work.

Additionally, research conducted with soldiers in garrison by Bliese, Ritzer, Thomas, and Jex (2001) demonstrated that company perceptions of supportive leader behavior buffered the relation between interpersonal conflict in the unit and the soldier’s level of commitment to a career in the Army. The results showed that even when interpersonal conflict in the unit was high, soldiers with supportive leaders (both NCOs and officers) displayed a higher level of commitment to a career in the Army. This clearly demonstrates that the behaviors of military leaders affect soldier well-being.

Bliese and Castro (2000) studied the moderating effects of role clarity or role ambiguity on demands and psychological strain within a large sample of US Army lower enlisted males \( n = 1,786 \) preparing for a training exercise. They found that role clarity moderated the relation between work demands and psychological strain. The soldiers who had a positive leader work environment and high role clarity were able to overcome the psychological strain of a high workload. However, high role clarity alone, without a positive leader environment, was not sufficient to overcome the psychological strain of a high workload. Although role clarity has
buffering effects on work demands, in general they found that these buffering effects are relatively unimportant when leadership support is low.

Researchers have noted that leader behaviors facilitate variables that buffer soldiers from the negative effects of stress. For example, Britt and Bliese (2003) investigated American soldiers serving in Bosnia and found that the soldiers whose leaders provided them clear structure felt that they had clear guidelines for their performance and, subsequently, those soldiers experienced higher job engagement. Soldiers’ level of job engagement was then found to moderate the relation between various stressors and psychological strain, with soldiers who had a high level of job engagement reporting a smaller increase in psychological strain when under high levels of stress. Thus, leader behaviors were related to job engagement which, in turn, buffered soldiers from the adverse effects of stress.

Leadership is important because it is likely to be a driving factor for other forms of social climate and unit functioning. For example, Chen and Bliese (2002) found that soldiers whose unit leadership demonstrated supportive and clarifying behaviors were more likely to report lower perceptions of strain and higher role clarity which, in turn, contributed to higher levels of both self-efficacy and collective efficacy. Both self-efficacy and collective efficacy buffered soldiers from the negative effects of stress. This study provides further evidence that leader behaviors often facilitate factors, such as strain, role clarity, and efficacy, which impact the negative effects of stress.

Bliese (2006) discussed social climates within military units and drivers of soldier well-being and resilience. He argued that social climates, specifically leadership climate, affect soldier well-being. The climate set by military leadership centers around the extent to which soldiers perceive that their unit leaders are concerned about their well-being. Bliese (2006) cited several
of the studies discussed above to demonstrate that military leadership impacts soldier well-being. The role of leadership is integral to almost all aspects of unit functioning, including, Bliese argues, the climate of the unit. Because the actions and behaviors of leaders are experienced and shared by entire units, they contribute to leadership climates.

Bliese (p. 227-230) discusses both direct and indirect effects of leadership climate on soldier well-being. For example, average unit well-being can be estimated with good accuracy from average perceptions of leadership. Unit depression levels increase as perceptions of negative NCO behaviors (e.g. embarrassing soldiers in front of other soldiers, trying to look good to superiors by assigning unnecessary missions or tasks to soldiers) increase. Unit depression levels correlate with differences in leadership climates among units. Thus, military leaders have a direct effect on soldier well-being (Bliese, 2006). Additionally, there are many indirect effects of unit leadership on soldier well-being. Many stressors are inherent to military service and cannot be eliminated; therefore any ameliorating efforts must focus on reducing the effect of these stressors. One key strategy to reducing the stresses of military service is to develop supportive leadership environments. As previously discussed, supportive leader behaviors and environments may play an important role in soldier well-being by attenuating stressors. Given that supportive social environments are also integral to one’s well-being, with both direct and indirect effects on soldier well-being, supportive leadership environments are impactful of both soldier well-being and soldier job attitudes. For example, Jex and Bliese (1999) demonstrated that collective efficacy, or the unit members’ overall belief in their abilities to perform their mission, had both direct and indirect effects involving job satisfaction.

More recent research reiterates these findings. Zinzow and colleagues (2013) conducted three focus groups with active duty US Army personnel to investigate barriers to mental health
care. Soldiers identified a variety of barriers to care, and notable among them were several references to leader behavior. For example, the researchers noted several concerns regarding leadership problems (e.g., lack of confidentiality in their chain of command, lack of trust in leadership, perceptions from leadership that soldiers are faking to “get out of work,” leadership is too busy to recognize problems/provide support, leadership unclear about ramifications of treatment) and leader support (e.g., allow soldiers time off to seek treatment, schedule flexibility, general support of treatment seeking, provide information on where/when to seek treatment, role model who has had treatment, leaders identify problems/refer soldiers to treatment). Conversely, the researchers also found that supportive leadership can be a facilitator to care. Leaders who identified problems, approved of treatment seeking, allowed for scheduling flexibility or time off, provided information on where/when to get treatment, treated people the same after they got treatment, and who were trustworthy and role model all acted as facilitators to mental health care (Zinzow et al., 2013).

Another recent study found that morale may buffer soldiers from the negative consequences of combat stressors (Britt et al., 2013). While leaders are not the sole determinant of unit morale, they do have incredible power to influence morale, in either the positive or negative direction. Another recent study found a relation between perceived organizational support, stigma, and PTSD symptoms (Kelley et al., 2013). Specifically, the researchers found that stigma partially mediated the relation between perceived organizational support at 4-months post-deployment and PTSD symptoms at 1-year post-deployment. These findings indicate that a supportive environment, to which leaders are a key contributor, reduces stigma, thus allowing soldiers to seek treatment for their PTSD symptoms (Kelley et al., 2013). Again, while leaders are not the sole determinant of perceived organizational support, leaders have the power to
greatly influence perceived organizational support in either the positive or negative direction, in effect acting as either barriers or facilitators to care.

In conclusion, there is ample literature supporting the claim that leader behaviors affect soldier well-being. Positive leader behaviors act as buffers against negative effects of stressors on soldier health and well-being. Supportive leader behaviors reduce stress and alleviate the negative consequences of stressors on soldiers’ health and relationships. Conversely, negative leader behaviors increase stress and decrease soldier well-being.

1.4 Leaders’ Attitudes Influence Their Behavior (Which in Turn Affects Soldier Well-Being)

The research discussed above demonstrates that leader behaviors impact soldier well-being; however, the present research investigates leader attitudes. The present research uses a sample of future US Army leaders (US Army ROTC cadets) in an effort to look toward the future and possible implications of the military mental health crisis. Cadets, the population of interest, are not making mental health decisions yet. Therefore, the present research is not able to evaluate the behaviors related to command climate and barriers to care. In looking toward the future, it is possible to assess cadet attitudes as an indicator of how they may behave in the future as military leaders. The present research hopes to predict future affordance patterns for cadet attitudes and behaviors. In other words, the present research investigates the attitudes of future US Army leaders as predictors of broadly defined behavioral ranges.

A wealth of social psychological research has shown that attitudes do not directly translate to attitude-consistent behavior. Complex processes mediate attitudes and behavior (Cooke and Sheeran, 2004). However, substantial research demonstrates that attitudes are
important predictors of behavior. For example, Kim and Hunter’s (1993) meta-analysis shows a strong overall relation between attitudes and behavior.

Several other researchers and meta-analyses have also found support for general attitude-behavior consistency. Kraus’s (1995) meta-analysis, for example, indicates that attitudes play a significant role in predicting future behavior. Similarly, Wallace et al.’s (2005) meta-analysis found strong correlations between attitudes and behavior, and between attitudes toward behavior and behavior. Ajzen and Fishbein (2005) identify attitudes as an important factor that influences behavior, especially when the measure of behavior is broadly representative of the behavior itself. Glasman and Albarracín’s (2007) meta-analysis of attitude-behavior consistency found that attitudes strongly correlated with future behavior, especially when attitudes were easy to recall and stable over time. Finally, Cooke and Sheeran’s (2004) meta-analysis found that attitudes-behavior consistency was moderated by the accessibility, temporal stability, direct experience, certainty, ambivalence, and affective-cognitive consistency of attitudes.

Although attitudes do not always and necessarily translate into congruent behaviors, ample attitude-behavior consistency research demonstrates that attitudes greatly influence behavior. Strong overall correlations were found between attitudes and general categories of behavior. Taken together, these studies suggest that one’s attitudes afford a range of possible behaviors. Thus, research suggests that the attitudes of future military leaders will influence their behavior. The present research, therefore, assumes that the attitudes of military leaders will very likely influence their behavior by affording a range of possible behaviors linked to those attitudes.
1.5 Leadership and the NEO Five Factor Model of Personality

With the knowledge that leader attitudes and leader behaviors impact soldier well-being, the role of personality in leadership becomes relevant. Several studies have found evidence that personality traits are associated with leadership, particularly when personality is assessed via the Five Factor Model (FFM) which is used in the proposed research. The FFM identifies the Big Five personality characteristics of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Several reviews of leadership effectiveness literature provide support for the relation between leadership and personality. Specifically, Hogan, Curphy, and Hogan (1994) demonstrate that leader traits, which map onto the FFM, are predictors and correlates of leader effectiveness. Several studies discussed below found that these Big Five personality traits are also associated specifically with military leadership.

1.6 Military Leadership and Leader Effectiveness

Leadership and leader effectiveness are complex concepts with a wide variety of potential definitions, making them difficult concepts to measure. In terms of definitions of leadership, Johnson and Hill (2009) cite House and Aditya’s (1997) definition as the most widely used and accepted definition of leadership. House and Aditya (1997) define leadership as “the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of an organization of which they are members.” The US Army’s definition of leadership is “influencing people—by providing purpose, direction, and motivation—while operating to accomplish the mission and improving the organization” (Department of the Army, 1999).

However, in addition to defining leadership, there are various ways of measuring leadership. McCormack and Mellor (2002) note that researchers can create their own methods,
rationale, or instruments to measure leader effectiveness, but this approach is flawed because it rarely resembles the assessment methods used by the organization of interest. If researchers measure leadership differently than the organization within the research, then the results will offer little insight into how that organization perceives and measures leadership (McCormack & Mellor, 2002). For the purpose of research, most researchers tend to define leader behaviors in the same way as the terms are defined by the organization. This approach involves asking superiors, peers, or subordinates to rate the leader of interest. Specific military studies discussed below assessed leader effectiveness using officer evaluation reports, cadet military development grades, or selection for promotion courses. Piedmont and Weinstein (1994) suggest that assessing leadership this way yields stronger correlation with personality than other measures of leader effectiveness.

The studies discussed below demonstrate the utility of the FFM for conceptualizing leader effectiveness as measured by the organization of interest, the US Army. However, the proposed research conceptualizes leader behaviors and leader effectiveness in terms of the mental health of soldiers. It is important to note that US Army command structures and US Army psychologists may assess leader effectiveness differently. US Army psychologists may want to include indicators of leader effectiveness that are not typically included on US Army leader effectiveness assessments. For example, US Army psychologists may want to assess whether leaders act as gateways to care, rather than barriers to care, as an attribute of an effective leader.

Therefore, the study measures leadership effectiveness slightly differently than many of the studies discussed below. The research assesses leader attitudes as a predictor of leader behaviors and effectiveness in terms of soldier mental health. However, this is discussed in more
depth in the following section, which discusses how the FFM correlates with prejudicial attitudes.

1.7 Personality
1.7.1 Neuroticism and Leadership

Individuals who score high in Neuroticism tend to demonstrate anxiety, impulsiveness, hostility, and depression (Bartone, Eid, Johnsen, Laberg, & Snook, 2009). Individuals who score high in Neuroticism also tend to lack self-confidence and self-esteem (McCrae & Costa, 1991). Neurotic individuals may be seen as moody, insecure, or negative (Hogan, Curphy, & Hogan, 1994). These individuals are less likely to be viewed as leaders and to emerge as effective leaders; whereas individuals who appear more confident, secure, and positive—displaying low levels of Neuroticism—are more likely to be viewed as leaders (Johnson & Hill, 2009). Due to an evident lack of necessary social skills, individuals who score high in Neuroticism can be expected to avoid leadership roles and perform poorly when required to act as leaders (Bartone et al., 2009).

1.7.2 Extraversion and Leadership

Individuals who score high in Extraversion tend to be warm, extraverted, more comfortable in social situations, gregarious, and have a positive outlook (Costa & McCrae, 1992). Extraverts tend to be more active, assertive, energetic, and not silent or withdrawn (Judge, Bono, Illies, & Gerhardt, 2002). Extraverted individuals are likely to speak more often, dominate meetings, and act in pro-social fashion. High scores on Extraversion are predictive of leadership (Judge & Bono, 2000) and correlate with effective leadership (Watson & Clark, 1997). Conversely, research suggests that individuals who are low in Extraversion are more easily
dominated in social and professional interactions, talk less, prefer being alone, and are less likely to be seen as leaders (Taggar, Hackett, & Saha, 1999). Both dominance and sociability, which are the major facets of Extraversion, are positively related to self and peer ratings of leadership (Gough, 1990). Extraversion is strongly related to both social leadership (Costa & McCrae, 1988) and leader emergence in groups (Watson & Clark, 1997).

1.7.3 Openness to Experience and Leadership.

Individuals who score high on Openness to Experience tend to be nonconforming, autonomous, imaginative, and display a high tolerance for ambiguity (Johnson & Hill, 2009). High Openness to Experience correlates with divergent thinking (McCrae, 1987), and is strongly correlated with personality-based measures of creativity (McCrae and Costa, 1997) as well as with behavioral measures of creativity (Feist, 1998). Individuals high in Openness display an intellectual curiosity, are more willing to try new activities and approaches, and are open to diverse and new ideas (Costa & McCrae, 1992). These tendencies encourage learning and adaptability, which are valuable qualities for leaders. Leaders who are high in Openness should demonstrate good situational awareness and be more approachable by subordinates (Bartone et al., 2009). As stated above, Openness to Experience is associated with creativity, which has been linked to effective leadership (Sosik, Kahai, & Avolio, 1998), as well as adaptability and perspective taking (Costa & McCrae, 1988; McCrae, 1996), suggesting that individuals who are high in Openness are more likely to emerge as leaders and be effective leaders (Judge et al., 2002).

1.7.4 Agreeableness and Leadership

Individuals who score high in Agreeableness tend to be caring, cooperative, tolerant, altruistic, tactful, sensitive, honest, trusting, and concerned for the welfare of others (Bartone et
al., 2009; Goldberg, 1990; Johnson & Hill, 2009). Cooperativeness (Bass, 1990) and interpersonal sensitivity (Zaccaro, Foti, & Kenny, 1991) are traits associated with Agreeableness that are related to leadership. These leadership qualities are appreciated by both peers and subordinates. Subordinates view Agreeable supervisors as more approachable (Hogan & Shelton, 1998). Conversely, leaders low in Agreeableness may appear more rigid, disagreeable, and competitive (Johnson & Hill, 2009).

1.7.5 Conscientiousness and Leadership

Individuals who score high in Conscientiousness may be described as dependable and achievement oriented (Johnson & Hill, 2009). Conscientious individuals are persistent and tenacious, and take initiative (Goldberg, 1990). Individuals scoring high in Conscientiousness tend to be confident, competent, capable, dutiful, well-organized, mission-oriented, self-disciplined, able to delegate, more likely to follow through and complete tasks, all valuable leadership skills (Bartone et al., 2009). Conscientiousness is related to overall job performance (Barrick & Mount, 1991), suggesting that Conscientious individuals are more likely to be effective leaders (Judge et al., 2002).

1.8 Military Leadership Effectiveness and the Five Factor Model of Personality

Johnson and Hill (2009) studied the personality characteristics of effective and ineffective leaders, using a frame of reference manipulation. A sample of 57 male US Army National Guard officers from combat arms units were prompted to complete an observer rating version of the NEO Personality Inventory Revised (NEO-PI-R) with a leader in mind, either the most effective or ineffective leader they had ever had. The researchers chose to use the House and Aditya (1997) definition of leadership, which defines leadership as “the ability of an
individual to influence, motivate, and enable others to contribute toward the effectiveness and success of an organization of which they are members.”

The researchers hypothesized that the effective leader frame of reference condition would score higher on Conscientiousness, higher on Extraversion, and lower on Neuroticism as compared to ineffective leaders (Johnson & Hill, 2009). The researchers did not formulate hypotheses regarding scores on Openness to Experience and Agreeableness, stating that there was not sufficient consensus in the literature regarding these dimensions and leadership. Therefore an exploratory analysis was conducted for scores on Openness to Experience and Agreeableness (Johnson & Hill, 2009).

Significant differences were found between the effective and ineffective leader frame of reference conditions in all five personality dimensions. Specifically, the researchers found significant differences between the effective and ineffective leader frame of reference in Neuroticism, with the effective leaders scoring significantly lower in Neuroticism than the ineffective leader (Johnson & Hill, 2009). Additionally, significant differences emerged between the effective and ineffective leader frame of reference in Extraversion, with the effective leaders scoring significantly higher in Extraversion than the ineffective leader. The effective leaders also scored significantly higher in Openness to Experience than the ineffective leader. Likewise the effective leaders scored significantly higher in Agreeableness than the ineffective leader. Finally, the effective leaders scored significantly higher in Conscientiousness than the ineffective leader (Johnson & Hill, 2009).

These findings were consistent with the researchers’ hypotheses and with prior research. Strengths of this study include that it was conducted with military leaders within a military sample and used a well-validated measure. Conversely, weaknesses of this study include
assuming that military officers intuitively know effective leadership, the study measured the extremes by asking about the “most” and “least” effective leaders they have “ever had,” and that the study used a combat arms sample which excluded females, resulting in an unrepresentative of the US Army National Guard as a whole (Johnson & Hill, 2009).

Bartone, Snook, and Tremble (2002) surveyed a class of West Point cadets ($n = 855$) over the course of 4 years to investigate predictors of leader performance. Leader performance was measured using West Point’s military development grades from the direct cadet supervisor and the Army officer supervisor. The study investigated several possible predictors of leader performance, including NEO-PI analog indicators (Evans, 1997). These analog indicators were developed by running optimized and cross validated regression equations on NEO-PI results from an earlier class at West Point to identify sets of items that best predicted NEO-PI results. The resulting instrument is a 47-item analog that demonstrated evidence for convergent and discriminant validity and yielded correlations with the actual NEO ranging from .52 to .67 in the development sample (Bartone, Snook, & Tremble, 2002).

The NEO analog indicators revealed that Neuroticism and Openness to Experience did not correlate with leader performance and thus were not further analyzed. The lack of correlation in Neuroticism was not surprising to researchers considering West Point cadets are a highly selected sample. The lack of association between leader performance and Openness to Experience was more surprising to researchers, however, and it is possible that use of the NEO analog instead of the NEO influenced their results (Bartone, Snook, & Tremble, 2002).

Extraversion, Agreeableness, and Conscientiousness did correlate with leader performance and were kept for further analyses (Bartone, Snook, & Tremble, 2002). A standard hierarchical regression analysis was performed on a random half of the sample ($n = 424$) and
Agreeableness emerged as a significant predictor of leader performance, with Extraversion approaching significance. Conscientiousness was not a significant predictor of leader performance. The same hierarchical regression analysis was then conducted with the holdout, validation sample \((n = 429)\). This time, Conscientiousness replaced Agreeableness as a significant predictor of leader performance. Extraversion was not a significant predictor of leader performance. Overall, Conscientiousness and Agreeableness both predicted leader performance, with Conscientiousness appearing as the stronger of the two. These results are consistent with the results of McCormack and Mellor (2002) which identified Conscientiousness as a predictor of leader performance within the Australian military. Extraversion was not a significant predictor of leader performance in the regression analyses; however this may be due to substantial multicollinearity between Extraversion and Conscientiousness (Bartone, Snook, & Tremble, 2002).

Thomas, Dickson, and Bliese (2001) examined several factors, including personality, predicting leader performance of 818 US Army ROTC cadets in as assessment center setting. The researchers surveyed cadets while at their five-week Advance Camp, which is the culminating evaluative experience of the cadets’ officer candidacy. The researchers investigated the degree to which the personal values and motives cadets bring with them to Advance Camp are related to their rated effectiveness as future officers, and the mediating factor of Extraversion.

The purpose of the study was to test a mediation model in which the values of power and affiliation are linked to leadership ratings through Extraversion. The researchers hypothesized that Extraversion would be positively related to leadership ratings, that the values of power and affiliation would be positively related to Extraversion, and that both the relations between power and leadership ratings, as well as affiliation and leadership ratings will be mediated by
Extraversion (Thomas, Dickson, & Bliese, 2001). Results of the study supported the researchers’ hypotheses. Extraversion was positively related to leadership ratings; cadets with high Extraversion tended to have higher ratings in the human-relational aspects of leader performance. Additionally, the values of power and affiliation were positively related to Extraversion, with a particularly strong relation between high affiliation values and Extraversion. The relation between affiliation and leadership ratings was completely mediated by Extraversion and the relation between power and leadership ratings was partially mediated by Extraversion.

The findings of Thomas, Dickson, and Bliese (2001) indicate that the Big Five factor of Extraversion was positively related to leadership effectiveness ratings, providing support for the claim that the Five Factor model maps on to leader effectiveness for US Army ROTC cadets. Additionally, they found that cadets who valued power and affiliation tended to have high Extraversion scores. Although this finding is distinct from the hypotheses outlined in the present proposed research, the findings indicate that the Big Five factor of Extraversion plays a key role in outside factors that are positively related to leadership effectiveness. Finally, Extraversion mediated the relation between affiliation and leader effectiveness, and partially mediated the relation between power and leader effectiveness. This indicates that cadets with a high need for affiliation tended to be extraverts and cadets with a high need for affiliation tended to get high leadership ratings. Additionally, cadets with a high need for power tended to be extraverts and power was an important determinant of leader success. Both of these findings indicate that the Big Five factor of Extraversion plays a key role in understanding leader effectiveness (Thomas, Dickson, & Bliese, 2001).

Bartone, Eid, Johnson, Laberg, and Snook (2009) evaluated the influence of psychological hardiness, social judgment, and Big Five personality factors on leadership
performance in a sample of 296 US Military Academy cadets drawn from a single cohort at West Point. Cadets were studied in a summer field training environment and during academic semesters. Personality factors were measured using the same Evans (1997) analog of the NEO-PI used in the Bartone, Snook, and Tremble (2002) study discussed above. Leader performance was operationalized using military development grades, which are ratings given by both cadre and cadet supervisors at the end of each academic semester and summer training period, aggregated over four years at West Point (Bartone et al., 2009). By testing cadets during both the summer training and academic semester, researchers were able to assess cadets in widely different environmental contexts. The summer training environment requires cadets to perform as leaders in a series of challenging group tasks while the academic semester requires cadets to meet academic requirements while maintaining military and physical standards. Military development grades evaluate the domains of duty motivation, military bearing, teamwork, influencing others, consideration for others, professional ethics, planning and organizing, delegating, supervising, developing subordinates, decision making, and oral and written communication (Bartone et al., 2009).

In regards to the NEO Big Five personality factors, Bartone and colleagues (2009) hypothesized that Extraversion, Openness to Experience, Agreeableness, and Conscientiousness would be positively related to leader performance and that Neuroticism would be negatively related to leader performance.

Results of the study provided support for the researchers’ hypotheses. Intercorrelations and hierarchical regression analyses were conducted with military development grades from the academic semester and summer training are reported separately. Neuroticism showed small but significant negative correlations with both summer and academic semester military development
grades. Extraversion and Conscientiousness also showed small but significant correlations, however in the positive direction, with both summer and academic semester military development grades. Agreeableness showed a small but significant positive correlation with academic military development grades; however summer military development grades were non-significant. There was no evidence for a relation between Openness to Experience and leadership performance in this study. The results of their multivariate analysis revealed that Extraversion and Conscientiousness were the most consistent predictors of leadership performance. Extraversion emerged as a significant predictor of military development grades during summer training periods but not during the academic year. Conscientiousness also emerged as a predictor of leader performance, however during the academic year and not during summer training (Bartone et al., 2009).

McCormack and Mellor (2002) examined the role of NEO Five Factor Model personality dimensions in leadership effectiveness among 99 officers in Australian military. Personality was measured using the NEO PI-R. They assessed leadership in two ways. First, leadership was assessed using the Australian Army’s Evaluation and Development Report for Officers (EDRO), which is an annual assessment of leader effectiveness similar to the US Army’s Officer Evaluation Record. The EDRO assesses the ranks of lieutenants through captains for the leadership qualities of interest, quickness of comprehension, judgment, attention to detail, written work, oral communication, human relations, management of subordinates, and self-development, as well as adaptability, foresight, and analytical skill for the ranks of major to colonel. Second, leadership was measured by selection or non-selection to attend the promotion course at the Army Command and Staff College, which is often regarded as an indicator of an officer’s effectiveness (McCormack & Mellor, 2002).
The researchers hypothesized that leadership effectiveness would be associated with high Conscientiousness, Agreeableness, and Extraversion and with low Neuroticism. No formal hypothesis was made for the relation between leadership effectiveness for Openness to Experience. First, direct logistic regression analysis revealed that low Extraversion, high Openness to Experience, and high Conscientiousness, were reliable predictors of attendance at the Command and Staff College. Neuroticism and Agreeableness were not reliable predictors of attendance at the Command and Staff College. Because officers must be ranked as a major to be selected for the promotion course, only officers ranking as a major or lieutenant colonel were included in this analysis, introducing a possible confound of seniority (McCormack & Mellor, 2002).

They also analyzed EDRO scores, which are given to officers ranking lieutenant through lieutenant colonel, allowing researchers to predict leadership effectiveness across rank. Multiple regression analysis revealed that Extraversion and Conscientiousness were significant predictors of EDRO scores, with low Extraversion and high Conscientiousness predicting EDRO scores. Openness to Experience, Agreeableness, and Neuroticism were not significant predictors of EDRO scores. Overall, 14% of the variability in leader effectiveness as measured by EDRO scores could be predicted by the NEO five factor model (McCormack & Mellor, 2002).

In senior ranking officers, ranking captain and above, they found that low Extraversion, high Openness to Experience, and high Conscientiousness were reliable predictors of leader effectiveness as measured by EDRO scores. Neuroticism and Agreeableness were not found to be associated with EDRO scores for senior ranking officers in this study. Altogether, 32% of the total observed variability in leader effectiveness, as measured by EDRO scores, for senior
ranking military officers was accounted for by low Extraversion, high Openness to Experience, and high Conscientiousness (McCormack & Mellor, 2002).

Although it may seem surprising that low Extraversion is a predictor of leader effectiveness, the researchers noted that all of the officers on the sample were rather extraverted but that the most effective leaders were less extraverted. The researchers suggest that the assertiveness, more than the social gregariousness, associated with Extraversion is connected to leader effectiveness. It is also surprising that low Neuroticism is not a significant predictor of leader effectiveness; however researchers note that as a sample of experienced military officers, the sample was characteristically low on neuroticism, therefore providing an explanation as to why the negative association did not reach significance. As expected, high Conscientiousness, which fits well with military leadership, was a significant predictor of leader effectiveness, and Agreeableness was found to be insignificant in predicting in predicting leader effectiveness. As quoted by the researchers, “agreeableness is not a virtue of the battlefield” (McCormack & Mellor, 2002). It is expected however, that agreeableness is a virtue in the highly interdependent environment of US Army ROTC.

In their review of literature on personality and leadership, Judge, Bono, Ilies, and Gerhardt (2002) investigated the relation of the Big Five personality characteristics with leadership using a meta-analysis of 222 correlations from 73 samples. The researchers measured personality using the NEO Five Factor Model and defined leadership broadly, in terms of leadership emergence (being perceived as a leader) and leadership effectiveness (ability to influence subordinates). The researchers first conducted an overall analysis combining leadership emergence and leadership effectiveness. High Extraversion was the strongest correlate of leadership, followed by high Conscientiousness, and then low Neuroticism and high Openness to
Experience. Finally, high Agreeableness demonstrated a relatively weak correlation with leadership.

When Judge and colleagues (2002) separated leadership emergence and leadership effectiveness, both consistencies and inconsistencies emerged. High Conscientiousness and high Extraversion were the strongest predictors of leadership emergence, followed by high Openness to Experience and low Neuroticism. Agreeableness demonstrated a relatively weak positive correlation with leadership emergence. High Extraversion and high Openness to Experience were the strongest predictors of leadership effectiveness, followed by low Neuroticism, high Agreeableness, and high Conscientiousness.

The researchers then conducted a regression analysis of leadership (leadership emergence, leadership effectiveness, and overall analysis) on Big Five Traits (Judge et al., 2002). The findings indicated that both high Extraversion and high Openness to Experience were significantly predictive of leadership across criteria. Specifically, high Conscientiousness was the strongest predictor in both leadership emergence and the overall analysis; however it was not the strongest predictor of leadership effectiveness. Similarly, high Agreeableness was significantly predictive of leadership effectiveness, but not leadership emergence or the overall analysis. Finally, Neuroticism was significantly predictive of all of the criteria in the negative direction. Extraversion and Openness to Experience displayed significant and strong positive multiple correlations for leadership emergence, leadership effectiveness, and the overall analysis.

Judge and Bono (2000) investigated the role of personality in predicting transformational leadership. Although transformational leadership is not typically characterized as representative of military leadership, the study offers valuable evidence of correlations between personality and leadership effectiveness. Thus a brief overview of the study is included. Personality was
measured using the NEO-PI-R and leadership was measured using the Multifactor Leadership Questionnaire (MLQ), a commonly measure of transformational leader behavior. They hypothesized that Extraversion, Openness to Experience, and Agreeableness would be positively related to transformational leadership and that Neuroticism would be negatively related to transformational leadership. No formal hypothesis was made for the relation between Conscientiousness and transformational leadership.

Based on findings from 14 samples of leaders from over 200 organizations, researchers found that Agreeableness displayed the strongest relation with transformational leadership. Extraversion was a significant predictor of transformational leadership across statistics and Openness to Experience was significant using a simple correlation but was not significant using the partial regression coefficient. Neither Neuroticism nor Conscientiousness correlated with transformational leadership (Judge & Bono, 2000).

Additionally, inter-correlations among Big Five traits and MLQ dimensions of transformational leadership were provided, with leadership effectiveness included as a dimension of transformational leadership. Leadership effectiveness correlated with Neuroticism, Extraversion, and Openness to Experience, but not Agreeableness nor Conscientiousness (Judge & Bono, 2000).

Bradley, Nicol, and Charbonneau (2002) investigated the relation between personality and leadership development in 174 Canadian Army Officer Candidates. Personality was measured using a Canadian adaptation of the Assessment of Background and Life Experiences (ABLE-114) that measures surgency, achievement, adjustment, dependability agreeableness, and locus of control; as well as interviews and references. Leadership was measured using ratings from a seven-week Basic Officer Training Course (BOTC) required for officer candidates, and
instructor rating of leadership. Although personality was not measured using the NEO Five Factor Model, the study provides further evidence that leadership can be predicted by personality factors. Many personality factors not investigated by the present proposed research proved to be significant predictors of leadership. However Agreeableness, which is a dimension of the Five Factor Model but measured by the ABLE-114, did not appear to significantly correlate with leadership as measured by self-ratings, interviewer ratings, or reference ratings of personality.

In conclusion, there is a wealth of literature detailing the relation between the Big Five Personality dimensions and leadership. Although not all studies agree on the magnitude of relation between personality and leadership, it is clear that personality correlates with leadership and leader effectiveness and that assessing personality via the five factor model offers insights into these relations. Table 1 summarizes the major findings of the studies demonstrating this relation.

1.9 Prejudicial Attitudes and the Five Factor Model of Personality

There is substantial research demonstrating the link between personality and prejudice. The following section reviews the studies examining the relation between Big Five personality traits and prejudice.

1.9.1 Personality and Prejudice

Although the idea that personality influences prejudice is widely held in personality and social psychological research, Sibley and Duckitt (2008) compiled the first, and so far it appears to be the only, systematic review of the research in this area. Their comprehensive review of literature and meta-analysis investigated the relations among personality, prejudice, and the related concepts of Right-Wing Authoritarianism (RWA) and Social Dominance Orientation
They were interested to know which personality dimensions were related to prejudice, how strong and stable these relations were across studies, and whether the effects were direct or indirect.

Research of the relation between personality and prejudice has utilized a variety of empirical methods to operationalize both constructs, making it difficult to synthesize results into clear, meta-analytic conclusions. With the emergence to prominence of the unifying Big Five framework for personality, researchers are now better able to synthesize findings on the relation between personality and prejudice (Sibley & Duckitt, 2008).

1.9.2 Generalized Prejudice

Allport (1954) wrote in *The Nature of Prejudice* that “prejudice is basically a trait of personality” and that prejudice can be generalized across domains. Individuals’ attitudes and prejudices tend to be positively correlated across a wide variety of outgroups (Sibley & Duckitt, 2008). The Sibley and Duckitt (2008) meta-analysis tested the associations between personality and prejudice to determine if the type of prejudice impacted correlations. They predicted that differences in prejudice across domains would be in magnitude, rather than direction. Their review of literature included studies assessing racism, modern sexism, and generalized prejudice toward multiple social categories and groups. Although they did not include mental health prejudice in their meta-analysis, a gap in research which the proposed research intends to fill, the review provides evidence for a generalized prejudice factor that accounts for different kinds of prejudice.

1.9.3 Authoritarian Personality Theory.

The RWA and SDO scales, discussed in more detail below, were originally intended to measure authoritarian personality traits or dispositions. However, critics argue that the scales can
more accurately be used as measures of attitudes rather than measures of personality traits
(Sibley & Duckitt, 2008). This shift has influenced research in this domain in that these former
measures of personality can now be conceptualized as social attitudes influenced by personality.
Rather than directly indicating generalized prejudice, they may mediate the influence of
personality on prejudice (Sibley & Duckitt, 2008). Below, RWA and SDO are discussed as both
indicators of personality and attitudes.

1.9.4 Right-Wing Authoritarianism.

The RWA scale was originally intended by Altemeyer (1981) to measure traits of an
authoritarian personality, including conventionalism, authoritarian aggression, and authoritarian
submission. Altemeyer’s subsequent research further demonstrated that the RWA scale was a
uni-dimensional psychometric measure that was reliable, valid, and a strong predictor of
of social or ideological attitudes, RWA is indicative of motivational goals for, and values of,
social cohesion and collective security. These motivational goals arise from the belief that the
social world is an inherently dangerous and threatening place. These beliefs encourage social
conformity, which causes individuals to identify with and be sensitive to threats to the existing
social order, thus heightening the cohesion and security goals characterized by high RWA
(Sibley & Duckitt, 2008).

1.9.5 Social Dominance Orientation.

The SDO scale was originally designed by Pratto et al. (1994) to measure “the extent to
which one desires that one’s in-group dominate and be superior to out-groups” (p. 742) and the
general orientation of one’s attitudes “toward intergroup relations, reflecting whether one
generally prefers such relations to be equal, versus hierarchical” (p. 742). The SDO scale
powerfully predicts generalized prejudice (Altemeyer, 1998). As a measure of social or ideological attitudes, SDO is indicative of motivational goals for, and values of, group-based dominance and superiority (Sibley & Duckitt, 2008). These motivational goals arise from the underlying personality dimensions of tough-mindedness versus tender-mindedness. Tough-minded individuals are more likely to view the world as a competitive environment in which the weak lose, encouraging the goals for power, dominance, and intergroup superiority characteristic of high SDO (Sibley & Duckitt, 2008).

1.9.6 Big Five Personality Traits.

The emergence of unifying frameworks of personality, such as the Five Factor Model, has helped systematize personality measurement. This has been especially helpful in clarifying the body of research on personality and prejudice. Sibley and Duckitt (2008) predicted that RWA, SDO, and the underlying constructs of social conformity and tough-mindedness would display clear relations to Big Five personality traits. They hypothesized that low Agreeableness should predict SDO, and that low Openness to Experience and high Conscientiousness should predict RWA, with both SDO and RWA related to generalized prejudice.

1.9.7 Personality and Prejudice.

Sibley and Duckitt’s (2008) meta-analysis included 71 studies, with a total of 22,026 participants. Personality was measured using the Five Factory model with the NEO-FFI (19 studies), Big Five Inventory (16 studies), NEO-PI-R (12 studies), International Personality Item Pool (7 studies), and other personality measures using some or all of the Five Factor Model constructs (the remaining 17 studies).

Prejudice appears most strongly predicted by the two personality dimensions of low Agreeableness and low Openness to Experience (Sibley & Duckitt, 2008). The researchers first
examined bivariate correlations between Big Five personality dimensions, SDO, and RWA, excluding measures of personality. With regards to SDO, the correlations indicated that Agreeableness negatively correlated with SDO, with a medium effect size, and that Openness to Experience negatively correlated with SDO, with a smaller effect size. Extraversion, Conscientiousness, and Neuroticism did not display significant correlations to SDO. With regards to RWA, the correlations indicated that Openness to Experience was moderately and negatively correlated with RWA and that Conscientiousness was positively correlated with RWA; however, the positive effect of RWA was weak. Extraversion, Agreeableness, and Neuroticism did not display significant correlations to RWA.

Then the researchers examined the bivariate correlations between personality, SDO, RWA, and measures of prejudice (Sibley & Duckitt, 2008). Low Agreeableness and low Openness to Experience, which correlated most strongly to SDO and RWA, respectively, also correlated most strongly with prejudice. Both Agreeableness and Openness to Experience were moderately negatively correlated with prejudice. Extraversion, Conscientiousness, and Neuroticism displayed negligible correlations with prejudice. Partial correlations for each Big Five dimension, while controlling for the effect of the other four personality dimensions, were examined and the effects remained comparable. When using averaged correlations, both RWA and SDO were strongly and positively correlated with prejudice. SDO, when controlling for RWA, had a moderate to large positive correlation with prejudice. RWA, when controlling for SDO, also had a moderate positive association with prejudice.

Sibley and Duckitt (2008) also assessed whether the association between personality and prejudice was mediated by SDO and RWA. They found the negative correlation between Agreeableness and prejudice is mediated by SDO but not by RWA. Similarly, they found that the
negative correlation between Openness to Experience and prejudice is largely mediated by RWA, with SDO explaining little of the effect.

Additionally, Sibley and Duckitt (2008) assessed for possible moderating factors and found that depending on which personality inventory was used, Big Five personality dimensions differed in the magnitude of their associations with RWA, SDO, and prejudice. In general, the studies using the NEO-PI-R and NEO-FFI, rather than the BFI, tended to report stronger associations between Agreeableness and Openness to Experience, with RWA, SDO, and prejudice. Although associations reported in studies using the BFI were weaker, they were still significant and in the expected direction.

Sibley and Duckitt (2008) also assessed for possible cross-study differences that moderated the association between the Big Five personality dimensions, RWA, SDO, and prejudice. They found small variations in effect size linked to sample characteristics. For example, some variation in prejudice and Big Five personality dimensions appeared to be related to sample characteristics, participants’ geographic region, and publication bias.

In summary, Sibley and Duckitt (2008) found that the associations between Big Five personality dimensions, RWA, SDO, and prejudice were remarkably consistent; however the associations were somewhat impacted by the characteristics of the study, notably which personality inventory was used. They found that RWA and SDO are strong predictors of prejudice. Prejudice domain, such as racism, sexism, or generalized prejudice, also impacted the degree to which Big Five personality dimensions predicted prejudice. Low Agreeableness and low Openness to Experience were moderately associated with both racism and sexism; however, the correlations with generalized prejudice were the strongest, suggesting that personality is
more strongly associated with global attitudes of prejudice. Overall, prejudice is primarily predicted by low Openness to Experience and low Agreeableness.

One of studies included in Sibley and Duckitt’s (2008) review offers particularly salient information regarding the relation between personality and prejudice. Ekehammar and Akrami (2003) surveyed 156 university students using the NEO-PI and a generalized prejudice factor based on assessments of several different types of prejudice, including prejudice of race, sex, intellectual disability, and homosexuality. The researchers’ goal was to demonstrate associations between Big Five personality dimensions and prejudice using a variable-centered approach and a person-centered approach (Ekehammar and Akrami, 2003). The variable-centered approach examined simple correlations between prejudice and personality; the person-centered approach involved cluster analysis to identify subgroups with similar personality factors, and then to relate cluster membership to prejudice.

Using the variable-centered approach, Ekehammar and Akrami (2003) found that Openness to Experience and Agreeableness showed substantial, significant, negative correlations with generalized prejudice. Openness to Experience and Agreeableness consistently, significantly, negatively correlated with each of the prejudice subscales. Persons scoring higher on Openness to Experience and Agreeableness exhibited less generalized and specific prejudice.

Using their person-centered approach, Ekehammar and Akrami (2003) identified three personality types: resilient, over-controlled, or under-controlled. The over-controlled personality type (characterized by low Extraversion, low Openness to Experience, low Agreeableness, and high Neuroticism) expressed the most generalized prejudice. The under-controlled personality type (characterized by low Conscientiousness) expressed the least generalized prejudice. The
resilient personality type (characterized by high Conscientiousness and low Openness to Experience) fell in the middle.

In summary, Ekehammar and Akrami (2003) demonstrated that several different types of prejudice can be reduced to a generalized prejudice factor. Using their variable-centered approach, this generalized prejudice factor was significantly and negatively correlated with the Big Five personality dimensions of Openness to Experience and Agreeableness. Using their person-centered approach, personality types based on Big Five personality dimensions were related to generalized prejudice. The present research investigates the relation between personality and prejudice using a variable-centered approach, which is supported by these findings. These findings are also in agreement with Sibley & Duckitt’s (2008) review of personality and prejudice literature. Although prejudice toward mental health status was not directly measured in the studies they reviewed, the impact of a generalized prejudice factor suggests that the pattern of relations would apply.

Ekehammar and Akrami (2003) noted that few studies have made the relation between prejudice and the Big Five Personality traits the main focus of the research. However, Heaven and Bucci (2001) did so by analyzing the relations between RWA and SDO to the Big Five personality factors. They gave the International Personality Item Pool, Social Desirability response scale, and measures of RWA and SDO to 215 undergraduate students. They found that RWA and SDO were aligned with different Big Five personality dimensions. High RWA scores positively correlated with Conscientiousness and negatively correlated with Openness to Experience. High SDO scores negatively correlated with Openness to Experience and Agreeableness.
1.10 Summary and Conclusions

In summary, the US military is in the midst of a mental health crisis and a breadth of research is being conducted to address various military mental health issues. In coping with the military mental health crisis, the importance of military leaders is undeniable. Military leaders play an integral role in the mental health of their soldiers, and their impact should be investigated further. As discussed above, research has demonstrated that the behaviors of military leaders affect the well-being of their soldiers and subordinates. Additionally, the attitudes of military leaders impact their leadership behavior and thus can also impact the well-being of their subordinates. Thus, by assessing a leader’s attitudes, a researcher can make reasonable inferences regarding future behavior and its resultant impact. The behaviors of military leaders have been shown to correlate with Big Five personality traits. Given that generalized prejudice correlates with Big Five personality traits, studying prejudice and personality together in military leaders appears warranted.

However, there is a clear gap in research that the present study attempts to address. The present study assesses prejudicial attitudes, specifically attitudes toward the mentally ill, in future US Army officers. There is a dearth of studies assessing prejudicial mental health attitudes, and even fewer studies examining this effect within a military context wherein prejudicial attitudes can be barriers to care. The present research attempts to draw inferences about the possible future behaviors of future military officers by assessing their attitudes regarding mental illness. In line with research reviewed above, we hypothesized that the attitudes of US Army ROTC cadets toward mental illness would be linked to cadet personality. By identifying the links between the attitudes and personality of future US Army officers, essential knowledge for understanding and mitigating the current military mental health crisis is acquired.
1.11 The Present Study

The objectives of the present study are: (1) to investigate the relation between Big Five personality characteristics and attitudes about mental illness in future US Army officers; and (2) to treat cadet mental health attitudes as a predictor (but not as the sole determinant) of leader effectiveness in terms of soldier mental health.

To address these objectives, a cross-sectional design is used in which personality dimensions, operationalized using the Five Factor Model, comprise the independent (predictor) variables. The dependent criterion variable is overall attitude toward the mentally ill. In addition to evaluating the direct effect of personality on mental health attitudes, the effect of social desirability is examined as a potential moderator between personality and mental health attitudes. Pertinent demographic variables (i.e. gender, age, Military Science level, years of involvement in US Army ROTC, prior military service, ethnic minority status, intimate partner relationship status, education, overall Grade Point Average, most recent score on the Army Physical Fitness Test, and attendance at the Leadership Development and Assessment course) are examined to account for variance apart from the independent variables.

1.12 Hypotheses

Specifically, the following hypotheses are investigated:

Hypothesis 1: Positive mental health attitudes will correlate with high Openness to Experience.
Hypothesis 2: Positive mental health attitudes will correlate with high Agreeableness.
Hypothesis 3: Mental health attitudes will exhibit no significant association with Neuroticism.
Hypothesis 4: Mental health attitudes will exhibit no significant association with Extraversion.
Hypothesis 5: Mental health attitudes will exhibit no significant association with Conscientiousness.

Several exploratory hypotheses are examined:

Exploratory Hypothesis 1: Hypothesized relations will be strengthened by statistically controlling for Impression Management.

Exploratory Hypothesis 2: A modest positive correlation is expected between Impression Management and positive mental health attitudes.
CHAPTER 2
METHOD

2.1 Participants

A total of 111 Army Reserve Officer Training Corps (ROTC) cadets were recruited for participation in the study. Participants were recruited via email by their Battalion Commanders during regular training periods. Cadets from Cadet Command’s 5th Brigade were contacted for participation. Cadet Command’s 5th Brigade covers ROTC programs in Wyoming, Utah, Arizona, Colorado, New Mexico, Oklahoma, Arkansas, and Texas. Participation was completely voluntary. There were no incentives provided for participation in the study and all participants were 18 years or older. There were initial concerns that analyses might need to be limited to cadets in their third through fifth year of military science studies due to their more developed identities as leaders and their more salient status as future military leaders. However, there were no significant group differences between cadets based on military science year level, so all participants were retained in hypothesis testing analyses, regardless of year level. Demographics of the sample broadly represented the demographics of Cadet Command 5th Brigade and are reported in Table 2. The University of North Texas Institutional Review Board approved all procedures (Appendix A).

2.2 Instruments

2.2.1 NEO Five Factor Inventory (NEO-FFI)

The NEO Five Factor Inventory (NEO-FFI) is a 60-item questionnaire, which serves as the short form of the longer 240-item NEO-PI-R (Costa & McCrae, 1992). The self-report
version was used in the present research. The NEO-FFI is an assessment of the Five Factor Model of personality, yielding the following five personality dimensions: (1) Neuroticism—a measure of emotional stability, adjustment, and susceptibility to psychological distress; (2) Extraversion—a measure of sociability, assertiveness, and activity; (3) Openness to Experience—a measure of intellect, imagination, attentiveness to emotion, and independence of judgment; (4) Agreeableness—a measure of altruism and sympathy; and (5) Conscientiousness—a measure of will to achieve, determination, and will (Costa & McCrae, 2010). Participants rate their degree of agreement with a statement using a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), with 12 items measuring each of the five dimensions.

The NEO-FFI demonstrates good internal consistency and test-retest reliability, and has been validated against other personality inventories. Internal consistency estimates for self-report forms in an adult sample indicate acceptable internal consistency (α = .68-.86; Costa & McCrae, 1992). The NEO-FFI scales explain about 85% of the variance in personality explained by the full-length NEO-PI-R scales. Correlations between the NEO-PI-R and the NEO-FFI for the adult sample (r = .75-.89) indicate that the NEO-FFI is a good approximation for the full-length scale and that validity information for the NEO-PI-R is applicable to the NEO-FFI (Costa & McCrae, 1992). Although Costa and McCrae (1992) do not report short-term test-retest reliability for the NEO-FFI, findings from studies examining the NEO-PI-R indicated good test-retest reliability (r = .66-.92).

The NEO Five Factor Model of personality that underlies the NEO-FFI is extremely well-validated. Numerous studies provide support for the NEO FFM’s convergent and discriminant validity (McCrae, 1990; Trapnell & Wiggins, 1990; Ostendorf, 1990). Additionally,
a notable meta-analysis that compiled data on the scales from numerous personality measures showed that all the findings from the various scales could be explained by a five-factor structure, which most closely resembled the NEO Five Factor Model of personality, and that the NEO personality dimensions were good descriptors of that structure (Markon, Kruger, & Watson, 2005).

In addition to reliability and validity information for the NEO-FFI provided by Costa and McCrae (1992) in the Professional Manual for the NEO Inventories, McCrae and Costa (2007) discussed the brief versions of the NEO-PI-R, including the NEO-FFI. McCrae and Costa (2007) described similar findings later included in the Professional Manual. Lastly, numerous studies have used the NEO-FFI yielding reliable and valid results. As of June 2013, a PsycINFO search revealed over 640 citations of the NEO-FFI since 1991, confirming the research utility of NEO FFM short forms.

2.2.2 Community Attitudes toward the Mentally Ill (CAMI)

The Community Attitudes toward the Mentally Ill (CAMI) scale is a 40-item self-report survey that includes four 10-item subscales specifically designed to assess community attitudes toward the mentally ill, discriminating between those who accept and reject the mentally ill in their community (Taylor & Dear, 1981). Participants respond using a standard Likert-type 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Five of the 10 statements on each scale express a positive sentiment with reference to the underlying concept, and the other five statements are negatively worded. The scale yields four attitude factor subscales: (1) authoritarianism—a view that people with mental illness are inferior and require coercive handling; (2) benevolence—a sympathetic view of people with mental illness based on humanistic principles; (3) social restrictiveness—a view of the mentally ill as a threat to society;
and (4) community mental health ideology (CMHI)—a supportive view of the therapeutic value of community and acceptance of deinstitutionalized care.

The Cronbach’s alpha calculated by Taylor and Dear (1981) indicates that the CMHI (α = .88), social restrictiveness (α = .80), and benevolence (α = .76) subscales have high reliability and the authoritarianism subscale (α = .68) has satisfactory reliability, thus demonstrating that the CAMI has good internal consistency. The CAMI also demonstrates good construct validity, which was assessed by testing the empirical reproducibility of the four subscales using factor analysis. There was a reasonable degree of correspondence between the a priori and factor scales, indicating the desired construct validity results.

In addition to reliability and validity information provided by Taylor and Dear (1981), the designers of the CAMI scales, various studies have used the CAMI scales yielding reliable and valid results. Addison and Thorpe (2004), for example, used the CAMI in an exploratory study assessing the factors involved in the formation of attitudes toward the mentally ill. They found that all of their models could be used to predict mental health attitudes, using the selected CAMI knowledge factor scores. All models were significant. Additionally, they found that the group of participants with personal experience with people with mental illness had significantly more positive attitudes toward the mentally ill on the authoritarian, social restrictiveness, and CMHI subscales. However, they narrowly missed reaching significance on the benevolence subscale.

Chambers et al. (2010) used the CAMI to assess nurses’ attitudes toward mental illness in a sample of nurses across five European countries. They found that nurses had positive attitudes toward mental illness as measured by all four subscales, with nurses indicating positive attitudes most strongly on the benevolence scale. This indicates that the nurses held a sympathetic view toward people with mental illness. Additionally, the nurses scored lowest on the authoritarian
scale, which indicates nurses least endorsed the idea that people with mental illness are inferior and require a coercive approach to care.

Lastly, Finkelstein, Lapshin, and Wasserman (2008) used the CAMI in a randomized study of anti-stigma media among Russian graduate students. They omitted the CMHI subscale because it assessed attitudes toward deinstitutionalized care, which has not been implemented or widely discussed in Russia. They assessed psychiatric knowledge and mental health attitudes using the CAMI before and after an intervention, either reading or computer program. CAMI scores significantly increased following the educational session in both the reading and computer program interventions for all three CAMI subscales included (Finkelstein, Lapshin, & Wasserman, 2008). The CAMI was able to differentiate between participants pre- and post-educational intervention demonstrating the CAMI’s ability to differentiate between people with varying degrees mental health knowledge. These findings provide evidence for the validity and utility of the CAMI subscales.

2.2.3 Paulhus Deception Scales (PDS)

The Paulhus Deception Scales (PDS) is a 40-item, self-report assessment of social desirability. The PDS is often used to help identify individuals who distort their responses when responding to assessments and rating scales. It is designed to be administered along with other instruments to indicate the validity of the results yielded by the other instruments. The PDS uses contemporary, gender-neutral language. Participants respond using a 5-point Likert-type scale ranging from 1 (not true) to 5 (very true). The PDS scale consists of two subscales: (1) Self-Deceptive Enhancement (SDE)—an unconscious bias toward overconfidence and concealment of weaknesses, and (2) Impression Management (IM)—the degree of favorable or positive
impression making (indicative of faking or intentional manipulation). Each subscale contains 20 items, and half of the items on each scale (10 items) are reverse coded.

Paulhus (1998) compiled over 50 studies to examine the construct validity of the PDS. Paulhus calculated Cronbach’s alpha coefficients for all of the normative groups for both the Self-Deceptive Enhancement scale ($\alpha = .70$ to $\alpha = .75$) and Impression Management scale ($\alpha = .81$ to $\alpha = .84$), indicating highly satisfactory internal consistency. Items from both the SDE and IM scales demonstrate good face validity for measuring response bias: items are worded in such a way that desirable responses should be uncommon and undesirable responses should be common, and the measure scores extreme responses which ensures that the instrument measures response bias rather than personality. Furthermore, face validity differs between the two subscales; the SDE scale reflects rigid overconfidence, whereas the IM scale reflects an exaggerated social conventionality.

The relations between the SDE and IM scales and other established measures of desirable responding, such as Edwards’ Social Desirability scale and the Marlowe-Crowne Social Desirability scale, demonstrated structural validity. The PDS total score correlated with the Marlowe-Crowne scale ($r = .73$) and with the Edwards’ scale ($r = .64$), showing the scales’ concurrent validity as a general measure of desirable responding (Paulhus, 1998).

2.3 Procedures

Each participant received an online link to the study via email, containing a research consent notice (see Appendix B), the researcher’s contact information and the following instruments: a demographic questionnaire (see Appendix C), the NEO Five Factor Inventory, the Community Attitudes toward the Mentally Ill scales, and the Paulhus Deception Scales. In order
to avoid ordering effects, the instruments were presented to participants in varying sequences, with the exception of the demographics questionnaire which was presented to all participants first.

Participants were recruited by email through the Battalion Commander of their US Army Reserve Officers’ Training Corps Battalions during the academic school year. Each Battalion Commander was contacted by the researcher using a form letter (see Appendix D), providing a description of the study and detailing the voluntary and confidential nature of participation in the study. Each Battalion Commander agreed to disseminate the online link to the study to all of the cadets in their battalion. In order to obtain a copy of the informed consent for their personal records, participants were informed that they may either print their computer screen or contact the researcher with provided contact information. Participants electronically acknowledged the informed consent notice prior to participation. Participants completed the study during their personal time. Data were then downloaded by the researcher via the online survey software.
CHAPTER 3

RESULTS

3.1 Data Cleaning

Prior to analysis, all variables were entered into SPSS, labeled, recoded into numerical values, and examined for accuracy of data entry, missing values, skew and kurtosis, and reliability. Three participants were identified as univariate outliers (z > 3.0) for Impression Management and were excluded from analyses. An additional 16 cases were removed for having insufficient data (i.e., too much missing data) to merit inclusion (e.g., 1 participant was missing all data, and 15 participants completed the demographics section but were missing the majority of the NEO Five Factor Inventory (NEO-FFI) and/or Community Attitudes toward the Mentally Ill (CAMI)). A total of 92 participants remained for analysis. Means of NEO-FFI personality variables were compared to means from other studies using similar military officer candidate samples and were found to be within the expected ranges (Table 3). The missing data points from the remaining participants were judged to be missing at random and the participant’s variable mean score was imputed for each missing data point. Skewness was within acceptable levels for all variables, except for Impression Management. For Impression Management, the skewness z-score was only slightly above the conventional wisdom threshold of 3.3 (i.e., 3.4). However, kurtosis was within acceptable levels. Homoscedasticity was checked using scatterplots and was also found to be satisfactory. As such, the data did not require transformation. One-way ANOVA were conducted to test for group differences between cadets when grouping by military science level. Cadets from different military science year levels did not differ significantly in terms of NEO-FFI personality factors or CAMI mental health attitudes.
However, a significant group difference was detected on the Paulhus Deception Scales’ (PDS) Self-Deceptive Enhancement scale ($F (4, 87) = 2.63, p = .040$). Results of Fisher Least Significant Difference (LSD) post-hoc tests revealed group differences within the same single variable, PDS Self-Deceptive Enhancement; the significant differences between MSIV cadets and both MSI and MSII cadets. PDS Self-Deceptive Enhancement was not a main variable of interest, especially with regard to the primary hypotheses. As such, all cadets were grouped together for hypothesis testing analyses.

3.2 Descriptive Analyses

Means and standard deviations were calculated for participants’ personality dimensions as measured by the NEO-FFI factor scores, attitudes toward the mentally ill as measured by the CAMI total score and subscales, and socially desirable responding as measures by the PDS total score and subscales (Table 3).

Intercorrelations among NEO-FFI factors were calculated and are reported in Table 4. Neuroticism, Extraversion, and Agreeableness are all significantly intercorrelated. Additionally, Conscientiousness is significantly correlated with Neuroticism and Extraversion.

Intercorrelations among CAMI subscales are reported in Table 5. All CAMI scales are significantly intercorrelated. The two PDS subscales, Impression Management and Self-Deceptive Enhancement are significantly correlated ($r = .25; p < .05$).
3.3 Analyses of Hypotheses

3.3.1 Hypothesis 1: Openness Predicting Positive Mental Health Attitudes

For hypothesis 1, it was hypothesized that positive mental health attitudes would be correlated with high Openness to Experience. This hypothesis was tested by running bivariate correlations between the Openness to Experience scale and each of the four CAMI scales: Authoritarianism, Benevolence, Social Restrictiveness, and Community Mental Health Ideology. Openness was not found to be significantly associated with mental health attitudes, as measured by each of the four CAMI scales (see Table 6). Thus, hypothesis 1 was not supported.

3.3.2 Hypothesis 2: Agreeableness Predicting Positive Mental Health Attitudes

For hypothesis 2, it was hypothesized that positive mental health attitudes would be correlated with high Agreeableness. This hypothesis was tested by running bivariate correlations between the Agreeableness scale and each of the four CAMI scales. Agreeableness was not found to be significantly associated with mental health attitudes, as measured by each of the four CAMI scales (see Table 6). Thus, hypothesis 2 was not supported.

3.3.3 Hypothesis 3: Neuroticism Will Not Predict Mental Health Attitudes

For hypothesis 3, it was hypothesized that mental health attitudes would exhibit no significant association with Neuroticism. This hypothesis was tested by running bivariate correlations between the Neuroticism scale and each of the four CAMI scales. Neuroticism was not found to be significantly associated with mental health attitudes, as measured by each of the four CAMI scales (see Table 6). Thus, hypothesis 3 was supported.

3.3.4 Hypothesis 4: Extraversion Will Not Predict Mental Health Attitudes

For hypothesis 4, it was hypothesized that mental health attitudes would exhibit no significant association with Extraversion. This hypothesis was tested by running bivariate
correlations between the Extraversion scale and each of the four CAMI scales. Extraversion was not found to be significantly associated with mental health attitudes, as measured by each of the four CAMI scales (see Table 6). Thus, hypothesis 4 was supported.

3.3.5 Hypothesis 5: Conscientiousness Will Not Predict Mental Health Attitudes

For hypothesis 5, it was hypothesized that mental health attitudes would exhibit no significant association with Conscientiousness. This hypothesis was tested by running bivariate correlations between the Conscientiousness scale and each of the four CAMI scales. Conscientiousness was not found to be significantly associated with mental health attitudes, as measured by each of the four CAMI scales (see Table 6). Thus, hypothesis 5 was supported.

3.4 Exploratory Analyses

It was further hypothesized that the five aforementioned hypothesized relations would be strengthened by statistically controlling for Impression Management. Results of partial correlations revealed that Neuroticism, Extraversion, Openness, and Agreeableness all remain non-significantly associated to mental health attitudes after controlling for Impression Management. Only one correlation, the association between Conscientiousness and CAMI Social Restrictiveness, became significant after controlling for Impression Management ($r = .210, p = .045$); this particular relation was hypothesized to be non-significant. Conscientiousness remained non-significantly associated to the other CAMI domains after controlling for Impression Management. Thus exploratory hypothesis 1 was not supported. See Table 8 for partial correlations between NEO personality factors and CAMI mental health attitudes, controlling for Impression Management. Although not included in the initial exploratory hypothesis 1, the analyses were repeated controlling for Self-Deceptive Enhancement. Results of
the partial correlations revealed that all NEO personality factors remain non-significantly associated to mental health attitudes after controlling for Self-Deceptive Enhancement. Thus a modified version of exploratory hypothesis 1 was also unsupported. See Table 9 for partial correlations between NEO personality factors and CAMI mental health attitudes, controlling for Self-Deceptive Enhancement.

For exploratory hypothesis 2, it was hypothesized that a modest positive correlation would be found between Impression Management and positive mental health attitudes. There was only one statistically significant correlation found between Impression Management and the CAMI scales: a modest negative association between IM and Authoritarianism, a measure of negative mental health attitudes ($r = -.252, p \leq .05$). See Table 7 for all correlations between the PDS scales and CAMI mental health attitudes. Thus exploratory hypothesis 2 was partially supported, in that there was a modest negative association between IM and a single negative mental health attitude index.

Although exploratory hypothesis 2 aimed to investigate the relations between the CAMI scales and Impression Management, there were also three statistically significant correlations found between Self-Deceptive Enhancement and the CAMI scales of Authoritarianism, Social Restrictiveness, and Community Mental Health Ideology. Thus these relations will be examined briefly as modified versions of exploratory hypothesis 2. SDE was negatively correlated with Authoritarianism ($r = -.347, p \leq .01$) and with Social Restrictiveness ($r = -.273, p \leq .01$), and was positively correlated with Community Mental Health Ideology ($r = .305, p \leq .01$). These findings provide support for a modified exploratory hypothesis 2 (e.g., investigating SDE instead of IM) in that socially desirable responding as measured by SDE is negatively associated with negative mental health attitudes, and positively associated with positive mental health attitudes. Overall,
there was only partial support for exploratory hypothesis 2; however there was greater support for a modified version of exploratory hypothesis 2 that used SDE in place of IM. All correlations between NEO-FFI personality traits, CAMI mental health attitudes, and the Paulhus Deception Scales are reported in Table 7.
4.1 Discussion of Results

The importance of military mental health has become clear as all branches of the military began to experience a mental health crisis following a decade of warfare. Previous research has demonstrated the impact of military leader behaviors on the well-being of military personnel, and that leader attitudes act as a precursor to leader behaviors. Given that research shows a relation between leader behaviors and leader personality using the NEO Five Factor Model (FFM), as well as a relation between prejudicial attitudes and the NEO FFM personality factors, the present research aimed to bring the literature full circle by assessing the NEO FFM personality dimensions and mental health attitudes of US Army ROTC cadets, the future leaders of the US Army.

The present study sought to clarify the role of the leader in military mental health. Specifically, the aim of the present study was to examine the association between NEO FFM personality factors and mental health attitudes using the Community Attitudes toward the Mentally Ill (CAMI) scale. It was hypothesized that Agreeableness and Openness to Experience would be positively and significantly associated with positive mental health attitudes.

The current study found that none of the NEO FFM of personality traits are significantly associated with positive mental health attitudes, including Agreeableness and Openness to Experience which were hypothesized to have significant positive correlations with positive mental health attitudes. These findings are unexpected given that the present study sought to replicate slight variations of previous findings in a new, but similar population. After conducting a post hoc power analysis, the lack of statistically significant findings does not appear to be due
to a lack of power. Given the sample size, the present study should have been able to detect a medium effect size ($d = .30$) with 90% power and a small effect size ($d = .20$) with 61% power. While the study appears to have been sufficiently powered to capture the anticipated moderate effect sizes, the present study may have lacked the power to detect very small effect sizes ($d < .20$). There are also several possible explanations for why the predicted significant relations were not found in the present research.

First, it is possible that the population sampled in the present study is different in some important way from the population samples used in the cited personality and prejudicial attitudes meta-analyses. It does not appear that the present sample is different from other military cadet or military leader samples in terms of personality traits (Tables 1 and 3). However, it seems likely that a military cadet or leader population sample is inherently different from the civilian samples examined in the personality and prejudice meta-analysis (Sibley & Duckitt, 2008). Individuals in the military, and particularly military leaders, are characterized as confident, direct, decisive, innovative, loyal, detail-oriented, professional, selfless, and service-oriented warriors who have integrity and are able to be successful in structured environments (Matthews et al., 2006; Schumm et al., 2003; Russell, 2000). It is possible that some of these values and personality characteristics de-link the association between personality and mental health attitudes. For example, it is possible that the values of being selfless, professional, and full of integrity promote positive mental health attitudes despite being direct and decisive warriors. Another possibility is that individuals who are comfortable and successful working within a highly structured environment trust that structure. Perhaps military leaders trust that the people within the military are capable. It is possible that military personnel could have negative mental health attitudes, but not within a military context and not about people in the military. Additionally, if the relation
between personality and prejudicial attitudes functions differently in the present population of interest (i.e., military), as compared to the population sampled in the studies cited by Sibley and Duckitt’s (2008) meta-analysis (i.e., civilian), then that may be why the present study did not depict this same relation. Specifically, it is possible that Agreeableness and Openness to Experience are associated with prejudicial attitudes in civilian populations, as indicated by the 71 studies included in Sibley and Duckitt’s (2008) meta-analyses, but not in military cadet and military leader populations.

Additionally, while there is substantial research demonstrating the link between NEO FFM personality traits and prejudicial attitudes (Sibley & Duckitt, 2008; Ekehammar and Akrami, 2003), the studies in these meta-analyses tended to focus on prejudice of race, sex, intellectual disability, and homosexuality. Associations between the NEO FFM personality traits and mental health prejudice were not as well documented, and the present study hoped to address this lack of research. However, it is possible that mental health prejudice functions differently than prejudice of race, sex, intellectual disability, or homosexuality, and therefore cannot be grouped or studied as though it is a similar prejudice. One possibility is that mental health status could be considered as a reflection of one’s self care, and therefore a matter of personal choice more so than race or sex. It is possible that individuals with mental health concerns are seen as personally responsible or to blame for their minority status in a way that recipients of race or gender based prejudice are not.

It is also possible that the CAMI was not able to sufficiently capture the mental health concerns of interest (e.g., combat stress, anxiety, and other mental health issues commonly found within a military population). While the CAMI is a well-validated, reliable, and commonly used measure of mental health attitudes, its items focus on broadly defined mental illness. As
previously stated, CAMI items focus on authoritarian attitudes (e.g., the need to hospitalize or regulate the mentally ill), benevolent attitudes (e.g., sympathetic attitudes and society’s responsibility to care for those with mental illnesses), social restrictiveness (e.g., the need to maintain social distance and a lack of responsibility), and community mental health ideology (e.g., the therapeutic value of the community).

Although the CAMI has proven its ability to accurately capture mental health attitudes, a measure more like (but not identical to) the Military Stigma Scale (Skopp et al., 2012) may have been more able to capture the construct most relevant to this population. The Military Stigma Scale (MSS) is a 26-item scale designed to measure public and self-stigma, which the authors argue are the two theorized core components of military mental health stigma (Skopp et al., 2012). The MSS public stigma subscale includes items such as “I would be given less responsibility, if my chain of command knew I was seeing a mental health provider,” “If my chain of command discovered I was seeing a mental health provider, I would NOT lose their respect,” “People would judge me poorly if they knew that I received mental health services,” “I would worry about my personal problems being part of my military records,” and “People I respect would think less of me if they knew I had mental health problems.” The MSS self-stigma subscale includes items such as “My view of myself would change if I made the choice to see a therapist,” “I would feel okay about myself if I made the choice to seek professional help,” “I would feel worse about myself if I could not solve my own problems,” “I would feel inadequate if I went to a therapist for psychological help,” and “Seeking psychological help would make me feel less intelligent.” The Military Stigma Scale was not selected for use in this study because MSS items focused on the stigma that the respondent perceived they themselves would experience if they were experiencing a mental health concern. The present study evaluates how
Army ROTC cadets (e.g., mentally fit individuals) would respond to other individuals, not themselves, who were experiencing mental health concerns. Although the MSS was not a perfect fit for the intent of the present study, it is possible that the CAMI may not have been a perfect fit either. Perhaps a measure based on the constructs of the MSS could have picked up on relevant mental health attitudes that the CAMI was not able to detect. Thus, it is possible that a measure similar to the MSS (e.g., specifically targeting military mental health stigma) but structured like the CAMI (e.g., asking about an individual’s stigmatizing attitudes toward other people, not perceived stigma toward themselves) may have been the best sort of measure to employ in the present study. Development of such a measure may represent a fruitful area for future research.

In testing hypotheses 3-5, all three expected non-correlations were found. As expected, Neuroticism, Extraversion, and Conscientiousness were not found to be significantly associated with mental health attitudes. This can be interpreted in a number of ways. For instance, this could mean that Neuroticism, Extraversion, and Conscientiousness are not, in fact, significantly associated with mental health attitudes, as hypothesized. However, because there was a lack of any significant correlations between personality factors and mental health attitudes, it is possible that the construct of interest is not being accurately measured (as described above). In other words, the study might not be measuring what it intended to measure. For example, it is possible that there is a relation between Neuroticism, Extraversion, Conscientiousness and mental health attitudes, contrary to the hypothesized relations, but the present study was not able to detect these relations. Nonetheless, the expected non-correlations discussed in hypotheses 3-5 were generally supported, with the exception of the relation between Conscientiousness and CAMI Social Restrictiveness, which was positive when controlling for Impression Management.
With regard to the first exploratory analysis, it was hypothesized that the five hypothesized relations would be strengthened by statistically controlling for Impression Management. However, Neuroticism, Extraversion, Openness, and Agreeableness all remained non-significantly associated to mental health attitudes after controlling for Impression Management. Notably, the association between Conscientiousness and CAMI Social Restrictiveness was strengthened after controlling for Impression Management. Conscientiousness was hypothesized to exhibit no significant association with mental health attitudes, thus it is interesting that this relation was strengthened to the point of significance by controlling for Impression Management. This unexpected correlation may indicate a true relation between Conscientiousness and a component of negative mental health attitudes. That is to say, cadets who are Conscientious (e.g., cadets who display a tendency toward being achievement and mission-oriented) appear to also display a slight tendency toward Social Restrictiveness (e.g., the need to maintain social distance from people who are mentally ill and a view of the mentally ill as a threat) after controlling for Impression Management or “faking good.” Perhaps cadets who are more military mission-oriented are more likely to view the mentally ill as a threat to the military mission. Conscientiousness remained non-significantly associated to the other CAMI domains after controlling for Impression Management.

A modified version of exploratory hypothesis 1 was also examined, using Self-Deceptive Enhancement as the control variable. All NEO personality factors remain non-significantly associated to mental health attitudes after controlling for Self-Deceptive Enhancement, with the notable exception of the association between Conscientiousness and Social Restrictiveness. These findings indicate that socially desirable responding was not a major factor as far as masking the relations between personality and mental health attitudes.
Finally, in testing the second exploratory hypothesis, it was found that the cadets who engaged in low Impression Management were more likely to have Authoritarian mental health attitudes. In other words, cadets who did not provide inflated self-descriptions or engage in positive impression manipulation were more likely to endorse a view that people with mental illness are inferior and require coercive handling. Additionally, three similar findings found that cadets who engaged in low SDE were more likely to report negative mental health attitudes, and cadets who engaged in high SDE were more likely to engage in positive mental health attitudes. In other words, cadets who did not display a tendency toward overconfidence and concealment of weaknesses were more likely to indicate positive mental health attitudes (e.g., a sympathetic and supportive view toward people with mental illness, the therapeutic value of community, and acceptance of deinstitutionalized care). Conversely, cadets who did display bias (purportedly “unconscious” as per Paulhus, 1998) toward overconfidence and concealment of weaknesses were more likely to indicate negative mental health attitudes (e.g., a view that people with mental illness are inferior, require coercive handling, and are a threat to society). Together, these findings demonstrate that socially desirable responding may have had a modest impact on reported mental health attitudes. It appears that when cadets engage in Impression Management, either in how they are presenting themselves to other or to themselves, they are less likely to endorse negative mental health attitudes. However, it does not appear that the Paulhus socially desirable responding scales significantly impacted the findings related to the main hypotheses.

4.2 Practical Implications

Given the results of this study, there are several considerations a military leader or ROTC educator can employ if prejudicial attitudes toward mental health issues are observed in cadets.
Based on the findings of the present study, there is no clear evidence that personality and mental health attitudes are associated in cadets. Thus, personality screening does not appear to be an effective method of assessing or screening officer candidates for mental health attitudes. However, the relation between leader behaviors and soldier mental health is well-documented. Military leaders should not take intolerant attitudes toward soldier mental health lightly or permit them to go unaddressed. However, the present study raises a number of questions regarding the dynamics of this relation, particularly the predictors of mental health attitudes. It is important to identify and investigate other possible causes and correlates of mental health attitudes. For example, cadets may believe that such attitudes are “expected” or otherwise a part of valued leadership. Thus, it may be important to clearly communicate that such attitudes are problematic and not “okay” from the standpoint of senior military leadership.

4.3 Directions for Future Research

The results of this study demonstrate the need for more research in the area of personality and mental health attitudes, with the military cadet/leader population, and with more sensitive and specific measures. It is apparent that the leader plays a crucial role in the mental health of their subordinates. There is still a need to better understand and quantify this relationship. If a leader’s personality is not predicting their mental health attitudes, future research can focus on finding what other predictors are relevant. However, the present study does not provide definitive evidence that personality is not a predictor of mental health attitudes. Therefore several avenues of future research are warranted.

Future research is needed that focuses on studying the relation between military leader personality traits and mental health stigma, using more refined measurement tools. Given the
shortage of such measurement tools, it is also important for researchers to develop measures of military stigma directed towards others, and not just perceived stigma experienced by the self. A measure of this sort could be developed by using a panel of experts to re-word the Military Stigma Scale so that the measure is assessing how individuals would respond to other people experiencing mental health concerns, and not self-perceived stigma the respondent is experiencing as a result of their own mental health concerns, as the MSS is currently structured. Once re-worded, the adjusted measure can be re-validated in a similar way in which the original MSS was validated (Skopp et al., 2012), and in accordance with APA standards of test validation (The Standards for Educational and Psychological Testing, 1999).

It is also important to determine if the military cadet/leader population is different from the civilian populations included in previous prejudice studies. If the military cadet/leader population is different, research can investigate the nature of these differences and why the relation between personality and prejudice functions differently in a military cadet/leader population. For example, a study could be conducted which examines the values of individuals who are attracted to military service versus demographically similar persons who do not choose military career paths. Several studies detail the personality profiles which tend to be successful within a military environment (See Table 1), however very little research was found that addresses the inherent differences in individuals who volunteer for military service versus their demographically similar counterparts.

Finally, it is also possible that mental health prejudice functions differently than the prejudice of race, sex, intellectual disability, and homosexuality included in other studies, regardless of population. It is possible that people in general (not specifically military cadets and leaders) view mental health through a different lens than other minority statuses which often
receive prejudicial attitudes. This possibility could be investigated by evaluating co-occurrences of various types of prejudices mentioned above to see which types of prejudice are associated with one another, and to consider the role of these other types of prejudices in predicting the occurrence of mental health stigma. For example, measures of racial prejudice, gender prejudice, LGBTQ prejudice, and mental health prejudice could be administered to a random sampling of participants (i.e., not only cadets), as well as a measure of socially desirable responding (e.g., the Paulhus Deception Scales). Correlations would indicate associations among constructs. T-tests, correlations, and/or regressions (depending upon the nature of the measures) could explore associations between the criterion variable of mental health prejudice and the predictor variables of racial, gender, and LGBTQ prejudices, as well as socially desirable responding.

4.4 Conclusions

In summary, given the military mental health crisis and the critical role of the leader in their soldiers’ mental health, there is a crucial need to understand the relation between the leader and soldier with regard to mental health. Specifically, the present study sought to clarify the relation between leader personality traits and their mental health attitudes. The results of the study did not return the expected findings; however, the study’s findings demonstrate the need for additional research in this area and with this population, with more refined measurement tools, with greater knowledge of mental health stigma, and with deeper understanding of how military leaders might differ from the general population in applying prejudicial attitudes.
Table 1

Summary of Findings on the Relation between Leadership and the Five Factor Model Constructs

<table>
<thead>
<tr>
<th>Leadership Dimension</th>
<th>N</th>
<th>E</th>
<th>O</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader Effectiveness (Johnson &amp; Hill, 2009)</td>
<td>--</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Leader Performance (Bartone, Snook, &amp; Tremble, 2002)</td>
<td>0</td>
<td>+</td>
<td>0</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Leader Ratings (Thomas, Dickson, &amp; Bliese, 2001)</td>
<td></td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader Performance: Academic Year (Bartone, Eid, Johnson, Laberg, &amp; Snook, 2009)</td>
<td>-</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Leader Performance: Summer Field Training (Bartone, Eid, Johnson, Laberg, &amp; Snook, 2009)</td>
<td>-</td>
<td>++</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>Leadership Ratings (McCormack &amp; Mellor, 2002)</td>
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<td>-</td>
<td>0</td>
<td>0</td>
<td>++</td>
</tr>
<tr>
<td>Selection for Promotion Course (McCormack &amp; Mellor, 2002)</td>
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<td>--</td>
<td>++</td>
<td>0</td>
<td>++</td>
</tr>
<tr>
<td>Overall Leadership (Judge, Bono, Ilies, &amp; Gerhardt, 2002)</td>
<td>--</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Leadership Effectiveness (Judge, Bono, Ilies, &amp; Gerhardt, 2002)</td>
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<td>++</td>
<td>++</td>
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<td>++</td>
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<tr>
<td>Leadership Emergence (Judge, Bono, Ilies, &amp; Gerhardt, 2002)</td>
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<td>++</td>
<td>++</td>
<td>+</td>
<td>++</td>
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<tr>
<td>Transformational Leadership (Judge &amp; Bono, 2000)</td>
<td>0</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>0</td>
</tr>
<tr>
<td>Leadership Development (Bradley, Nicol, &amp; Charbonneau, 2002)</td>
<td>0</td>
<td></td>
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</tr>
</tbody>
</table>

Note. Column labels are N = Neuroticism; E = Extraversion; O = Openness to Experience; A = Agreeableness; C = Conscientiousness. Cell contents are 0 = no or insignificant relation; + = modest positive relation; ++ = strong positive relation; - = modest negative relation; -- = strong negative relation; black cells indicate relations not reported in the respective study.
Table 2

Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>((N = 92))</td>
</tr>
<tr>
<td><strong>Age, M (SD)</strong></td>
<td>23.15 (3.39)</td>
</tr>
<tr>
<td><strong>Gender, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>73.9 (68)</td>
</tr>
<tr>
<td>Female</td>
<td>26.1 (24)</td>
</tr>
<tr>
<td><strong>Race, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Caucasian (non-Hispanic)</td>
<td>58 (63)</td>
</tr>
<tr>
<td>African American</td>
<td>4 (4.3)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>23 (25)</td>
</tr>
<tr>
<td>Asian</td>
<td>2 (2.2)</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>1 (1.1)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (4.3)</td>
</tr>
<tr>
<td><strong>Relationship Status, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Single (Never Married)</td>
<td>44 (47.8)</td>
</tr>
<tr>
<td>Single (Divorced, Not Remarried)</td>
<td>6 (6.5)</td>
</tr>
<tr>
<td>Single (Widowed, Widower)</td>
<td>1 (1.1)</td>
</tr>
<tr>
<td>In a Relationship (Not married/living together)</td>
<td>15 (16.3)</td>
</tr>
<tr>
<td>Living Together</td>
<td>1 (1.1)</td>
</tr>
<tr>
<td>Married</td>
<td>25 (27.2)</td>
</tr>
<tr>
<td><strong>Education Level, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>College Freshman</td>
<td>5 (5.4)</td>
</tr>
<tr>
<td>College Sophomore</td>
<td>10 (10.9)</td>
</tr>
<tr>
<td>College Junior</td>
<td>42 (45.7)</td>
</tr>
<tr>
<td>College Senior</td>
<td>35 (38)</td>
</tr>
<tr>
<td><strong>Military Science Level, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>MSI</td>
<td>9 (9.8)</td>
</tr>
<tr>
<td>MSII</td>
<td>10 (10.9)</td>
</tr>
<tr>
<td>MSIII</td>
<td>45 (48.9)</td>
</tr>
<tr>
<td>MSIV</td>
<td>26 (28.3)</td>
</tr>
<tr>
<td>MSV and beyond</td>
<td>2 (2.2)</td>
</tr>
<tr>
<td><strong>Cumulative Grade Point Average, M (SD)</strong></td>
<td>3.38 (.45)</td>
</tr>
<tr>
<td><strong>Most Recent APFT Score, M (SD)</strong></td>
<td>272.29 (38.84)</td>
</tr>
<tr>
<td><strong>Attended LDAC, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Attended</td>
<td>25 (27.2)</td>
</tr>
<tr>
<td>Has Not Attended</td>
<td>67 (72.8)</td>
</tr>
<tr>
<td><strong>Passed LDAC, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Passed LDAC</td>
<td>25 (27.2)</td>
</tr>
<tr>
<td>Failed LDAC</td>
<td>3 (3.3)</td>
</tr>
<tr>
<td><strong>Prior Service, % (n)</strong></td>
<td></td>
</tr>
<tr>
<td>Prior Service</td>
<td>27 (29.3)</td>
</tr>
<tr>
<td>No Prior Service</td>
<td>65 (70.7)</td>
</tr>
</tbody>
</table>
**Participant Description**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall Sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEO-FFI Factor Scores, M (SD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>16.99 (7.20)</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>31.34 (5.58)</td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>28.24 (5.61)</td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>30.00 (6.91)</td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>34.29 (7.10)</td>
<td></td>
</tr>
<tr>
<td><strong>CAMI Scale Scores, M (SD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authoritarianism</td>
<td>23.61 (4.43)</td>
<td></td>
</tr>
<tr>
<td>Benevolence</td>
<td>37.93 (5.58)</td>
<td></td>
</tr>
<tr>
<td>Social Restrictiveness</td>
<td>24.08 (6.13)</td>
<td></td>
</tr>
<tr>
<td>Community Mental Health Ideology</td>
<td>35.54 (6.09)</td>
<td></td>
</tr>
<tr>
<td><strong>PDS Scale Scores, M (SD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impression Management</td>
<td>3.85 (3.15)</td>
<td></td>
</tr>
<tr>
<td>Self-Deceptive Enhancement</td>
<td>9.78 (3.57)</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4**

**Intercorrelations among NEO-FFI Factors**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>E</th>
<th>O</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.81</td>
</tr>
<tr>
<td>E</td>
<td>-.51**</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>-.10</td>
<td>.07</td>
<td>.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>-.24*</td>
<td>.47**</td>
<td>.01</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>-.41*</td>
<td>.24*</td>
<td>-.03</td>
<td>-.03</td>
<td>.88</td>
</tr>
</tbody>
</table>

*Note.* **Correlation is significant at the p < .01 level. *. Correlation is significant at the p < .05 level. Diagonal values are alpha internal consistency values for respective variables. N = Neuroticism. E = Extraversion. O = Openness to Experience. A = Agreeableness. C = Conscientiousness.
Table 5

*Intercorrelations among CAMI Factors*

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>SR</th>
<th>CMHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>(.50)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>-.52**</td>
<td>(.77)</td>
<td></td>
</tr>
<tr>
<td>SR</td>
<td></td>
<td>-.69**</td>
<td>-.46**</td>
<td>(.80)</td>
</tr>
<tr>
<td>CMHI</td>
<td></td>
<td>-.55**</td>
<td>.54**</td>
<td>-.70**</td>
</tr>
</tbody>
</table>

*Note.* **. Correlation is significant at the $p < .01$ level. *. Correlation is significant at the $p < .05$ level. Diagonal values are alpha internal consistency values for respective variables. A = Authoritarianism. B = Benevolence. SR = Social Restrictiveness. CMHI = Community Mental Health Ideology.

Table 6

*Bivariate Correlations between NEO-FFI Personality Factors and CAMI Mental Health Attitudes*

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>SR</th>
<th>CMHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.04</td>
<td>.13</td>
<td>-.05</td>
<td>.03</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.12</td>
<td>-.03</td>
<td>.15</td>
<td>-.08</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>-.14</td>
<td>.11</td>
<td>-.16</td>
<td>.08</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.14</td>
<td>.15</td>
<td>-.13</td>
<td>.12</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.06</td>
<td>-.04</td>
<td>.14</td>
<td>-.05</td>
</tr>
</tbody>
</table>

*Note.* All correlations are non-significant ($p > .05$). A = Authoritarianism. B = Benevolence. SR = Social Restrictiveness. CMHI = Community Mental Health Ideology.
Table 7

Correlations between PDS scales, NEO-FFI Personality Factors, and CAMI Mental Health Attitudes

<table>
<thead>
<tr>
<th></th>
<th>PDS Impression Management</th>
<th>PDS Self-Deceptive Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEO-FFI Neuroticism</td>
<td>-.38**</td>
<td>-.15</td>
</tr>
<tr>
<td>NEO-FFI Extraversion</td>
<td>.10</td>
<td>.11</td>
</tr>
<tr>
<td>NEO-FFI Openness to Experience</td>
<td>.18</td>
<td>.00</td>
</tr>
<tr>
<td>NEO-FFI Agreeableness</td>
<td>.09</td>
<td>.32**</td>
</tr>
<tr>
<td>NEO-FFI Conscientiousness</td>
<td>.46**</td>
<td>.11</td>
</tr>
<tr>
<td>CAMI Authoritarianism</td>
<td>-.25*</td>
<td>-.35**</td>
</tr>
<tr>
<td>CAMI Benevolence</td>
<td>.11</td>
<td>.12</td>
</tr>
<tr>
<td>CAMI Social Restrictiveness</td>
<td>-.10</td>
<td>-.27**</td>
</tr>
<tr>
<td>CAMI Community Mental Health Ideology</td>
<td>.13</td>
<td>.31**</td>
</tr>
</tbody>
</table>

*Note. **. Correlation is significant at the \( p < .01 \) level.

*. Correlation is significant at the \( p < .05 \) level.
Table 8

Partial Correlations between NEO-FFI Personality Traits and CAMI Mental Health Attitudes, Controlling for PDS Impression Management

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>SR</th>
<th>CMHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>-.07</td>
<td>.18</td>
<td>-.10</td>
<td>.09</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.15</td>
<td>-.05</td>
<td>.17</td>
<td>-.10</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>-.10</td>
<td>.10</td>
<td>-.14</td>
<td>.06</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.12</td>
<td>.14</td>
<td>-.12</td>
<td>.11</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.20</td>
<td>-.10</td>
<td>.21*</td>
<td>-.13</td>
</tr>
</tbody>
</table>

Note. * Correlation is significant at the $p < .05$ level. A = Authoritarianism. B = Benevolence. SR = Social Restrictiveness. CMHI = Community Mental Health Ideology.

Table 9

Partial Correlations between NEO-FFI Personality Traits and CAMI Mental Health Attitudes, Controlling for PDS Self-Deceptive Enhancement

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>SR</th>
<th>CMHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>-.02</td>
<td>.15</td>
<td>-.10</td>
<td>.08</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.17</td>
<td>-.05</td>
<td>.19</td>
<td>-.12</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>-.15</td>
<td>.12</td>
<td>-.16</td>
<td>.09</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.03</td>
<td>.12</td>
<td>-.04</td>
<td>.02</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.10</td>
<td>-.05</td>
<td>.18</td>
<td>-.09</td>
</tr>
</tbody>
</table>

Note. All correlations are non-significant ($p > .05$). A = Authoritarianism. B = Benevolence. SR = Social Restrictiveness. CMHI = Community Mental Health Ideology.
APPENDIX A

UNIVERSITY OF NORTH TEXAS INSTITUTIONAL REVIEW BOARD APPROVAL
October 25, 2013

Dr. Jennifer Callahan
Student Investigator: Pamela Holtz
Department of Psychology
University of North Texas
RE: Human Subjects Application No. 13-497

Dear Dr. Callahan:

In accordance with 45 CFR Part 46 Section 46.101, your study titled “Personality and Mental Health Attitudes among US Army ROTC Cadets” has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

No changes may be made to your study’s procedures or forms without prior written approval from the UNT IRB. Please contact Jordan Harmon, Research Compliance Analyst, ext. 3940, if you wish to make any such changes. Any changes to your procedures or forms after 3 years will require completion of a new IRB application.

We wish you success with your study.

Sincerely,

[Signature]

Patricia L. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:jh
University Committee for the Protection of Human Subjects in Research
University of New Orleans

Campus Correspondence

Principal Investigator: Kenneth Sewell
Co-Investigator:
Date: October 31, 2013
Protocol Title: “Personality and Mental Health Attitudes among US Army ROTC Cadets”
IRB#: 12Oct13

The IRB has deemed that the research and procedures described in this protocol application are exempt from federal regulations under 45 CFR 46.101 category 2, due to the fact that the information obtained is not recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects.

Exempt protocols do not have an expiration date; however, if there are any changes made to this protocol that may cause it to be no longer exempt from CFR 46, the IRB requires another standard application from the investigator(s) which should provide the same information that is in this application with changes that may have changed the exempt status.

If an adverse, unforeseen event occurs (e.g., physical, social, or emotional harm), you are required to inform the IRB as soon as possible after the event.

Best wishes on your project.
Sincerely,

Robert D. Laird, Ph.D., Chair
UNO Committee for the Protection of Human Subjects in Research
ATCC-EEZ

3 October 2013

MEMORANDUM FOR 2LT Pamela Holtz, Texas Christian University with duty University of North Texas, Fort Worth, Texas 76129

SUBJECT: Army Psychologist Data Collection

1. I authorize 2LT Holtz to contact the Professor of Military Science within the 5th Brigade area of operation and outside her duty location in order for her to solicit their Cadet voluntary support in her project to complete her doctorate degree as a Army Psychologist.

2. All prior coordination will be made with LTC Talcott the Professor of Military Science Texas Christina University before all notifications.

2. POC for this action is Mr. Keel at 210-295-0861 or email: Steven.Keel@usacc.army.mil

JAMES E. DODSON
COL, MI
Commanding
APPENDIX B

UNIVERSITY OF NORTH TEXAS INSTITUTIONAL REVIEW BOARD

INFORMED CONSENT NOTICE
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Personality and Mental Health Attitudes among US Army ROTC Cadets

Student Investigator: Pamela Holtz, 2LT USA, University of North Texas (UNT) Department of Psychology. Supervising Investigators: Dr. Kenneth Sewell, University of New Orleans (UNO) Department of Psychology and Dr. Jennifer Callahan, University of North Texas (UNT) Department of Psychology.

Purpose of the Study: You are being asked to participate in a research study investigating personality and mental health attitudes of US Army ROTC cadets.

Study Procedures: You will be asked to complete a brief online questionnaire that will take about 30 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you; however we hope the project will benefit the US Army by helping clarify the relation between US Army leader personality and mental health attitudes. This knowledge may better enable US Army leaders to support their subordinates.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Your name or any other personally identifiable information will not be asked for at any point of the study. Following your completion of the online questionnaire, your responses will be securely delivered electronically to the researcher. At no point will your responses be reviewed by other members of the US Army ROTC.

Questions about the Study: If you have any questions about the study, you may contact Pamela Holtz, 2LT USA at email address pamelaholtz@my.unt.edu; Dr. Kenneth Sewell at email address ksewell@uno.edu; or Dr. Jennifer Callahan at email address jennifer.callahan@unt.edu.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects. The use of US Army ROTC cadets in this research study has been approved by the US Army Cadet Command’s 5th Brigade Commander.

Research Participants’ Rights:
Your participation in the survey confirms that you have read all of the above and that you agree to all of the following:

- The study has been explained to you and all of your questions have been adequately answered. You have been informed of the possible benefits and the potential risks of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may print a copy of this form for your records.
Please fill out the following information as accurately as possible.

Age: _______

Gender: (select one)
  ○ Male  ○ Female

Race/Ethnicity: (select one)
  ○ Caucasian (non-Hispanic)
  ○ African American
  ○ Hispanic
  ○ Asian
  ○ Pacific Islander
  ○ Other: _______________

Current Relationship Status: (select one)
  ○ Single (never married)
  ○ Single (divorced, not remarried)
  ○ Single (widowed/widower)
  ○ In a relationship/Dating (not married or living together)
  ○ Living together
  ○ Married

Current Education Level: (select one)
  ○ College Freshman
  ○ College Sophomore
  ○ College Junior
  ○ College Senior

Military Science Level: (select one)
  ○ MS I
  ○ MS II
  ○ MS III
  ○ MS IV
  ○ MS V and beyond

Current Overall/Cumulative GPA: ___________________________________________________

Most recent Army Physical Fitness Test (APFT) score: ______________________________

Have you have attended the Leadership Development and Assessment Course (LDAC)?
  ○ Yes  ○ No

If you answered “Yes” to the previous question, did you pass the course?


Did you serve in the military prior to joining US Army ROTC?
   ○ Yes    ○ No

If you answered “Yes” to the previous question, briefly describe the context of your service:
Form Letter to US Army ROTC Battalion Commanders

Professors of Military Science:

My name is 2LT Pamela Holtz. I graduated from Loyola University Chicago and commissioned out of Chicago Army ROTC in May 2012. I branched active duty into the Medical Service Corps with an education delay to complete a Master’s and PhD in Clinical Psychology at the University of North Texas. I am studying military mental health in preparation for my eventual career as an active duty US Army clinical psychologist.

I am currently working on my Master’s Thesis project which studies personality traits of US Army ROTC cadets and their attitudes toward mental illness. We hope the project will benefit the US Army by helping clarify the relation between US Army leader personality and mental health attitudes, which may better enable US Army leaders to support the mental health of their soldiers.

I am writing you because I am hoping you will disseminate an online link to the research study to all of the cadets in your battalion. Their participation in the study is completely voluntary and confidential. The cadets will be given an online questionnaire asking about their personality traits and attitudes toward mental illness. The questionnaire should take the cadets about 30 minutes to complete.

This research study has been approved by the Institutional Review Board at the University of North Texas. The recruitment of 5th Brigade US Army ROTC cadets has been approved by the 5th Brigade Commander, US Army Cadet Command. My Supervising Investigator is Dr. Kenneth Sewell, University of New Orleans (UNO) Department of Psychology.

If you have any questions regarding this research study, I can be contacted at email address: pamelaholtz@my.unt.edu.

If you do not have any questions regarding this research study, the survey is ready to be distributed. The links for each ROTC program are below, and there is a document attached that contains a letter about the study which can be forwarded to cadets if desired. If your state/university is not listed below, cadets may select a link of their choice.


Arkansas and New Mexico: https://www.surveymonkey.com/s/WVG5ZNQ

Oklahoma and Utah: https://www.surveymonkey.com/s/WDKWNZK

SFASU, U Houston, Texas State, TCU, and SHSU: https://www.surveymonkey.com/s/WSL563C

Texas A&M schools, Texas Tech, Saint Mary’s, FVAMU, and Tarleton State: https://www.surveymonkey.com/s/SCJ73RG

University of Texas (UT) schools: https://www.surveymonkey.com/s/SNY5XX9
Thank you for your involvement in this research project!

Respectfully,
Pamela Holtz
2LT, USA Medical Service Corps
Clinical Psychology Doctoral Student
University of North Texas
Form Letter to US Army ROTC Cadets

US Army ROTC Cadets:

My name is 2LT Pamela Holtz. I am an officer in the US Army Medical Service Corps, studying to complete a doctorate in clinical psychology, with a focus on military mental health.

I am writing to request that you complete an online questionnaire to assist with a research project. The questionnaire should take you about 30 minutes to complete, and is completely confidential.

By completing this questionnaire, you will be assisting with a project we hope will benefit the US Army by helping clarify the relation between US Army leader personality and mental health attitudes. This knowledge may better enable US Army leaders to support their soldiers.

If you wish to assist with this research project, the online questionnaire can be accessed at the links below. Please select the link next to your state/university. If your state/university is not listed below, you may select a link of your choice.

Arkansas and New Mexico: https://www.surveymonkey.com/s/WVG5ZNQ
Oklahoma and Utah: https://www.surveymonkey.com/s/WDKWNZK
SFASU, U Houston, Texas State, TCU, and SHSU: https://www.surveymonkey.com/s/WSL563C
Texas A&M schools, Texas Tech, Saint Mary’s, FVAMU, and Tarleton State: https://www.surveymonkey.com/s/SCJ73RG
University of Texas (UT) schools: https://www.surveymonkey.com/s/SNY5XX9

Thank you for your involvement in this research project!

Respectfully,
Pamela Holtz
2LT, USA Medical Service Corps
Clinical Psychology Doctoral Student
University of North Texas
REFERENCES


Costa, P. T. Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: PAR.

Costa, P. T., & McCrae Jr., R.R. (2010). NEO Inventories: NEO Personality Inventory-3 (NEO-PI-3); NEO Five-Factor Inventory-3 (NEO-FFI-3); NEO Personality Inventory Revised (NEO PI-R) Publication Manual. Lutz, FL: PAR.


