



AN ABSTRACT OF THE THESIS OF

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Title: Beyond the Big Five: Developing a Personality Inventory that Measures Extreme Levels of Personality Traits

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The purpose of this study was to explore the reliability, validity and ultimately the utility of a new personality assessment, the Combined Big Fives (CBF). The CBF is designed to capture extremely high and low levels of five separate traits. The CBF also attempts to measure psychoticism. The literature suggested that data from a personality assessment can help a business to make better employment decisions. However, personality assessments have room to improve in the realm of selection, and they are not the best predictors. To test the CBF, 120 students from a Midwest university completed the instrument along with self-report measures of relationship satisfaction, life satisfaction, trait anxiety, GPA and college attendance. The results rendered evidence for the reliability and criterion-related validity of the CBF. However, the CBF also attempted to measure and establish curvilinear relationships with criteria. Little convincing evidence for curvilinear relationships was established in this study.

Keywords: Big Five, PID-5, curvilinear relationships, reliability, validity, psychoticism

Beyond the Big Five: Developing a Personality Inventory that Measures Extreme  
Levels of Personality Traits

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For my wife. I am truly blessed to have her unconditional love. Among many gifts, she granted me the opportunity to go back to school and pursue a graduate degree. I could have never made it this far without her.

Thank-you, Ashley. I look forward to continuing our wonderful journey together.

With Love,  
Ian

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## CHAPTER 1

### REVIEW OF THE LITERATURE

#### **A Brief History of Personality**

Personality is an interesting topic to people of different cultures and generations. Looking beyond simple interest, its study can also produce utility. Personality refers to many different cognitive factors of an individual. Personality can be thought of as the consistent thought processes that lead to our behaviors. Over the course of history, many individuals studied personality and advanced the field of personality research to where it is today.

The study of human factors that result in individual differences traces back to Hippocrates. Hippocrates was one of the first to study the aspects of humans that caused individual differences (Davis, Palladino, & Christopherson, 2013). He suggests that there are different fluids, or “humors,” within a person. Each person had these “humors” but at differing levels, which account for individual differences. The humors that Hippocrates referred to were called blood, phlegm, and black bile. According to Hippocrates, an unbalance of one or more of these fluids would cause noticeable differences in an individual’s behavior. An individual may be depressed because they have too much black bile, or get overly angry because they have too much blood. We know now that these theories are not supported; however, they served as building blocks for future generations of researchers.

Centuries later, Franz Josef Gall introduced phrenology. Phrenology is the study of the bumps on one’s head. Gall surmised that the brain was a muscle and that as it grew in different places, it would create bumps on a person’s skull (Krause & Cortis, 2014).

Gall traded Hippocrates' fluids for bumps on an individual's head. To Gall, these bumps corresponded with various aspects of an individual's personality. Gall explained that he could know many things about a person by merely feeling the different bumps on a person's skull. Large bumps in one area may indicate that the person had a good sense of humor or that they were intelligent while depressions in one's skull may indicate a lack of some other trait.

Modern research shows that both of these men were incorrect. However, their ideas were stimulating to the public and subsequent research efforts. The study of individual differences and personality has come quite a long way. From studying one's fluids or the bumps of one's skull, today's researchers study people's behaviors or responses to a test. A key to the study of personality lies in the thought that personality is relatively stable over time. Personality is already difficult to study because it is an abstract concept. However, it would be come exponentially more difficult to study if our personalities were in constant flux.

### **Personality Testing**

Personality is an abstract concept, meaning that it is not something that is completely visible or tangible. Due to its abstract nature, researchers have come up with different ways of conceptualizing personality (Goldberg, 1992). Along with the many conceptualizations of personality have come the many different tests for measuring and explaining a person's personality.

There are two categories of personality tests, projective and self-report inventories. Personality tests involving projective tests involve the presentation of vague or ambiguous stimuli in the form of pictures. A person who is taking this test interprets

these pictures and explains to the test facilitator what they see in the picture. The verbal responses to these vague stimuli are supposed to clue the facilitator in on different characteristics of the test subject's personality. The Rorschach Ink Blot test and the Thematic Apperception Test are examples of popular or well-known projective tests. Projective tests are unique in that they collect information without the participant knowing exactly what the facilitator is assessing. This 'under the radar' collection may be a mechanism for countering dishonesty. However, due to their subjective nature, different interpreters can interpret projective tests differently. Although the projective tests are of extreme theoretical interest to this researcher, this research focuses entirely on self-report inventories.

Self-report inventories are paper and pencil tests in which a survey-taker responds to items. However, respondents can take self-report tests on a computer, replacing the necessity of paper forms. Technology has increased the quantity of data that we can now obtain while simultaneously increasing the ease of collection (Kavanagh, Thite, & Johnson, 2015). These tests are typically a series of questions that relate to different constructs that the inventory is attempting to measure. Well-known examples of self-report inventories are the NEO-PI-R, which measures the Big Five personality factors, and the Minnesota Multiphasic Personality Inventory (MMPI), which measures psychopathological factors. The greatest and probably most obvious issue with the use of self-report inventories is the fact that people who take them can be dishonest. People taking these inventories may feel that answering in a certain way may make them look like a more respectable or ethical person, causing them to answer dishonestly. Due to

dishonesty, researchers develop methods to counter dishonesty on self-report inventories. More discussion on dishonesty follows in a later section.

The type of test used may vary depending on the setting in which it is given. Clinical, industrial-organizational (I/O), and other branches of psychology have their own preferred personality measures. This is not only for practical reasons but also for legal reasons. In an employment setting, all testing must directly relate to the job and its tasks through a job analysis (Schneider & Konz, 1989). This study combines aspects of a more common personality test with a clinical type personality test into a single test, the Combined Big Fives (CBF), and then tests the psychometric properties of the CBF.

### **Background on the Big Five**

Just as personality varies from person to person, the definition of personality varies depending on whom one asks. Over the years, many great debates have occurred over what characteristics make up a personality (Barrick & Mount, 1993). These differences are not only relegated to the definitions of the constructs on which personality is made up but also the number of constructs that adequately represent something as abstract and complex as personality.

In 1932, McDougall theorized that personality could be broken into and analyzed as five distinguishable constructs: intellect, character, temperament, disposition and temper (Barrick & Mount, 1991). However, the article did not elaborate on the reason McDougall came to his idea of five constructs on which to base personality. It is interesting to think about how long researchers have been studying personality and how frequently five appears as the number of traits measured. In 1957, Cattell created his own framework of characteristics that consisted of 24 factors (16 primary and 8 secondary)

(Barrick & Mount, 1991) and utilized bipolar scales for measuring his traits (Goldberg, 1992). Cattell's framework was extensive but was also extremely complicated, which made it difficult to study. Based on Cattell's research, in 1961, Tupes and Christal created the first Big-Five factor representation by combining Cattell's characteristics into five broad categories that demonstrated the ability to explain as much as Cattell's more complicated model (Goldberg, 1992). Originally, Tupes and Christal's five factors were numbered: I) Surgency (or extroversion), II) Agreeableness, III) Conscientiousness (or dependability), IV) Emotional Stability (vs. Neuroticism) and V) Culture, Intellect, or Openness (Goldberg, 1992). These constructs are the same labels as the constructs used to this day.

Over the years, researchers have disagreed on the labels of the different constructs or on the meaning of each construct. Five seems to be the number of constructs that appears most in research (Barrick & Mount 1991), but it is important to note that some researchers suggest numbers other than five. Hogan disagrees with five and suggests six dimensions on which to base a theoretical framework of personality: sociability, ambition, adjustment, likability, prudence, and intellectance. However, Hogan's framework is not completely different from the Big-Five framework. All of Hogan's constructs are similar to that of the Big Five (adjustment/emotional stability, likability/agreeableness, prudence/conscientiousness and intellectance/openness) with the exception of extroversion that Hogan splits into his own two constructs of Sociability and Ambition, totaling Hogan's six constructs (Barrick & Mount, 1991). Hogan continues to use six scales, but has changed some of the names and conceptualizations: adjustment, ambition, interpersonal sensitivity, prudence, inquisitive, and learning approach (Hogan,

Hogan, & Kaiser, 2011). Please notice that the Big Five has not changed greatly in many years; however, Hogan has changed constructs and definitions during a smaller number of years. With Hogan updating his model in a shorter duration of time, perhaps it is time for a Big five update as well.

The debate has continued through the decades as researchers try to find an accurate framework for measuring personality. It is easy to understand why this area of psychology is rife with disagreement. The abstract nature of personality is what makes it such a difficult topic to work. What one person suggests is important and worth measuring, another may disagree with. Barrick and Mount (1991) suggest that there is a general agreement on the number of factors, five (Hogan excluded), but that most disagreements are over the ways each researcher defines each characteristic.

At this time, it is important to describe the Big Five trait definitions used in this research. This researcher is using definitions from Barrick and Mount (1993) because of the simplicity of the definitions and the authors' use of prototypes to explain the different factors. Extraversion refers to how outgoing or sociable a person might be, and the opposite end of the scale is introversion. Agreeableness refers to how cooperative or trusting a person is. Conscientiousness refers to a person's level of responsibility, dependability or achievement orientation. Emotional Stability refers to a person's ability to control his or her emotions (Some refer to this scale by the name of its lower end, neuroticism). The final dimension, Openness to Experience, draws debate over its meaning (Goldberg, 1992) but often relates to one who is creative, imaginative, original, and/or intelligent.

The design of this framework gives researchers a consistent way of conceptualizing and measuring personality as it relates to other phenomena. Prior to a uniform framework, research was fractured and arbitrary. After exploring the background information of the Big Five, this researcher now explains how it relates to employment selection, the context of focus.

### **Employee Selection**

A large area of industrial-organizational psychology relates to what is known as selection. Selection refers to the process of measuring different candidates for a position within an organization, business, or other entity where the candidate will provide a service. These measurements are then used to select the best candidate for the position.

These measurements occur in a variety of ways. Measurements occur when an applicant takes a test, takes a series of tests, participates in an interview, submits a resume, or any other process where data can be collected from the applicant to make a good selection decision. Researchers create tests and other methods to measure one's abilities to determine not only who should get the job but also who has the greatest potential for performing the job. This information can then be used to sort and rank applicants. An organization that has an excellent system for finding the best employees will always have an advantage over other organizations that do not use these measures (Kavanagh, Thite, & Johnson, 2015).

This researcher is of the firm belief that the lynchpin of organizational success and failure is an adequate selection system. If one is not hiring the right people for the right job, the process is doomed. A good analogy to demonstrate this idea is that one would not select a mule to train for a Kentucky Derby. Training could increase a mule's



abilities, but the potential would never reach that of a thoroughbred. Imagine two different companies, one that selects companies at random, and another that uses methods based in science for collecting data to select a candidate. Based on this simple comparison, the second company would have an obvious advantage. Meta-analysis has shown that tests can improve the ability of an organization to make better decisions in regards to selection of employees (Morris, Daisley, Wheeler, & Boyer, 2015).

However, these methods for selection can go beyond applicants entering a company. The methods can also be used for an organization's internal promotions. Going back to the two fictional companies referenced in the simple example above, the second company is now using science to measure and select applicants, while also using similar methods for selecting incumbent employees for promotion.

Beyond this, imagine if these tests could measure the skills of incumbent employees for the purpose of training programs. An organization could then create a training program specifically tailored for a current lack of skills in the organization's workforce. The point here is that there are many benefits to the organization that chooses to rely on science and sound decision making.

There are many different types of measurements that can be taken for selection purposes. To name a few, there are cognitive abilities tests, situational judgement tests, person-organization fit tests, honesty tests, among others. This paper focuses on personality tests and their use in selection.

### **Personality Tests in Selection**

Meta-analysis has shown that there are personality traits that correlate with job performance (Barrick & Mount, 1991). These findings validate the use of personality

tests in employment selection settings as long as they are testing for personality characteristics shown to be job relevant. The thought is that certain employees may perform better at certain jobs if they possess the “right” personality traits. A job that is dependent upon a person being highly sociable (e.g., a salesperson) may be better suited for the job if they are extroverted.

One can look at many different pieces of information when making selection decisions. An important factor to remember is that these pieces of information need to be job-related. Selection instruments include but are not limited to the use of biodata, interviews, letters of reference, or personality tests (Cascio & Aguinis, 2011). Personality tests have become an interesting frontier for research in selection. However, it is imperative that an applicant is tested on qualities that are proven to be useful for the job. Anytime that someone is making an employment decision, the measurement tools must capture job relevant traits. A simple demonstration of job relevance is that one would not hire an accountant based on how well he or she can cut meat, and one would not hire a butcher based on how great of an accountant he or she is. Each job has its own job-related sets of skills. Some jobs may overlap skills with other jobs, but this overlap should not be complete unless the jobs are quite similar. The knowledge, skills, and abilities (KSAs) needed for a position are much simpler to figure out when completing a job analysis, the process of identifying what is and what is not job relevant (Goffin et al., 2011). However, identifying the personality traits that lead to higher performance is much more difficult, and processes on how to do this are more rare (Murphy & Dzieweczynski, 2005).

Completing a personality inventory is simple. Applicants complete the instrument by reading a statement and choosing a response they feel most closely describes how they

feel about the statement. Most often, the respondents give their answers on a Likert-type scale. Scores are recorded, and the results are able to show where applicants fall on the spectrum for each of the measured traits. People can fall anywhere on the spectrum depending on how they responded to the questionnaire. This offers a great richness to the data collection; however, it also can create problems with interpretation and with the accuracy with which the person responded to the statements (DeSimone, 2014). General performance and leadership are two categories of behaviors that organizations will always desire and that correlate with certain personality characteristics.

Barrick, Mount and Judge (2001) found the following corrected correlations with general performance: conscientiousness ( $r = .25$ ), extroversion ( $r = .21$ ), agreeableness ( $r = .10$ ), openness ( $r = .10$ ), and emotional stability ( $r = .09$ ). Judge, Bono, Ilies, and Gerhardt (2002) linked personality traits with leadership and found the following correlations: extraversion ( $r = .31$ ), conscientiousness ( $r = .28$ ), neuroticism (now known as emotional stability) ( $r = -0.24$ ), openness ( $r = .24$ ), and agreeableness ( $r = .08$ ). Due to the importance to an organization of predicting good performers and the moderate predictive validity of the construct, perhaps that is reason in and of itself to be looking for alternatives to current methods.

One reason for the lower predictive validities of personality assessments in selection relates to the fact that there are other variables at play. Barrick and Mount (1993) investigated autonomy as a moderating variable and found that jobs with more autonomy showed higher correlation between performance and certain measures of personality (conscientiousness, extraversion and agreeableness). This correlation suggests that greater job autonomy allows employees to express better their personality and allows

personality to have a greater effect on one's work. Personality constructs may not correlate well with job performance in simple jobs simply because there is little opportunity for employees to express their personality and set their work apart from others. This idea mirrors an idea from social psychology that behavior is a function of both the individual and the environment. In high autonomy jobs, personal factors have a greater bearing, and in low autonomy jobs, environmental factors may have a greater bearing on one's behaviors.

This researcher concludes that the Big Five has room for improvement as an instrument for measuring personality constructs as they relate to job performance. As more research is generated in the area of personality, it is wise to reevaluate and improve upon current methods. The branch of psychology known as clinical psychology often studies personality. To stay on the cutting edge of personality research and to utilize current and relevant ideas related to an area in which organizations are interested, I/O psychologists must pay attention to these developments and use them to inform current practices.

### **Dishonest Answers with Self-Report Measures**

A major criticism of the use of personality assessment as a means of selection is the idea that an applicant can lie when completing the assessment. This criticism is not unique to personality assessment and can make itself present in other types of assessments. This makes sense logically; people who want to make themselves sound more appealing may answer differently on an assessment and invalidate results. Many assessments already have methods of measuring the consistency of answers on similar questions to gauge honesty and validate results. For example, the MMPI has a number of

scales that are used to assess the honesty and accuracy of a test taker's responses. One of the ways that the MMPI does this is by containing similar items within the test that can examine the variance between test takers answers on similar items. Researchers continue to work towards developing innovative ways to improve the honesty of self-report assessments.

Fan et al. (2012) developed a method for increasing honesty by sending the applicants a message if there was evidence that the applicant might be answering dishonestly. This method of boosting honesty has several flaws. First, an assessment is many times the only connection an organization has with its applicant pool and with the community in which it resides. If applicants perceive an organization's assessments in a poor light, the organization may have difficulty attracting top applicants (Oh, Wang & Mount, 2011). Applicants may not appreciate giving answers on an assessment and being called dishonest while taking the assessment. Second, in Fan's study, this method caused applicants to change their responses. However, are the changes accurate or a result of the assessment calling the applicant dishonest? Perhaps the changes in responses after being labeled dishonest may result in scores even further from their true self. Third, it may give an applicant a sense of hopelessness. Applicants labeled dishonest may feel that they have already lost their chance at employment consideration and simply give up. Finally, many times there is no feedback when taking employment assessments. This resolution consists of a form of negative feedback that may be upsetting for applicants. If certain demographic groups find that they receive the message at a higher rate than other groups, it could lead to legal issues. This solution is more transparent than most and thus riskier.

Another solution to the validity issues of personality assessments is the use of observer ratings of personality. At first, I approached this method with skepticism because it seemed difficult for observers to have a firm grasp of an applicant's personality and because observers may bring bias into their responses. However, research seems to favor observer ratings. Self-report by itself has downsides because the people who are reporting may have altered their memories of events in self-serving ways (Hogan, Barrett, & Hogan, 2007). This suggests that both self-report and observer ratings come with bias and that bias is non-unique to observer ratings.

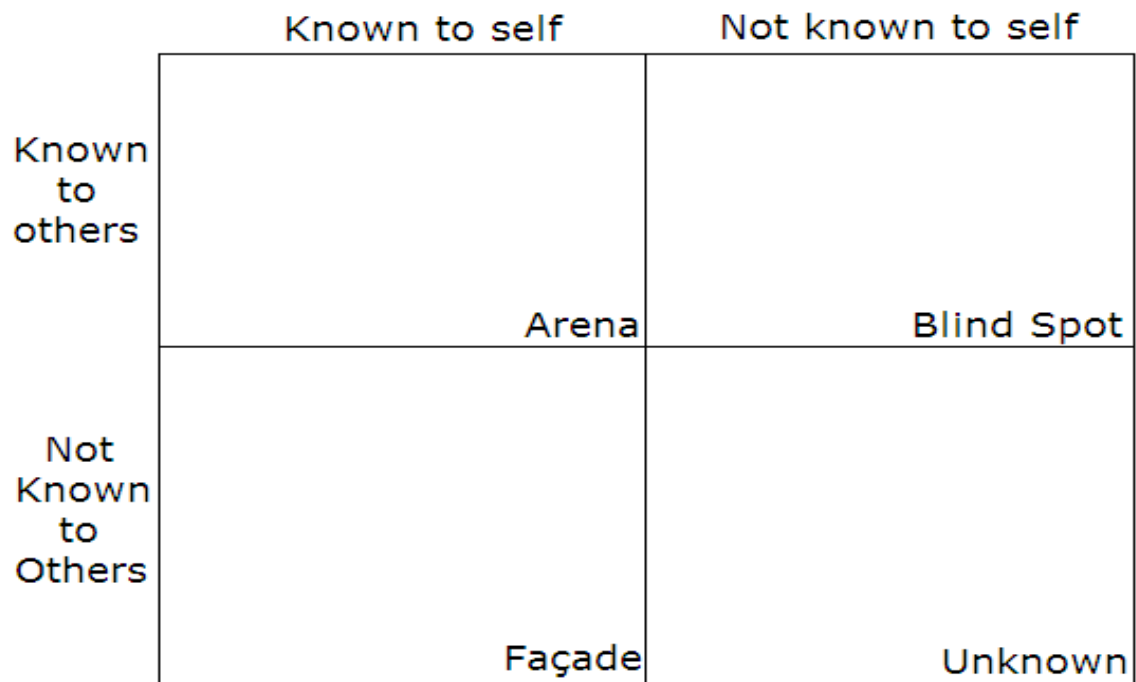
Another interesting idea is that personality can both be intra-person (true definition of personality) and inter-person (a person's reputation). This idea suggests that there are facets of people's personality that they might not know themselves but that an observer recognizes. This idea is similar to that of the Johari Window (see Figure 1) in that a self-report can provide insights into oneself that others do not know, but observers can provide insight into 'blind spots' an individual may have.

In a sense, observers and self-report may be measuring different aspects of the same concept, personality. Oh, Wang and Mount (2011) conducted research on self-report and observer reporting of personality assessments; their findings indicate that other reports are better predictors of performance and are generalizable as predictors in more types of job roles than a self-report assessment of personality. Another demonstration in the utility of observer reporting is in the use of 360-degree appraisals. These types of appraisals collect information from the people appraised, from their managers, and from their subordinates. Most of the information used in this tool is from observers and

demonstrates how valuable observer reporting can be. Observer reports of personality may be fruitful area in the future for assessment and selection purposes in organizations.

On the topic of dishonesty and self-report measures of personality. Hogan, Barrett, and Hogan (2007) suggest that either dishonesty can come from impression management or socialized behavior, and it is impossible to distinguish between the two. The study also finds that outside of a laboratory setting, impression management, or dishonesty, is not occurring. This is a bold statement and vastly improves notions of the integrity of personality assessments. However, even with empirical data available, many still believe that dishonesty is a major issue with personality assessments (Fan et al., 2012).

## Johari Window



From: [https://commons.wikimedia.org/wiki/File:Johari\\_Window.PNG](https://commons.wikimedia.org/wiki/File:Johari_Window.PNG)

*Figure 1. Johari Window*



## **The PID-5 and the Big Five**

The Personality Inventory of the DSM-5 (PID-5) lies within Section III of clinical psychology's newest edition of their tool for categorizing and diagnosing mental illness. This 220-item, self-report inventory is for the diagnosis of personality disorders. It captures five domains and 25 traits. This new instrument is a landmark achievement for the clinical branch of psychology as it is an attempt at an empirically created inventory for diagnosing personality disorders (Krueger & Markon, 2013). Fifteen of the 25 traits relate primarily to the five domains (three traits per domain). They are listed in Table 1. The other ten traits (Attention Seeking, Callousness, Depressivity, Hostility, Perseveration, Restricted Affectivity, Rigid Perfectionism, Risk Taking, Submissiveness and Suspiciousness) contribute to more than one domain. A brief version of this assessment, The Personality Inventory for DSM-5 – Brief Form (PID-5-BF), also exists.

The PID-5 is a tool for the clinical branch of psychology. Mental illness and psychopathology is not something that is typically studied in industrial-organizational psychology, although some researchers are beginning to study Dark Triad traits and their impact in the workplace. This will be explored in greater depth later in this paper.

An obvious difference between the Big-Five and the PID-5 is that the former is used with “normal” populations, while the latter is used in clinical and diagnostic settings. However, they are both concerned with assessing individual differences in personality.

Since the development of the PID-5, researchers have been interested in investigating the relationships between the domains of the PID-5 and domains of other personality instruments, most interesting to this study is the Big Five. Griffin and Samuel

(2014) found relationships between PID-5 domains and Big-Five constructs: negative affectivity and neuroticism, detachment and low levels of extroversion (introversion), antagonism and low levels of agreeableness, disinhibition and low levels of conscientiousness, and psychoticism and openness. It seems that the PID-5 and Big Five are measuring similar things, but perhaps to a different extent. Extremely high or low scores on the constructs of the Big-Five may be quite similar to the domains within the PID-5. Figure 2 provides some ideas for how the Big-Five factors can be dysfunctional when they become too high or too low.

While there is fair overlap between four of the domains, research suggests that openness and psychoticism do not relate well and show stronger relationships when researchers use liberal interpretations of openness that include facets such as eccentricity and peculiarity (Gore & Widiger, 2013). This evidence leads the researcher to believe that measures of psychoticism and openness do not have much overlap and thus should be treated as different constructs or domains. Perhaps a more complete version of the Big 5 would contain the typical five Big Five constructs plus a measure of psychoticism.

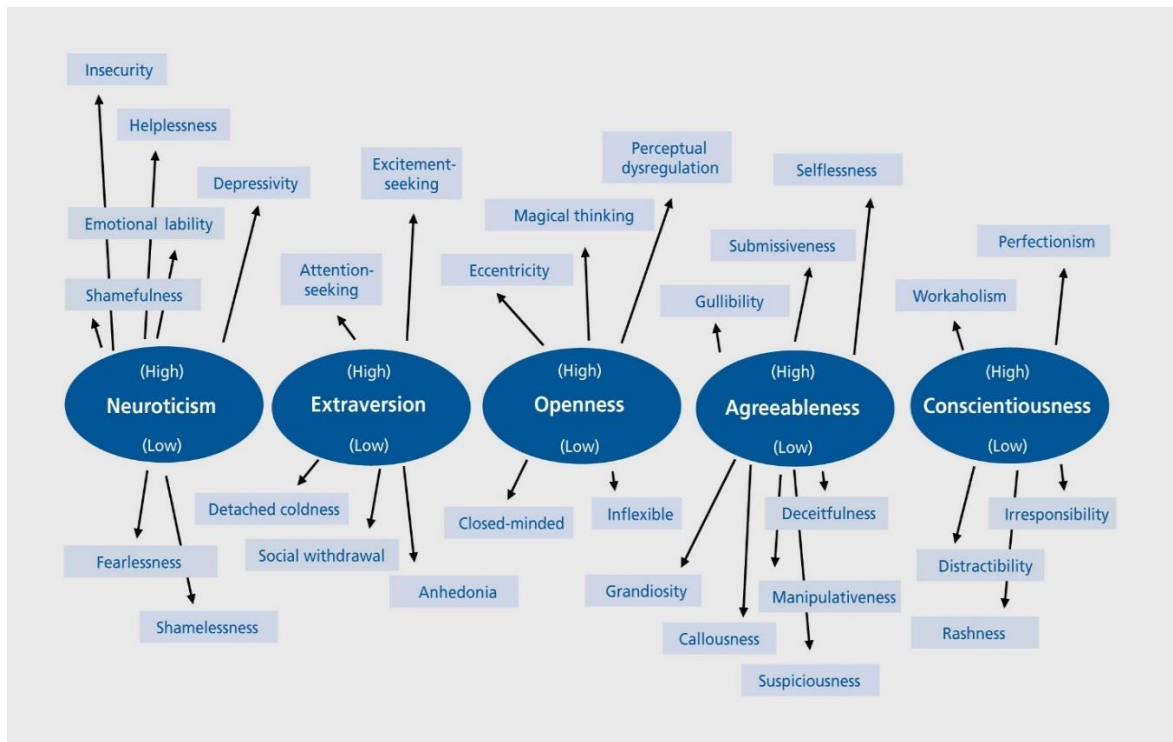
The Big Five does a good job explaining where people fit on its spectrums within a certain range, but does not do a good job of capturing people that are either very high or very low on the spectrums (Dilchert, Ones, & Krueger, 2014). Wille and DeFruyt (2014) suggest that the maladaptive trait model within the DSM-V offers potential for growth and improvement in thinking about personality and work.

Table 1

*Personality Domains and Traits of the PID-5*

Personality Trait Domain	PID-5 Facet Scales Contributing Primarily to Domain
Negative Affect	Emotional Lability, Anxiousness, Separation Insecurity
Detachment	Withdrawal, Anhedonia, Intimacy Avoidance
Antagonism	Manipulativeness, Deceitfulness, Grandiosity
Disinhibition	Irresponsibility, Impulsivity, Distractibility
Psychoticism	Unusual Beliefs & Experiences, Eccentricity, Perceptual Dysregulation

From Krueger, Derringer, Markon, Watson, and Skodol, (2012)



From Trull and Widiger, (2013)

*Figure 2.* Dysfunctional Nature of Extreme Scores on the Big Five

Since the clinical world is changing how it diagnoses personality disorders, it may now be time for the industrial-organizational psychologists to pay attention to the developments and adapt our current strategies in regards to measuring personality (Guenole, 2014). If clinical psychologists are at the forefront of studying personality disorders, then their research becomes critical to other branches that are attempting to measure and utilize data related to personality (Guenole, 2014). By following the current research, I/O psychology could be on the cusp of developing a breakthrough personality inventory that better predicts job performance than what we are working with now. This researcher is in agreement with Wille and DeFruyt (2014) that the “DSM-5 maladaptive trait model has considerable potential to enrich our thinking about personality and work” (p. 125). Maladaptive traits are personality traits that cause a person to have a difficult time learning and performing job tasks, resulting in poor performance or job distractions. Derailer is another term that arises in related literature and is defined as, “characteristics such as poor self-control and relationship problems that result from using interpersonal strategies that are no longer functional” (Foster & Gaddis, 2014, p. 149).

Dilchert, Ones, and Krueger (2014) suggest that low levels on constructs on the Big Five are similar to constructs on the PID5. This researcher would suggest that high levels might also be indicative of problem behaviors. Other researchers have also taken note of this overlap (Guenole, 2014; Wille & DeFruyt, 2014). Guenole (2014) specifically explains that negative emotionality, detachment, antagonism, and disinhibition (constructs on the PID5) relate directly to certain levels of the Big Five traits, neuroticism, extraversion, agreeableness, and conscientiousness, respectively. The overlap mentioned makes it seem that the two personality inventories measure aspects of

similar traits. However, the PID-5 can find extreme levels of these personality characteristics that relate to personality disorders. The Big Five does not catch these extreme highs or extreme lows. A well-developed personality inventory for employment that “catches” these concerning trait levels might improve the predictive validity of the selection process. An organization would be able to identify and remove applicants shown to have maladaptive personality traits or “derailers” relevant to the job.

Furthermore, the added dimension of measuring psychoticism on a personality inventory would be beneficial when making other employment decisions (DeSimone, 2014). If organizations can identify applicants with maladaptive personality characteristics, they should similarly be able to screen incumbent employees who are looking for promotion. Eliminating the number of employees who have maladaptive traits within the work environment is helpful to an organization even if it simply leads to a decrease in workplace distractions (DeSimone, 2014).

Another aspect of the personality inventory worth investigating is the people who score extremely high on a trait. The adage, “too much of a good thing is bad,” explains this idea. McCord, Joseph, and Grijalva (2014) have found curvilinear relationships between personality traits and job performance. In summary, people that score very low on traits show poor performance. People who are higher on the trait spectrum typically have better performance than others who are at the lowest ends. Finally, people who are extremely high on the trait spectrum begin to go down on job performance. This makes an inverted U shape when correlating personality trait and job performance (McCord, Joseph, & Grijalva, 2014). Organizations need to worry not only about people scoring low on personality tests but also about people scoring too high. Once again, the Big Five

does not do a good job of measuring the extreme levels of personality traits. Failures to depict curvilinear relationships between personality trait and job performance demonstrate the Big Five's failure to measure adequately the full content domain of its construct (McCord et al., 2014).

Through this literature review, one can see that assessments will benefit from the exploration of new ideas in clinical psychology. However, these personality traits may encounter problems with legality. Some may consider the traits referenced above as medical, which would restrict them from utilization in a pre-employment setting. Legally, organizations can only administer medical exams after the extension of an employment offer.

According to the American's with Disability Act, organizations cannot discriminate against persons who have disability in matters of employment if the discrimination relates to the disability. If the proposed personality inventory finds people with personality disorders and is discriminating against them based on their disability, it may not hold up in court (Christiansen, Quirk, Robie, & Oswald, 2014; Hill, 2014). An exception is if the applicants' personality disorders get in the way of performing essential job functions, but that would need to be documented by a job analysis.

This researcher must take a minute here to admire the simplicity of the Big Five. Perhaps the beauty of the construct lies in the fact that it does not delve into potential clinical levels of a personality characteristic. Perhaps the reason it is a poor measure of the extremes is so that it avoids legal scrutiny. This researcher's goal is to push the envelope, and the present study is designed to collect the most meaningful and viable data up to the point that legality becomes a problem. Guenole (2014) suggests that as

long as the personality test captures personality traits as they relate to job performance, then legality is on the side of the test. Researchers explain that courts have accepted correlational data between personality traits and job performance (Christiansen, Quirk, Robie, & Oswald, 2014). Once this inventory is constructed, a well-done job analysis can identify the traits that are necessary for high performance in any job and improve the instrument's legal defensibility as it relates to that particular job.

### **Organizational Benefit of Integrating Psychopathology in Selection**

Workplace deviance covers behaviors that are counterproductive towards the organization (organizational deviance) and behaviors that cause problems for the organization's members (interpersonal deviance) (Menard, Brunet, & Savoie, 2011). Behaviors directed towards the organization are the behaviors that directly affect the business's bottom line; employee theft is an example of organization directed workplace deviance. Behavior directed toward the organization's members are the behaviors that negatively affect the relationships between employees as well as the feelings employees have towards the organization; workplace violence and harassment are examples of interpersonal deviance. Monetary estimates of employee theft in the United States are approximately \$50 billion annually; the value of the theft alone is not the only issue as employees may be committing theft while on the clock (Coffin, 2003). On the other hand, interpersonal deviance is not as easy to put a value on. These behaviors can damage an employee's self-esteem and make employees feel insecure at work (Griffin, O'Leary-Kelly, & Collins, 1998) which then leads to employees who are more likely to quit, are less productive, and display low organizational morale or lost work time (McGee & Fillon, 1995).



Personality characteristics have relationships with these types of deviant work behaviors. Menard, Brunet and Savoie (2011) find that low levels of agreeableness can predict interpersonal deviance. Henle and Gross (2013) explain this as well but also suggest that low levels of conscientiousness correlate with organizational deviance. Integrity tests exist to explore these traits, as well as others, in an attempt to identify applicants who may be more likely to exhibit workplace deviance. However, Woolley and Hakstian (1993) advocate for the use of personality trait analysis over the use of integrity tests because they are better predictors and because integrity tests use questions about theft and honesty that are off-putting to applicants. This researcher is in agreement with Woolley and Hakstian's findings but questions if the current model of investigating personality traits is robust enough. Research related to psychopathology, the Dark Triad, maladaptive work behaviors, and derailers may further the power of current models for analyzing personality relative to an organization's selection process (Guenole, 2014).

Momentarily breaking from selection, other organizational benefits emerge from this research. Some employees have personality profiles that make them more likely to be victims of harassment or interpersonal deviance (Henle & Gross, 2013). Making organizations and managers aware of this predisposition goes great lengths towards avoiding issues of interpersonal deviance. A manager who is aware of this can proactively respond to these employees and assist when these issues arise. This idea branches the utility of this research from selection into areas of management.

Leadership is another area worth discussion in reference to personality traits. Researchers have shown that the Big Five correlates fairly well with leadership (Judge, Bono, Ilies, & Gerhardt, 2002). Literature many times focusses on the "good" qualities of

leadership and tends to neglect the study of the characteristics that actually cause poor leadership. The Big Five measures what has been referred to as “Bright Side” characteristics of personality while neglecting what is known as the “Dark Side” or personality flaws (Hogan, Hogan & Kaiser, 2005). Hogan and Kaiser (2005) suggest that poor leadership is not a problem of leaders who lack enough of the “good” traits but of leaders who possess the bad traits, traits that relate closely to personality disorders from the DSM-IV-TR. To make matters worse, leaders at the top levels who possess these negative qualities run the risk of creating a culture that mirrors their personality flaws (Kets De Vries & Miller, 1986). This means that an executive who possesses paranoid tendencies will create a culture of paranoia within the organization or that a narcissistic leader may create a culture that takes many risks and so on. Even at lower levels of management, it is easy to see that these tendencies create problems for the organization. Surveys demonstrate that 65-75% of employees report that the worst aspect of their job is their direct supervisor or manager (Hogan & Kaiser, 2005). Perhaps part of this large percentage are results of the character flaws of the leaders. Perhaps organizations would not have as many struggles with poor management if a selection instrument measured “dark side” traits to avoid.

### **The Current Study**

The purpose of the study is to learn more about an instrument this researcher has created, the Combined Big Fives (CBF). The CBF is an innovative personality instrument used to measure a person’s trait levels of personality. The CBF will capture and represent a larger variety of personality trait extremes. This instrument will be quite similar to that of the Big Five, but expanded to capture the extreme levels of a trait. Furthermore, the

CBF will measure a facet of personality that is not at all measured by the Big-5, psychoticism. Psychoticism is a trait measured by the PID 5 within the DSM-V. Extreme levels of traits, as measured in the five typical dimensions of personality, will not be measured in regards to psychoticism by the CBF as the scale itself is already pathological in nature. In entirety, the CBG consist of five scales with extremes at both sides and an extra scale of psychoticism that does not have scale extremes. More description of the CBF exists in the methods section, and the instrument can be found in Appendix A.

This study attempts to collect data with the CBF and from other criterion measures to generate evidence of reliability and validity for the CBF. Criterion measures used in the study are life satisfaction, relationship satisfaction, trait anxiety, social dominance orientation, and measures of student performance. These measures are included in Appendices B through G, respectively.

The proposed impact of this research is two-fold and transcends cognitive psychology and industrial/organizational psychology. The study aims to further the understanding of human personality through building on existing frameworks. The study also aims to advance research in the field of personality assessments as they relate to meaningful work outcomes.

## **Hypotheses**

The following hypothesis section consists of four different sections, Reliability Hypotheses, Linear Hypotheses, Curvilinear Hypotheses and Research Questions. The Linear Hypotheses section consists of linear predictions amongst the measured variables. The Curvilinear Hypotheses section consists of curvilinear predictions amongst the

measured variables. The Research Questions section consists of non-directional and exploratory questions of interest to the researcher.

### **Reliability Hypotheses**

A psychometric test must meet different qualifications (reliable and valid) to be considered an adequate measure of a psychological trait. The procedures in this research test two types of reliability, test re-test and internal consistency.

**Hypothesis 1:** The CBF will reliably measure the five dimensions of the Big Five theory of personality plus an additional dimension, psychoticism.

### **Linear Hypotheses**

Research in the past demonstrates relationships between measures of personality and criteria used in this study. These hypotheses test the ability of the CBF to detect similar relationships between its personality measures and the criteria used within other research. Results consistent with past research indicate that the CBF is correctly measuring personality traits, contrary results indicate that the CBF is not correctly measuring personality traits.

This section consists of several numbered section; each numbered section pertains to a different personality dimension. Each numbered section contains hypotheses that are lettered and pertain to different criterion measures relative to the numbered personality dimension. These hypotheses relate to the validation of the CBF.

### **Extraversion-Introversion**

Past studies show a relationship between extraversion and global level self-report measures of life satisfaction (Schimmack, Oishi, Furr & Funder, 2004; Joshanloo &

Afshari, 2009; Dyrenforth, Kashy, Donnellan & Lucas, 2010; Suldo, Minch & Hearon, 2015; Weber, 2015).

**Hypothesis 2a:** The extraversion-introversion scale of the CBF will be positively related to life satisfaction.

Research exists demonstrating a negative relationship between extraversion and trait anxiety in children by parent report (Vreeke & Muris, 2012).

**Hypothesis 2b:** The extraversion-introversion scale of the CBF will be negatively related to trait anxiety.

Research exists demonstrating a positive relationship between extraversion and relationship satisfaction through meta-analysis (Malouff et al., 2010) and by looking at marital satisfaction (Razeghi et al., 2011).

**Hypothesis 2c:** The extraversion-introversion scale of the CBF will be positively related to relationship satisfaction.

**Hypothesis 2d:** The extraversion-introversion scale of the CBF will be positively related to friendship satisfaction.

### **Adaptive-Challenging**

The agreeableness scale of the Big-5 is similar to the adaptive-challenging scale of the CBF. Research demonstrates a positive relationship between agreeableness and different measures of life satisfaction in different countries (Dyrenforth, Kashy, Donnellan & Lucas, 2010), in females (Suldo, Minch & Hearon, 2015) and in adolescents (Weber, 2015).

**Hypothesis 3a:** The adaptive-challenging scale of the CBF will be positively related to life satisfaction.

Similarly, researchers demonstrate a positive relationship between agreeableness and measures of relationship satisfaction in different countries (Dyrenforth, Kashy, Donnellan & Lucas, 2010), in a European country (Schaffhuser, Allemand & Martin, 2014), in married couples (Razeghi et al., 2011) and in a meta-analysis (Malouff et al., 2010).

**Hypothesis 3b:** The adaptive-challenging scale of the CBF will be positively related to relationship satisfaction.

**Hypothesis 3c:** The adaptive-challenging scale of the CBF will be positively related to friendship satisfaction.

Agreeableness and social dominance have shown negative relationships in past research of college students (Perry & Sibley, 2012) and through meta-analysis (Sibley & Duckitt, 2008).

**Hypothesis 3d:** The adaptive-challenging scale of the CBF will be negatively related to social dominance.

### **Focused-Flexible**

Conscientiousness is similar to the focused-flexible scale of the CBF.

Conscientiousness is considered the best Big-5 trait for predicting levels of performance (Barrick & Mount, 1991). For that reason, my predictions are that conscientiousness will have a positive relationship with measures of student success and behaviors common to successful students.

**Hypothesis 4a:** The focused-flexible scale of the CBF will be positively related to GPA.

**Hypothesis 4b:** The focused-flexible scale of the CBF will be positively related to percentage of classes a student typically attends.

**Hypothesis 4c:** The focused-flexible scale of the CBF will be positively related to hours spent studying.

Conscientiousness also shows positive relationships with life satisfaction in different countries (Dyrenforth, Kashy, Donnellan & Lucas, 2010) and in seventh graders (Weber, 2015).

**Hypothesis 4d:** The focused-flexible scale of the CBF will be positively related to life satisfaction.

Along with life satisfaction, conscientiousness shows a positive relationship with relationship satisfaction in marriages (Razeghi et al., 2011) and through meta-analysis (Malouff et al., 2010).

**Hypothesis 4e:** The focused-flexible scale of the CBF will be positively related to relationship satisfaction.

Conversely, a negative relationship between conscientiousness and trait anxiety was demonstrated in children aged 6-13 (Vreeke & Muris, 2012).

**Hypothesis 4f:** The focused-flexible scale of the CBF will be negatively related to trait anxiety.

### **Resilient-Reactive**

Neuroticism is similar to the resilient-reactive scale of the CBF. Several researchers identified negative relationships between neuroticism and life satisfaction, as studied in Iranian Muslim University Students (Joshanloo & Afshari, 2009), in different countries (Dyrenforth, Kashy, Donnellan & Lucas, 2010), in adolescents (Suldo, Minch

& Hearon, 2015; Weber, 2015) and when studied at deeper facets (Schimmack, Oishi, Furr & Funder, 2004). As a reminder, the higher end of the CBF's resilient-reactive scale indicates a higher degree of emotional stability.

**Hypothesis 5a:** The resilient-reactive scale of the CBF will be positively related to life satisfaction.

Similarly, research has shown negative relationships between neuroticism and relationship satisfaction (Razeghi et al., 2011; Malouff et al., 2010; Dyrenforth, Kashy, Donnellan & Lucas, 2010; Schaffhuser, Allemand & Martin, 2014).

**Hypothesis 5b:** The resilient-reactive scale of the CBF will be positively related to relationship satisfaction.

**Hypothesis 5c:** The resilient-reactive scale of the CBF will be positively related to friendship satisfaction.

It is no surprise that neuroticism and trait anxiety have shown a positive relationship (Chamorro-Premuzic, Ahmetoglu & Furnham, 2008; Vreeke & Muris, 2012)

**Hypothesis 5d:** The resilient-reactive scale of the CBF will be negatively related to trait anxiety.

### **Exploring-Preserving**

Openness from the Big-5 is similar to the exploring-preserving scale from the CBF. Research demonstrating relationships between openness and the criteria measured in this study are small in number. Openness has shown a negative relationship with trait anxiety in children aged 6-13 (Vreeke & Muris, 2012).

**Hypothesis 6a:** The exploring-preserving scale of the CBF will be negatively related to trait anxiety.



Research demonstrates a negative relationship between openness and social dominance orientation (Hodson, Hogg & MacInnis, 2009; Akrami & Ekehammar, 2006), in college students (Perry & Sibley, 2012) and through meta-analysis (Sibley & Duckitt, 2008).

**Hypothesis 6b:** The exploring-preserving scale of the CBF will be negatively related to social dominance orientation.

### **Psychoticism**

No studies were found that looked at the relationship between psychoticism (as a personality characteristic) and the criteria measured in this study. Directional hypotheses are listed below but are not supported by past research. Because of this, the psychoticism hypotheses will not provide strong evidence of validity for the CBF. These hypotheses, however, provide a framework for measuring and analyzing the data rendered from the present study.

This researcher hypothesizes that psychoticism will have negative relationships with both life satisfaction and relationship satisfaction. This assumption comes from the thought that symptoms of psychoticism put a burden on the individuals who carry these traits. This burden could cause problems in several different domains of that individual's life.

**Hypothesis 7a:** The psychoticism scale of the CBF will be negatively related to life satisfaction.

**Hypothesis 7b:** The psychoticism scale of the CBF will be negatively related to relationship satisfaction.

**Hypothesis 7c:** The psychoticism scale of the CBF will be negatively related to relationship satisfaction.

Alternatively, this researcher predicts a positive relationship between psychoticism and trait anxiety. Psychoticism consists of several facets, some of which relate to paranoia. It is not a huge leap to assume that an individual who has feelings of paranoia may have higher levels of trait anxiety.

**Hypothesis 7d:** The psychoticism scale of the CBF will be positively related to trait anxiety.

Finally, this researcher predicts that psychoticism will have a positive relationship with social dominance orientation. Hodson, Hogg and MacInnis offer some support for this hypotheses when they found correlations between Dark Triad traits (narcissism, Machiavellianism, psychopathy) correlated with anti-immigrant prejudice (2009). This may not be of total support, since the researchers studied psychopathy and not psychoticism.

**Hypothesis 7d:** The psychoticism scale of the CBF will be positively related to social dominance orientation.

### **Curvilinear Hypotheses**

As stated above, these hypotheses relate to the prediction of curvilinear relationships between personality traits measured by the CBF and the criteria used in this study. No research was found to lead the direction of these hypotheses; however, each hypothesis is nested in logic and relies on the research cited above that has established linear relationships. The curvilinear hypotheses simply suggest that a curvilinear model will fit the data better than a linear model and thus is more predictive. These predictions

relate to the nature of the CBF and its attempt to measure extremely-low levels of traits, normal levels of traits and extremely-high levels of traits.

This researcher hypothesizes that extremely high levels of extraversion will play out in negative ways for an individual. These individuals may have such a thirst for social interaction that it cannot realistically be satisfied. Furthermore, this craving for social interaction may create a reliance upon that interaction and manifest feelings of anxiety, if the need is not met in all contexts.

**Hypothesis 8a:** A curvilinear model will better explain the relationship between extraversion (as measured by the CBF) and friendship satisfaction than a linear model.

**Hypothesis 8b:** A curvilinear model will better explain the relationship between extraversion (as measured by the CBF) and trait anxiety than a linear model.

**Hypothesis 8c:** A curvilinear model will better explain the relationship between extraversion (as measured by the CBF) and life satisfaction than a linear model.

**Hypothesis 8d:** A curvilinear model will better explain the relationship between extraversion (as measured by the CBF) and trait anxiety than a linear model.

Research cited in above suggests that agreeableness has a positive relationship with relationship satisfaction. This researcher posits that an individual may possess such high levels of agreeableness that they may choose to sacrifice their own satisfaction for the satisfaction of others. This may play out in an individual's satisfaction with their friendships, relationships, and life. Furthermore, an inverse curvilinear relationship may exist between agreeableness and social dominance orientation. Extremely high levels of agreeableness may have an inverse curvilinear relationship with social dominance orientation. This suggests that individuals who are more agreeable may score lower on

SDO; however, individuals with extremely high levels of agreeableness may show an uptick in SDO. The thought process here is that the individual is so agreeable that he or she may gain a higher SDO score because he or she may be more likely to agree with others who have high SDO scores.

**Hypothesis 9a:** A curvilinear model will better explain the relationship between agreeableness (as measured by the CBF) and friendship satisfaction than a linear model.

**Hypothesis 9b:** A curvilinear model will better explain the relationship between agreeableness (as measured by the CBF) and relationship satisfaction than a linear model.

**Hypothesis 9c:** A curvilinear model will better explain the relationship between agreeableness (as measured by the CBF) and life satisfaction than a linear model.

**Hypothesis 9d:** A curvilinear model will better explain the relationship between agreeableness (as measured by the CBF) and social dominance orientation than a linear model.

Conscientiousness seems to be positively related to several admirable outcomes. Can a person possess such an extreme amount of this trait that it can cause negative outcomes? This researcher posits that an extremely high-level of conscientiousness may create problems for an individual. Someone who is overly conscientious may see a dip in GPA, attendance, and study hours because they simply do not have enough time to attend to every detail of all of their college classes. These overly detail oriented individuals may have too little time to form meaningful friendships or relationships, which may limit life satisfaction. Similarly, a hyper-detail-oriented individual may have increased levels of anxiety when faced with situations where they may not be able to control all aspects of a project, such as a group project for a college class.

**Hypothesis 10a:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and GPA than a linear model.

**Hypothesis 10b:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and college class attendance than a linear model.

**Hypothesis 10c:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and hours spent studying than a linear model.

**Hypothesis 10d:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and relationship satisfaction than a linear model.

**Hypothesis 10e:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and life satisfaction than a linear model.

**Hypothesis 10f:** A curvilinear model will better explain the relationship between conscientiousness (as measured by the CBF) and trait anxiety than a linear model.

Emotional stability is often considered a beneficial character trait to possess; however, this researcher posits that an individual can have an over-abundance of emotional stability to the point that it can cause minor problems. Someone who is overly emotionally stable may have difficulty relating to or understanding the emotions of others who do not possess the same degree of emotional stability. This may cause problems when interacting with others and could cause problems for friendships and relationships which in turn may limit life satisfaction.

**Hypothesis 11a:** A curvilinear model will better explain the relationship between emotional stability (as measured by the CBF) and friendship satisfaction than a linear model.

**Hypothesis 11b:** A curvilinear model will better explain the relationship between emotional stability (as measured by the CBF) and relationship satisfaction than a linear model.

**Hypothesis 11c:** A curvilinear model will better explain the relationship between emotional stability (as measured by the CBF) and life satisfaction than a linear model.

An individual may also be able to possess too much openness. Someone who is ultra-open may possess higher levels of anxiety because they may be more inclined to commonly take risks. Similarly, an overly open individual may be more sympathetic towards a system or society in which some individuals can control a greater share of the resources than others. This would show in a higher social dominance orientation score.

**Hypothesis 12a:** A curvilinear model will better explain the relationship between openness (as measured by the CBF) and trait anxiety than a linear model.

**Hypothesis 12b:** A curvilinear model will better explain the relationship between openness (as measured by the CBF) and social dominance orientation than a linear model.

No curvilinear relationships are predicted for psychoticism, as measured by the CBF. The relationships between this trait and the criteria measured in this study are more logically presumed to be linear in nature.

**Research Question**

Are individuals faking responses on the CBF? In other words, are the personality scales influenced by social desirability? To test this, I correlated the scales with a short version of the Crowne-Marlow Social Desirability Scale. I worried that adding pathological items will make participants more likely to disagree with those items, especially if the participants are high in need for approval.

## CHAPTER 2

### Method

#### Participants

Participants were 123 students at a Midwest university and were drawn from two different sources. Eighty-seven students (70.73%) signed up for the study as a way of earning class credit while 36 students (29.27%) participated in the study as part of their class; the latter group completed the instruments twice as the test-retest group of the study. Over one month elapsed between the separate administrations of the instruments to this group.

The sample consisted of 90 female (73.17%) and 30 male (24.39%) students; three students did not report their gender (2.44%). The average age of the sample was 20.78 years. The ethnic make-up of the sample was 90 Caucasian students (73.17%), four African American students (3.25%), seven Hispanic students (5.69%), two Native American students (1.62%), 13 Asian students (10.57%) and four students from other ethnicities (3.25%). The sample consisted of 51 freshmen (41.46%), 21 sophomores (17.07%), 32 juniors (26.02%), 14 seniors (11.38%) and one who reported he was not in school (0.81%). Twelve students reported that they had applied for a disability at school or at work (9.75%), 107 students reported they have not applied for a disability at school or at work (86.99%) and four students did not record responses to the question (3.25%).

#### Measures

**Combined Big Fives (CBF).** Participants responded to statements using a 5-point Likert scale to measure personality. The CBF is included in Appendix A. This instrument relates to the theoretical framework described in the literature review. It measures six



different personality traits on continuums (Extraversion-Introversion, Adaptive-Challenging, Focused-Flexible, Resilient-Reactive, Exploring-Preserving, and Psychoticism) designed to measure higher and lower levels of these traits than the Big 5. Since the focus of this research is to assess reliability of the instrument, there is no current reliability or validity information. The items on each scale appear in a particular order. The first three items intend to probe extremely high levels of a trait, the second three items intend to probe extremely low levels of a trait and the final seven items are to capture normal levels of the trait.

**Satisfaction with Life Scale.** Developed by Diener, Emmons, Larsen and Griffin (1985), the Satisfaction with Life Scale was used in its entirety as a criterion for extroversion. This is a five-item self-report inventory containing items that are rated on a scale from one to seven and demonstrating an alpha of .86 (Diener, Emmons, Larsen & Griffin, 1985). Appendix B contains a copy of the instrument.

**Relationship Assessment Scale.** Student scores on this instrument will be collected as a criterion for agreeableness. Dicke and Hendrick developed this scale (1997) to measure an individual's perception of their relationship. The instrument is seven self-report items that are measured with a 5-point Likert scale and has shown alphas ranging from .75 - .87 (Goldman, Mitchell, Engelson, 1997). Appendix C contains a copy of the instrument.

**State Trait Anxiety Inventory.** Student scores on this instrument were collected as a criterion for emotional stability. The STAI was created by Spielberger, Gorsuch and Lushene (1968) and boasts an alpha of .90. Ten self-report items will be taken from the

STAI and used as criteria. This inventory measures an individual's level of anxiety. Appendix D contains a copy of the instrument.

**Social Dominance Orientation.** Student scores on this instrument will be collected as a criterion for openness. This inventory comes from Sidanius and Pratto (1999). Individuals who score high on social dominance are in favor of a hierarchical society where certain individuals simply have more authority than others do. Sidanius and Pratto (1999) report median alphas for two versions of their scales as .79 and .89 and also indicated a high test-test reliability  $r = .81, p < .01$  (p. 68). Appendix E contains a copy of the instrument.

**Social Desirability Scale.** The Crowne-Marlowe (1969) will be used as an identifier as to the honesty with which students replied. This instrument can indicate levels of impression management with which a respondent may be engaging. Ten items will be used from the originally 33-item inventory, which has demonstrated a reliability of .88 using the Kuder-Richardson formula (Crowne & Marlowe, 1969). Respondents can answer each question with either yes, unsure or no. Appendix F contains a copy of the instrument. This instrument may indicate an individual's likelihood of responding in a socially acceptable manner (impression management), which in turn could indicate that they may have a higher probability of being dishonest. This information may generalize onto the other instruments used in this study as individuals who engage in impression management on the Crowne-Marlowe may also engage in impression management on other instruments.

**GPA, SAT/ACT, attendance, and demographics.** Student Grade Point Average (GPA), ACT scores, and attendance are criteria used for the conscientiousness dimension

of the CBF. The researcher attempted to collect SAT scores, but there were only a few participants who had completed the SAT, so SAT scores were not used in the analysis. Each of these criteria are measured via self-report of the participants. Promised confidentiality and the low-stakes nature of these surveys should increase the likelihood of honest responses to these items.

Several demographic questions exist in this section to investigate possible discrimination within the CBF. Some cognitive measures have been shown to have adverse impact. Adverse impact exists in assessments when one or more subgroups do worse on an instrument than the majority. This places a burden on the subgroup that performs worse on the instrument by making them less likely to be selected for the position. Adverse impact is a form of discrimination; it is illegal and businesses can be liable for large sums of money if they are proven guilty. Appendix G contains a copy of the items that collect the information from the GPA, SAT/ACT, attendance and demographics section.

### **Procedure**

Before collecting data, the researcher obtained IRB approval for the study, a copy of the approval is included in Appendix H. Results were collected on five different occasions. Three of these occasions were for participants who were only completing the instrument on one occasion. The other two occasions were the same group of students completing the instruments twice with over a month elapsing between these two occasions. All of these occasions occurred in class room-type settings on the Midwest university's campus.

A researcher covered informed consent in all groups prior to the administration of the instruments. Participant anonymity remained intact and participants were assured of the procedures to ensure confidentiality. Once participants signed the informed consent form, all instruments were distributed to the participants. A copy of the informed consent for this study is included in Appendix H. Participants were informed that they were welcome to leave once they had completed all of the instruments. Participants were then given time to complete all of the instruments with pencil and paper. Once complete, students left the completed instruments at the podium with the researcher and left the room.

The test re-test group was handled slightly different from the groups who only took the instruments once. Participants in this group were assigned numbered versions of the instrument. These numbers corresponded to the student names on a key that was only seen by a researcher. During the re-test phase, the researcher used the key to distribute a second set of numbered instruments. Other than the differences indicated in this paragraph, the procedure followed the same as indicated in the previous paragraph (the groups that were not test re-test).

## CHAPTER 3

### RESULTS

#### Reliability Hypothesis

Table 1 depicts the reliability findings for the seven-item scales of the five dimensions of the Big Five personality measures. These scales did not capture psychopathology. As can be seen, all of the scales had respectable test-retest reliabilities and adequate internal consistencies when compared to Nunnally's benchmark of .70 (1978, p. 245).

However, I hoped to show that my new instrument which added three pathological items to each end of each scale, thus creating a 13-item scale, would retain respectable reliabilities. I also added a psychoticism scale. These results appear in Table 2. All of the test-retest reliabilities were above .80, except for adaptive-challenging, which was .77. However, the internal consistency of two scales fell below .70, adaptive-challenging and exploring-preserving. This is not surprising as I was adding items with new and different content. Furthermore, the statistic for internal consistency, Chronbach's Alpha, may not be the best indicator of reliability. It has been questioned by researchers because it does not relate to the structure of the test, and because it relies on a single administration of a test (Sijtsma, 2008). Chronbach's alpha provides supporting evidence; however, other sources of reliability evidence also exist.

**Table 2 Reliabilities for the Seven Item Scales**

	N of items	Alpha Coefficients	Test- Retest Correlations
Extraversion - Introversion	7	.71	.86
Adaptive - Challenging	7	.71	.84
Focused - Flexible	7	.83	.86
Resilient – Reactive	7	.75	.80
Exploring – Preserving	7	.69	.84

Note: Psychoticism is not listed because it was a 13-item scale.

**Table 3 Reliabilities for the Thirteen Item Scales**

	N of items	Alpha Coefficients	Test Retest Correlations
Extraversion - Introversion	13	.73	.87
Adaptive - Challenging	13	.68	.77
Focused - Flexible	13	.79	.82
Resilient – Reactive	13	.75	.87
Exploring – Preserving	13	.60	.87
Psychoticism	13	.94	.88

### Linear Hypotheses

My second hypothesis dealt with the CBF extraversion-introversion scale and was composed of four parts. As expected, extraversion-introversion was positively related to life satisfaction ( $r(120) = .20, p < .05$ ), positively related to friendship satisfaction ( $r(120) = .21, p < .05$ ), and was negatively related to trait anxiety ( $r(120) = -0.32, p < .01$ ). However, while positively related to relationship satisfaction, it was not significant ( $r(65) = .14, p > .05$ ). Thus there was partial support for the validity of this scale. The reader will notice that there were fewer participants for the relationship satisfaction association because not everyone was in a romantic relationship.

My third hypothesis dealt with the CBF adaptive-challenging scale and was composed of four parts. As expected, adaptive-challenging was positively related to life satisfaction ( $r(120) = .24, p < .01$ ), positively related to relationship satisfaction ( $r(65) = .41, p < .01$ ), positively related to friendship satisfaction ( $r(120) = .31, p < .01$ ) and negatively related to social dominance ( $r(120) = -0.24, p < .05$ ). Thus, there was full support for the validity of this scale.

My fourth hypothesis dealt with the CBF focused-flexible scale and was composed of six parts. As expected, focused-flexible was positively related to GPA ( $r(115) = .28, p < .01$ ), positively related to percentage of classes a student typically attends ( $r(120) = .46, p < .01$ ), positively related to life satisfaction ( $r(120) = .18, p < .05$ ), positively related to relationship satisfaction ( $r(65) = .31, p < .05$ ) and negatively related to trait anxiety ( $r(120) = -0.25, p < .01$ ). Only one hypothesis was not supported. The SBF focused-flexible scale was positively related to hours spent studying per credit hour

( $r(119) = .15, p > .05$ ). Thus, there was considerable support for the criterion-related validity of this scale.

My fifth hypothesis dealt with the CBF resilient-reactive scale and was composed of four parts. As expected, resilient-reactive was positively related to life satisfaction ( $r(120) = .23, p < .01$ ), positively related to friendship satisfaction ( $r(120) = .24, p < .01$ ) and negatively related to trait anxiety ( $r(120) = -0.51, p < .01$ ). The CBF resilient-reactive scale was positively related to relationship satisfaction but the relationship was not significant ( $r(65) = .05, p > .05$ ). Thus, there was partial support for the criterion-related validity of this scale.

My sixth hypothesis dealt with the CBF exploring-preserving scale and was composed of two parts. I expected exploring-preserving to be negatively related to trait anxiety and social dominance. Neither hypothesis was supported. Exploring-preserving had a slight positive relationship with trait anxiety ( $r(120) = .05, p > .05$ ) and a slight positive relationship with social dominance ( $r(120) = .05, p > .05$ ). Thus, there was no support for the criterion-related validity of this scale.

My seventh hypothesis dealt with the CBF psychoticism scale and was composed of five parts. As expected, psychoticism was related to lower levels of life satisfaction ( $r(119) = -0.25, p < .01$ ), lower levels of friendship satisfaction ( $r(119) = -0.27, p < .01$ ), higher levels of trait anxiety ( $r(119) = .37, p < .01$ ) and higher levels of social dominance orientation ( $r(119) = .21, p < .05$ ). While psychoticism was negatively related to relationship satisfaction ( $r(65) = -0.12, p > .05$ ), it was not significant. Thus, there was partial support for the criterion-related validity of this scale.



### **Curvilinear Hypotheses**

A potential advantage of adding the pathological talks to my personality scales was to uncover curvilinear relationships. For example, an extrovert might have more life satisfaction than an introvert, but what about the person who is extroverted to the point that he or she is unable to be alone? That person would have an elevated score on my scale, and he or she might have lower levels of life satisfaction.

My curvilinear hypotheses mirrored my linear hypotheses in that I examined the relationships between my six personality dimensions and the same criteria. However, for the result to support the hypothesis, it must meet two different criteria. The curvilinear model must explain more than the linear model and the result must be significant ( $p < .05$ ). Table 3 outlines the results of the statistical analyses related to the curvilinear hypotheses amongst the variables measured in this experiment. Quadratic regression modeling was used in SPSS to assess the curvilinear relationships of variables.

In the Linear Model column of Table 3, the results of my second hypotheses are repeated. Life satisfaction, friendship satisfaction and trait anxiety were significantly related to extraversion-introversion while relationship satisfaction was not. What I am interested in with my curvilinear hypotheses is whether a curvilinear model is able to explain the results better than a linear model. As Table 3 reveals, the curvilinear model was significant and outperformed the linear model for predicting friendship satisfaction and life satisfaction based on extraversion-introversion. Thus, two out of four parts of my eighth hypothesis met the criteria.

**Table 4 Linear and Curvilinear Regression Figures for the Scales of the CBF**

		Linear Model		Curvilinear Model	
		R <sup>2</sup>	Sig.	R <sup>2</sup>	Sig.
Extraversion - Introversion	Friendship Satisfaction	.05	.02	.10	.002
	Relationship Satisfaction	.02	.25	.03	.42
	Life Satisfaction	.04	.03	.07	.01
	Trait Anxiety	.10	.001	.10	.002
Adaptive - Challenging	Friendship Satisfaction	.10	.001	.11	.001
	Relationship Satisfaction	.17	.001	.17	.003
	Life Satisfaction	.06	.008	.06	.02
	Social Dominance Orientation	.06	.01	.06	.04
Focused - Flexible	College GPA	.08	.01	.08	.01
	College Class Attendance	.21	.001	.25	.001
	Hours Spent Studying	.02	.10	.03	.21
	Relationship Satisfaction	.10	.01	.13	.01
	Life Satisfaction	.03	.05	.04	.11
	Trait Anxiety	.06	.01	.07	.01

**Table 4 Continued**

		Linear Model		Curvilinear Model	
		R <sup>2</sup>	Sig.	R <sup>2</sup>	Sig.
Resilient - Reactive	Friendship Satisfaction	.06	.01	.07	.02
	Relationship Satisfaction	.00	.69	.04	.28
	Life Satisfaction	.06	.01	.06	.04
Exploring - Preserving	Trait Anxiety	.00	.61	.001	.79
	Social Dominance Orientation	.02	.16	.02	.36

My ninth hypothesis also had four parts. The curvilinear model was significant and outperformed the linear model for predicting friendship satisfaction based on adaptive-challenging but only by .01. Thus, only one of four parts of my ninth hypothesis met the criteria.

My tenth hypothesis had six parts. The curvilinear model was significant and outperformed the linear model for predicting class attendance, relationship satisfaction and trait anxiety based on focused-flexible. Thus, only three out of six parts of my tenth hypothesis met the criteria.

My eleventh hypothesis had three parts. The curvilinear model was significant and outperformed the linear model for predicting friendship satisfaction based on resilient-reactive but only by .01. Thus, only one out of three parts of my eleventh hypothesis met the criteria.

My twelfth hypothesis had two parts. The curvilinear model was neither significant nor outperformed the linear model for predicting trait anxiety and social dominance orientation based on exploring-preserving. Thus, none out of two parts of my twelfth hypothesis met the criteria.

In all, only seven out of 19 of my curvilinear hypotheses met my criteria. Furthermore, the curvilinear model did not add much practical explanation. Thus, adding the curvilinear component would seem to be a violation of Occam's Razor.

### **Research Question**

I wondered whether individuals might be faking responses on the CBF in order to make themselves look good, especially those with a high need for approval. To test this, I correlated each scale with the Crowne-Marlow Social Desirability Scale. Table 4 shows

that there was an element of social desirability in the results. With the exception of exploring-preserving, all of the other scales were significantly related to the Crowne-Marlow.

**Table 5 Social Desirability and Personality**

<b>Personality Dimension</b>	<b>Correlation with the Crowne Marlow</b>
Extraversion - Introversion	.23
Adaptive - Challenging	.20
Focused - Flexible	.31
Resilient – Reactive	.33
Exploring – Preserving	.05
Psychoticism	-0.21

## CHAPTER 4

### DISCUSSION

Industrial-organizational psychologists know that two of the best predictors of employee performance are cognitive ability and personality, especially conscientiousness (called focused-flexible in this study). Of the two predictors, cognitive ability is a far better predictor of employee performance than personality (Casco & Aguinis, 2011). However, because cognitive ability and personality are unrelated, they have additive impact in predicting employee performance. If one could improve the ability of personality to predict employee performance, the field of employee selection could leap forward. By adding pathological tails to the Big Five personality dimensions, I hoped to uncover curvilinear relationships between the Big Five personality dimensions and their related criteria that would enhance their ability to predict interesting outcomes. Previous to this research, personality tests of “normal” personality and psychopathology have existed in different tests. The DSM-5 offered a way for me to combine them.

This study aims to further the research of personality testing within meaningful contexts. The present study examined several hypotheses of personality including: the inclusion of psychoticism as a personality trait, extreme trait level questions that probe outer limits of trait continuums and possible curvilinear relationships between personality traits and various criteria.

This study marks the first use of the CBF in a research setting, and results of the study offer mixed support for continued use of the CBF. Several of the findings provided evidence for reliability and criterion-related validity. However, there was not much evidence in support of the conceptualized curvilinear relationships between traits and

criteria. Keep in mind that this experiment represents the first use of this instrument and subsequent enhancements made to the CBF could produce more solid results. For example, the exploring-preserving scale had the lowest internal consistency. This did not surprise me because the DSM-5 reports five dimensions of personality disorders. Detachment connects to introversion, antagonism to being challenging, disinhibition to being flexible, negative affect to being reactive, but nothing connects to openness (exploring-preserving dimension in the CBF). The fifth dimension is psychoticism. Thus, I struggled in creating items that would reasonably connect with being too exploring or too preserving. Obviously, the items that I created pulled down the scale's internal consistency, because they were measuring different constructs. Here are the three items I added for being too exploring: "People have told me that I think about things at school in a really strange way," "I have several habits that other students find eccentric or strange" and "In class, my thoughts often go off in odd or unusual directions." Most of the exploring items have to do with trying new things, for these items have more to do with thinking in unusual ways, not at all the same thing. My research tells me that I need to go back to the drawing board for this scale in particular.

### **Reliability**

When compared to Nunnally's benchmark of .70, the CBF showed reasonable amounts of reliability through the statistical tests used in this research (1978). Results demonstrating adequate reliability for the CBF were a good starting point. However, some of the scales could have used improvement in reliability and adding, subtracting or changing questions of these scales could further lend to the reliability of the CBF. This researcher advocates for refinement of the CBF prior to use in future research. Further



refinement may improve reliability and validity. These improvements may then lead to more compelling results.

### **Validity**

The CBF showed similar correlational strength to typical-trait level items with the various criteria used in this study. The results were mixed as some relationships were stronger for the CBF while others were stronger for the personality items that measure typical-trait levels of personality. Further item analysis may identify the items which have poor correlational strength. This information indicates which items should be removed or altered. Identifying and altering items with poor criterion-related validity may improve the overall validity of the instrument.

One shortcoming of the CBF to be addressed in the future is the method of creating a composite score. In the present study, an arithmetic mean was taken of the responses for each item within each trait for the composite trait score. This method may not adequately represent the extreme-trait items of the CBF. A response of three on an extreme-trait level question may need to be weighted higher to better represent the score. A new study could be conducted that uses different weighting schemes to create a composite score from results of the CBF. The results from these different composite score methods would then be compared to various criteria to see which worked best for the CBF. Tests that use items with various weights may offer great information for building a properly functioning weight system.

To elaborate on this idea, the average scores on a five-point scale for the three too-extraverted items were 1.9, 1.9, and 2.2. The average scores on the seven “normal” items ranged from 2.3 to 3.8. In other words, the participants tended to average near the

middle of the scale for “normal” items because they had an equal number of agree and disagree scores. However, the participants were more likely to disagree with the pathological items, as expected. In other words, the pathological items are qualitatively different from the “normal” items, yet I added them up as if they were qualitatively on equal footing.

### **Curvilinear Relationships**

The present study did not find strong results that supported the existence of curvilinear relationships between traits measured by the CBF and the criteria measured in this study. Many of the times that the curvilinear model explained more variance than the linear model, the  $R^2$  value was only higher by roughly .01 - .03. This finding suggests concern for the idea that the CBF can find curvilinear relationships with meaningful criteria. The fact that the curvilinear model won over the linear model on such few occasions and by so little of a difference, calls to question the utility of a curvilinear model when a simpler linear model does almost as good.

This lack of evidence for curvilinear relationships between the scales of the CBF and the criteria measured in this study may be in part due to how “young” the CBF is. Through refinement, the CBF may do a better job of detecting these relationships. This researcher is not yet ready to abandon the concept of these curvilinear relationships. The existence of these curvilinear relationships is a cornerstone of the theory of the CBF. If the curvilinear relationships do not exist, the measurement of extreme-trait levels serves little purpose other than to provide a higher degree of incremental validity over personality tests that measure typical-trait levels.

## **Limitations**

Because my ultimate goal is to build a personality test that better predicts employee performance, the main limitations of my study was the use of students and student criteria. Many of the participants were freshmen. Subsequently, their criterion scores such as GPA are still in a state of flux (i.e., unreliable). This could have negatively impacted the result.

The use of the CBF in other contexts (e.g., an employment setting) may render interesting results. Various contexts should be explored as the CBF evolves. Along with the various contexts, the use of new criteria may lead to interesting results. Some thoughts for a study conducted in an employment setting may be salary, length of time between promotions, absenteeism, performance ratings and tenure. Because I want to capture pathological aspects of personality, it might be especially useful to collect criterion data on counterproductive work behaviors.

Another limitation of this study has to do with its newness. For example, the exploring-preserving scale needs work. Nonetheless, I believe the CBF is an interesting tool built on several interesting and forward-thinking theories in personality research. With time and resources, enhancements to the instrument may lead to dramatic improvements in reliability and validity. These enhancements may then lead to future discoveries and strong evidence of curvilinear criterion relationships.

Another limitation of the CBF is its self-report nature. It may be influenced by social desirability. Individuals who are taking the CBF may be “faking” good because they feel that it is the more socially desirable way to respond to an item. Beyond faking on the CBF, participants may have also faked on the criterion measures because they felt

they could provide a more socially acceptable answer. All of the criterion measures used in this study were self-report. An individual who feels that it is more socially acceptable to have a higher GPA or possess higher life satisfaction may adjust their answers the way that they might like reality to be. To dig deeper into this possibility, a researcher could correlate scores from the Crowne-Marlow with scores on the various criterion measures. The quality of data in this type of research completely hinges on the participants' willingness to respond openly and honestly to the items.

As mentioned in the literature review, other researchers have battled this dilemma with some creative solutions. One of the more promising solutions is the use report other, having someone who knows the participant well take the CBF thinking about the participant as they complete the instrument. This is an interesting idea and fits with the Johari Window by suggesting that individuals can provide great information about someone other than themselves.

### **Implications and Future Research**

One of the more interesting aspects of the CBF is its attempt to measure levels of psychoticism as a personality characteristic. Psychoticism may more commonly be researched in clinical psychology than in I/O psychology. That being said, the presence of psychotic symptoms leads to negative outcomes for students. This study found a relationship between psychoticism and higher levels of trait anxiety and lower levels of life and relationship satisfaction. Other meaningful relationships may exist that impact the behaviors and interactions between individuals. The present study used students and a college setting; however, psychotic traits most likely affect a broader population of individuals in a broader number of contexts. Past research offers a possible link between

the context of this study and a typical workplace. Lounsbury et. al. (2004) suggest that the work of a student is much like the work that individuals do in an employment setting.

Investigating psychoticism in an employment context is not a completely novel idea. As cited in the literature review, some researchers investigate dark triad traits in the workplace. Psychopathy is one trait of the dark triad, and it is similar to psychoticism that is measured in this study (Guenole, 2014). Both of these words are a general term for mental illness and differentiating the two (if a difference exists) is not of much importance to this researcher; the larger goal is to provide more research in the area of pathology in the workplace.

Measuring traits related to mental illness in the workplace may be met with some resistance. The measure of typical personality traits is common in employment settings; however, these typical characteristics do not include psychoticism. Care must be taken with the measurement of atypical traits of individuals in an employment setting. For the CBF to successfully be used in a selection setting, it must be shown that it does not adversely impact individuals who have disabilities protected by the Americans with Disabilities Act (ADA).

Even with the care needed to avoid legal action, the CBF may offer benefits to an employer. The ability for an employer to identify the presence of counterproductive traits in individuals is a competitive advantage. The behaviors that these organizations would want to avoid can cause many problems, as mentioned in the literature review. This information could be used in two ways. Organizations could identify individuals who may be more likely to have these behaviors and decide not to hire them, or organizations could identify incumbent employees who have these characteristics and make them aware

of resources (e.g., an EAP program). Furthermore, maladaptive traits are currently being studied in the workplace. Perhaps more can be learned from other researchers about how these traits can be probed while avoiding legal concerns (Henning, Wygant & Barnes, 2014).

Based on the results of this study, it seems that the CBF needs some further crafting to establish better evidence of curvilinear relationships. It may be time to go back to the data and look at the individual item reliabilities to identify items in need of modification. Beyond the adjustment of items, the weighting scheme of the CBF has much room to grow into a more sophisticated system. An intuitive weighting scheme that accounts for trait extremes may alter the results of the data obtained for this study. As mentioned above, our composite scores were derived as simple means; a weighted mean would produce different and interesting results.

Also, it would be interesting to replicate the study with an other report instrument. Oh, Wang and Mount (2011) found other reports are better predictors of performance than a self-report assessment of personality. Others give their views on a person's personality from a different perspective. This can uncover information that an individual is blind to, information that is known by others but not known by themselves. This means that the personality an individual projects onto the environment, the personality that others experience, can relate well to meaningful criteria. Perhaps the behaviors that an individual demonstrates are more telling than the thoughts that a person possesses. However, one cannot deny or downplay the power of thoughts and behaviors.

Alternative criterion measures and context are also an interesting path for the future. The CBF was designed with the purpose of being used in an employment setting

which would allow for a new set of criterion measures. In addition, the criterion measures in an employment setting are not all self-report as they were in this study. A few ideas for future criterion measures would be performance evaluation records, absences, number of raises, size of raises, duration of time between raises, number of promotions, number of tardy appearances as well as many others.

Finally, much of this research focuses on the CBF as a selection tool; however, the CBF could also be used as a tool for development. One can learn more about themselves and their tendencies when completing an accurate personality instrument. They can also learn how their tendencies may affect outcomes that are meaningful to them. Furthermore, if reports from others are used, individuals can learn how others feel about them. All of these scenarios can be learning moments for an individual; they can address blind spots and identify areas for growth.

In summary, the CBF needs some further research and refinement; however, the instrument offers interesting new theories and hopefully will make a meaningful addition to research on personality.

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Appendix A  
Combined Big Fives

**Instructions:** On this test, there are statements that may or may not describe you. There are no right or wrong answers. For each item, please circle the number which indicates the degree to which you either agree or disagree that the statement applies to you.

<b>Extraversion-Introversion</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. I'd rather form relationships with students who are bad influences on me than form no relationships.	1	2	3	4	5
<b>2. I crave attention from others in my classes.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. I can't stand having to remain quiet during class lectures and would rather socialize.	1	2	3	4	5
<b>4. I break off working relationships with other students if they start to get close.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. I'm not interested in making friends at school.	1	2	3	4	5
<b>6. I go out of my way to avoid any kind of group activities.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. I am an outgoing and sociable college student.	1	2	3	4	5
<b>8. I am reserved and chose to withhold my thoughts in class.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. I am full of energy when I am with others at school.	1	2	3	4	5
<b>10. In class, I am sometimes shy and inhibited.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. I am talkative in my classes.	1	2	3	4	5
<b>12. I have always been the quiet one in school.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. I generate a lot of enthusiasm about different subjects at school when I talk to other students.	1	2	3	4	5

<b>Adaptive-Challenging</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. When working on a team project, I change what I do depending on what others want.	1	2	3	4	5
<b>2. I usually do what other students think I should do.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. I do what other students tell me to do.	1	2	3	4	5
<b>4. I'm good at conning other students.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. I really don't care if I make other people in my classes suffer.	1	2	3	4	5
<b>6. To be honest, I'm just more important than others in my class.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. I tend to find fault with other students.	1	2	3	4	5
<b>8. I am helpful and unselfish towards others in my classes.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. I start quarrels with others that I am working on projects with.	1	2	3	4	5
<b>10. I have a forgiving nature towards everyone.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. I enjoy cooperating with others in my class.	1	2	3	4	5
<b>12. I am considerate and kind to almost everyone when I am at school.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. I generally trust the opinions of my fellow students.	1	2	3	4	5

<b>Focused-Flexible</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. When working on an assignment that isn't absolutely perfect, it's simply not acceptable.	1	2	3	4	5
<b>2. I get fixated on certain things in class and can't stop.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. I keep trying to make my class projects perfect, even when I've gotten them as good as they're likely to get.	1	2	3	4	5
<b>4. I just skip class if I'm not in the mood.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. I usually do things at school without thinking about what might happen as a result.	1	2	3	4	5
<b>6. I can't focus in class for very long.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. When completing my homework, I do a thorough job	1	2	3	4	5
<b>8. I can be somewhat careless about due dates and often turn in work late.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. When working on team projects, I am someone that the others can depend or rely on.	1	2	3	4	5
<b>10. I forget about my assignments because of disorganization.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. I make plans on when I am going work on specific assignments and then follow through with them	1	2	3	4	5
<b>12. Often, I continue working on a class project until it is finished</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. I tend to work efficiently on school work.	1	2	3	4	5

<b>Resilient-Reactive</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. At school, I do what I want regardless of how unsafe it might be.	1	2	3	4	5
<b>2. Other students would describe me as reckless.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. I do a lot of things in regards to schoolwork that others consider risky.	1	2	3	4	5
<b>4. I worry about almost everything that happens at school.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. My academic life looks pretty bleak to me.	1	2	3	4	5
<b>6. I have much stronger emotional reactions to frustrations at school than almost everyone else.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. I remain calm when I have to give class presentations.	1	2	3	4	5
<b>8. I am relaxed and handle the stress of many assignments, tests and due dates well.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. Simply going to class can make me nervous.	1	2	3	4	5
<b>10. I am not easily upset, even when I get a bad test grade.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. Sometimes school can make me feel depressed, blue.	1	2	3	4	5
<b>12. I am overly worried about many things that are school related.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. I can be tense and reactive around fellow students.	1	2	3	4	5

<b>Exploring-Preserving</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. People have told me that I think about things at school in a really strange way.	1	2	3	4	5
<b>2. I have several habits that other students find eccentric or strange.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. In class, my thoughts often go off in odd or unusual directions.	1	2	3	4	5
<b>4. My fellow students would take advantage of me if they could.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. No subjects at school seem to interest me very much.	1	2	3	4	5
<b>6. I'm always on my guard for instructors trying to trick me.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. I am original and come up with new ideas for papers I am assigned.	1	2	3	4	5
<b>8. I am curious about many different subjects at college.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. I value artistic, aesthetic experiences and go to art exhibits, concert or plays that the college offers.	1	2	3	4	5
<b>10. I prefer routine and predictable classes.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. I take time to reflect on my ideas and play with them in my head after listening to an interesting lecture.	1	2	3	4	5
<b>12. I have an active imagination and come up with great ideas in class.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. I am interested in different artistic expressions (art, music, literature, etc.) that the college offers.	1	2	3	4	5



<b>Psychoticism</b>	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
1. Sometimes I think someone else is removing thoughts from my head.	1	2	3	4	5
<b>2. I have seen things that weren't really there.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. Sometimes I can influence other people just by sending my thoughts to them.	1	2	3	4	5
<b>4. I sometimes have heard things that others couldn't hear.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. I can have trouble telling the difference between dreams and waking life.	1	2	3	4	5
<b>6. Sometimes I get this weird feeling that parts of my body feel like they're dead or not really me.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. I often have ideas that are too unusual to explain to anyone.	1	2	3	4	5
<b>8. I often say things that others find odd or strange.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. I often can't control what I think about.	1	2	3	4	5
<b>10. People have told me that I think about things in a really strange way.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11. People often look at me as if I'd said something really weird.	1	2	3	4	5
<b>12. I often have unusual experiences, such as sensing the presence of someone who isn't actually there.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
13. Sometimes when I look at a familiar object, it's somehow like I'm seeing it for the first time.	1	2	3	4	5

Appendix B  
Satisfaction with Life Scale

**Instructions:** Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is as follows.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neither agree nor disagree

5 = slightly agree

6 = agree

7 = strongly agree

\_\_\_\_\_ 1. In most ways my life is close to ideal.

\_\_\_\_\_ 2. The conditions of my life are excellent.

\_\_\_\_\_ 3. I am satisfied with my life.

\_\_\_\_\_ 4. So far I have gotten the important things I want in life.

\_\_\_\_\_ 5. If I could live my life over, I would change almost nothing.

## Appendix C

## Relationship Assessment Scale

**Instructions:** Circle the answer to each question which best explains your current feelings.

How would you rate the quality of your friendships? (circle one)

Poor   Okay   Good   Great

Are you currently in an intimate romantic relationship? (circle one)

Yes   No

If the answer to the above question was Yes, please answer the following seven questions by circling the appropriate number between 5 (high) and 1 (low). If the answer to the above question was no, please move to the next section.

Low	High				
1. How well does your partner meet your needs?	1	2	3	4	5
<b>2. In general, how satisfied are you with your relationship?</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3. How good is your relationship compared to most?	1	2	3	4	5
<b>4. How often do you wish that you hadn't gotten into this relationship?</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5. To what extent has your relationship met your original expectations?	1	2	3	4	5
<b>6. How much do you love your partner?</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
7. How many problems are there in your relationship?	1	2	3	4	5

Appendix D  
Trait Anxiety Inventory

**Instructions:** A number of statements which people have used to describe themselves are given below. Read each statement and circle the appropriate number to the right of the statement indicating how you generally feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
1. I feel calm	1	2	3	4
<b>2. I feel secure</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. I am tense	1	2	3	4
<b>4. I am regretful</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. I feel at ease	1	2	3	4
<b>6. I feel upset</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. I am presently worrying over possible misfortunes	1	2	3	4
<b>8. I feel rested</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. I feel anxious	1	2	3	4
<b>10. I feel comfortable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

Appendix E  
Social Dominance Orientation



**Instructions:** Listed below are 10 statements. Please indicate the extent to which you either agree or disagree with each statement by circling the appropriate number from 1 (strongly disagree) to 6 (strongly agree).

	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
1. To get ahead in life, it is sometimes necessary to step on others.	1	2	3	4	5	6
<b>2. Some people are just more worthy than others.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
3. This country would be better off if we cared less about how equal all people were.	1	2	3	4	5	6
<b>4. It is okay if some groups have more of a chance in life than others.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
5. It is probably a good thing that certain groups are at the top and other groups are at the bottom.	1	2	3	4	5	6
<b>6. No one group should dominate in society.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
7. Group equality should be our ideal.	1	2	3	4	5	6
<b>8. We should strive to make incomes as equal as possible.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
9. We should do what we can to equalize conditions for different groups.	1	2	3	4	5	6
<b>10. We would have fewer problems if we treated people more equally.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

Appendix F  
Social Desirability Scale

**Instructions:** Please indicate whether each of the following statements either describes you (by circling YES) or does **not** describe you (by circling NO). If you are not sure, circle UNSURE.

1. Before voting I thoroughly investigate the qualifications of all the candidates.	YES	UNSURE	NO
<b>2. I never hesitate to go out of my way to help someone in trouble</b>	YES	UNSURE	NO
3. It is sometimes hard for me to go on with my work, if I am not encouraged.	YES	UNSURE	NO
<b>4. I have never intensely disliked anyone.</b>	YES	UNSURE	NO
5. On occasion I have had doubts about my ability to succeed in life.	YES	UNSURE	NO
<b>6. I sometimes feel resentful when I don't get my way.</b>	YES	UNSURE	NO
7. I am always careful about my manner of dress.	YES	UNSURE	NO
<b>8. My table manners at home are as good as when I eat out in a restaurant.</b>	YES	UNSURE	NO
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.	YES	UNSURE	NO
<b>10. On a few occasions, I have given up doing something because I thought too little of my ability.</b>	YES	UNSURE	NO

## Appendix G

## College GPA, Attendance, and Demographics Questions

**Demographic Information:**

1. What is your age?
2. What race do you most associate with? Caucasian, African American, Hispanic, Native American, Asian American
3. Are you Male or Female?
4. What is your class status? Freshman, Sophomore, Junior, Senior, Graduate Student
5. Have you ever qualified for an accommodation due to disability in a class or at work? Yes/No

**College Performance Information:**

1. What is your current cumulative college Grade Point Average (GPA)? \_\_\_\_\_
2. In a typical week, what percentage of your classes do you attend? \_\_\_\_\_
3. Did you take the ACT? Yes/No
4. If you have taken the ACT, what was your score? \_\_\_\_\_ (if not enter N/A)
5. Did you take the SAT? Yes/No
6. If you have taken the SAT, what was your score? \_\_\_\_\_ (if not enter N/A)
7. How many hours are you taking this semester? \_\_\_\_\_ hours
8. In a typical week, how many hours do you study outside for class? \_\_\_\_\_ hours

Appendix H  
IRB Approval and Informed Consent

**EMPORIA STATE  
UNIVERSITY**  
 GRADUATE SCHOOL AND  
 DISTANCE EDUCATION

Research and Grants Center  
 Campus Box 4003  
 1 Kellogg Circle  
 Emporia, Kansas 66801-5415  
 820-341-0301  
 820-341-5909 fax  
[www.emporia.edu/research](http://www.emporia.edu/research)

February 23, 2016

Ian Schroeder  
 Psychology  
 5132 Bramblewood Dr.  
 Manhattan, KS 66503

Dear Mr. Schroeder:

Your application for approval to use human subjects has been reviewed. I am pleased to inform you that your application was approved and you may begin your research as outlined in your application materials. Please reference the protocol number below when corresponding about this research study.

Title:	Beyond the Big 5: Developing a Personality Inventory that Measures Extreme Levels of Personality Traits
Protocol ID Number:	16049
Type of Review:	Expedited
Time Period:	February 1, 2016 to February 1, 2017

If it is necessary to conduct research with subjects past this expiration date, it will be necessary to submit a request for a time extension. If the time period is longer than one year, you must submit an annual update. If there are any modifications to the original approved protocol, such as changes in survey instruments, changes in procedures, or changes to possible risks to subjects, you must submit a request for approval for modifications. The above requests should be submitted on the form Request for Time Extension, Annual Update, or Modification to Research Protocol. This form is available at [www.emporia.edu/research/irb.html](http://www.emporia.edu/research/irb.html).

Requests for extensions should be submitted at least 30 days before the expiration date. Annual updates should be submitted within 30 days after each 12-month period. Modifications should be submitted as soon as it becomes evident that changes have occurred or will need to be made.

On behalf of the Institutional Review Board, I wish you success with your research project. If I can help you in any way, do not hesitate to contact me.

Sincerely,



Dr. John Barnett  
 Chair, Institutional Review Board

pf

cc: George Yancey

## PARTICIPATION INFORMED CONSENT

Emporia State University Students,

My name is Ian Schroeder and I am a graduate student in the Industrial/Organizational Psychology program at Emporia State University. I am working on my master's thesis and would like to ask you for your time and for your responses to my survey. The survey is in seven different parts and will take approximately 90 minutes. Participation is voluntary and if you chose not to participate, there will be no penalty. Similarly, you may withdraw from the study in the middle of your participation without penalty.

Your responses will be used to identify varying levels of personality characteristics and their relationships with different aspects of life. If you are interested in the results of the study, please contact me at the email address below and I will be happy to send you my findings once they are rendered.

All results will be used solely for research purposes. Results will remain confidential and will not be linked to you in any manner. Data coding strategies will be used in order to ensure confidentiality. If you have any questions or comments, please feel free to email me at the address listed below. Thank you for your help with my thesis.

---

Signature

---

Printed Name

Sincerely,  
Ian Schroeder  
ischroed@g.emporia.edu



I, Ian N. Schroeder, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, digitizing or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author. I also permit the Graduate School at Emporia State University to digitize and place this thesis in the ESU institutional repository.

  
Signature of Author

6/18/2016  
Date

Beyond the Big Five: Developing a Personality Inventory  
that Measures Extreme Levels of personality traits  
Title of Thesis

\_\_\_\_\_  
Signature of Graduate Office Staff Member

\_\_\_\_\_  
Date Received