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# An Analysis of Personality on Legal Substance and Behavioral Addictions

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**AN ANALYSIS OF PERSONALITY ON LEGAL SUBSTANCE AND BEHAVIORAL  
ADDICTIONS.**

A dissertation submitted to  
the Graduate College of  
Marshall University  
In partial fulfillment of  
the requirements for the degree of

Doctor

In

Psychology

by

Elise Stephanie Edwards

Approved by

Dr. Keith Beard, Committee Chairperson

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August 2018

## APPROVAL OF DISSERTATION

We, the faculty supervising the work of Elise Stephanie Edwards, affirm that the dissertation, *An analysis of personality on legal substance and behavioral addictions*, meets the high academic standards for original scholarship and creative work established by the Psy.D Program. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

 Dr. Keith Beard, Department of Psychology	Committee Chairperson	7/2/18 Date
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## ABSTRACT

This dissertation examined the relationship between personality traits and addiction to legal substances and behaviors. Speranza et al. (2012) found that people who were addicted to illegal substances had similar personality traits, such as impulsivity and sensation-seeking. In addition, substance addiction has also been found to have a relationship with negative affect (Davis, Cohen, Davids, & Rabindranath, 2015). This study applied these findings to addictions of legal substances and behaviors. Caffeine and Internet addiction were specifically analyzed due to their common excessive use in this modern world (Marsh, Snell, Allen, & Wakefield, 2001; Karim & Chaudhri, 2012). Participants were selected from students at Marshall University. They were administered the Personality Inventory for *DSM 5* (PID-5)—Adults and a 25 item questionnaire regarding criteria for two addictions written by the author. Based on research by Fossati, Krueger, Markon, Borroni, and Maffei (2013), the personality domains of negative affectivity and disinhibition on the PID-5 mirror the specific traits of impulsivity and sensation-seeking. The hypotheses were that the personality traits identified by Speranza, et.al. (2012) would positively correlate with individuals who meet criteria for caffeine and Internet addictions.

# CHAPTER 1

## INTRODUCTION

Motivations to engage in a behavior are numerous. Sjoerds, Luigjes, Brink, Denys, and Yucel (2014) stated that being reinforced by earning a reward is one of the easiest and quickest ways to motivate people. Reinforcement could be social, such as praise from peers; could be tangible, such as money; or could be internal, such as feelings of happiness. They found that feelings of happiness, pleasure, and relaxation have been the motivation for people to exercise, have sex, spend time with family, and even try out mood changing substances. If the reinforcement or its perceived value diminishes or the consequences become distressing, the theory of motivation would predict a decrease or extinction of the behavior. However, as reported by Sjoerds et al. (2014), there are people who persist in the behavior beyond the elimination of reinforcement. They described how the behavior can become a compulsion that is hard to control and interferes with daily functioning. The compulsion to engage in a behavior with limited control has been labeled an addiction. Despite the behavioral component associated with addiction, this term has historically only been applied to dangerous substances until recently (Kranzler & Li, 2008).

According to Kranzler and Li (2008), the problem with the word addiction is that it has been used with a negative connotation and resulting in individuals with an addiction to be stigmatized. This stigma may be based on others' perception that the addict lacks will-power or control. As an effort to reduce stigma, they reported that the term addiction was replaced in the *Diagnostic and Statistical Manual of Mental Disorders: Third Edition (DSM III)* (APA, 1980) with the term dependence. The American Psychiatric Association (2013) described dependence as "a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual

continues use of the substance despite significant substance-related problems” (p. 93). Kranzler and Li (2008) found that using the term dependence to describe an addiction was problematic because the interpretation of the term has been oversimplified as a physical condition rather than acknowledging its complexity. The term dependence has been divided into two categories: physical and psychological. To understand the complexity of the term, these two categories need to be addressed. Physical dependence can refer to the biological need for a substance to maintain normal functioning while psychological dependence refers to the mindset and compulsion to ingest this substance for its desired effects (Andreassen et al., 2013). Psychological dependence refers to both the cognitive factors, such as the obsessive thoughts about the substance, and the behavioral factors, such as the efforts to obtain the substance (Kranzler & Li, 2008). Eysenck (1997) argues that the concept of addiction goes beyond dependence and includes both an interference with normal behavior and the deterioration of one’s overall functioning. Wakefield (2015) described how there was a distinction between substance dependence and substance abuse in revised fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, emphasizing that substance abuse implied problematic use that caused impairment without causing dependence. He asserted that the *DSM 5*, the newest version of the *Diagnostic and Statistical Manual of Mental Disorders*, has combined the substance dependence disorder and substance abuse disorders into substance use disorders in an effort to include substance users who do not meet criteria for dependence but have problematic use. According to APA (2013), the criteria for most of the substance use disorders include cravings, using more than intended, failed attempts to decrease use, significant amount of time using, problems in academic and occupational functioning, problems in social functioning, giving up other enjoyable activities in order to use, increased engagement in risky activities due to use, continued use despite negative

physical or mental health consequences, requiring increased amounts of substance to obtain desired effect, and experiencing withdrawal symptoms. This manual described how the presence of two to three symptoms classifies as a mild severity, the presence of four to five symptoms classifies as a moderate severity, and the presence of six or more classifies as severe. Due to the detrimental consequences associated with both substance dependence and substance abuse, it is important to understand how an addiction can develop and be maintained.

### **Addiction Models**

There are several different models to address the etiology and development of addiction, these include the biological, psychological, and personality models. The biological model addresses the biological mechanics and genetics involved in the initiation and maintenance of addiction (Eysenck, 1997). Currently, the biological model conceptualizes addiction as a “brain disease” (p.58) that is developed through specific biochemical processes (Clark, 2011). Swann (2012) asserted that there could be disturbances in parts of the brain responsible for regulating the reward system, motivation, and physiological arousal that lead an individual to be more susceptible to addiction. Herman and Roberto (2015) reported how even mild to moderate dosages of substances, like cocaine and alcohol, can change the brain’s reward system, such as how dopamine is used and its “salience of pleasurable stimuli” (p.2). As a result, an individual with disturbances in the reward system might increase the frequency of the substance use to physically feel that sensation, which they may not be able to receive from other activities (Herman & Roberto, 2015). Specifically, Clark (2011) reported that abusing a variety of drugs causes an influx of all types of neurotransmitters, such as dopamine and serotonin (Betz, Mihalic, Pinto, & Raffa, 2000), and lead the body to adapt by reducing its production of these same neurotransmitters. Clark (2011) discussed how the reduction of neurotransmitters then

leads to a person needing a larger dose of the drugs to achieve the same effect as the previous use. She reported that this process, called neuroadaptation, compels a person to abuse the drugs just to feel normal and have at least a moderate level of neurotransmitters.

Duncan (2012) and other researchers also have argued that genes can underlie the development of an addiction. He reported that there is no single gene responsible for the development of a drug addiction, but that there are multiple genes that have been linked to vulnerability to addiction, such as influencing the neurochemistry of the brain. The genetic component is evident in the studies of twins, where 40-60% of the vulnerability can be explained by genes, influencing even the specific drugs used and the amount used in a certain amount of time (Uhl, 2006). While the biological model of addiction has supportive evidence, it does not account for environmental and psychological factors (Clark, 2011).

The psychological model of addiction focuses on the individual's personal experience with their drug of choice and what motivating factors contribute to the addiction (Saleebey, 1985). There are several different motivations for initiating drug use, but the maintaining factors can all be explained by the behavioral principle of operant conditioning, where behaviors are strengthened or reduced based on salient outcomes (Kornor & Nordvik, 2007). Saleebey (1985) emphasizes that the addict seeks out the drug to fill a void, such as a "missing piece of the self" (p. 19). Clark (2011) describes how mood changes can elicit people to seek out substances that could alleviate the affective problems. For example, if after the drug is used, the mood is elevated, then the drug use behavior is positively reinforced and is expected to increase as described by operant conditioning. Unfortunately, many individuals begin to use drugs as their only coping mechanism for emotional problems (Kienast, Stoffers, Bempohl, & Lieb, 2014). Eventually, Clark (2011) reported that as the improvement of affect starts to decline the

reinforcing value of using the drug also declines and the person becomes more motivated to use the drugs in order to decrease worsening affect and withdrawal symptoms. Thus, the drug use behavior becomes negatively reinforced. She said these individuals do not achieve the same significant positive affect and now need the drug to experience a normal affect and reduce the significant negative affect that is a result of when the drugs are no longer present in their body. Because the motivation has changed to simply reduce negative effects, the drug use behavior is now strengthened through the operant conditioning principle of negative reinforcement.

Generally, Clark (2011) said that the negative consequences of stopping the drug use are more immediate, salient, and aversive to the individual than the negative long-term consequences of continuing the drug use, such as continued deterioration of social and physical functioning and the increased probability of early death. Through this shift in motivation from positive reinforcement, or seeking pleasure, to negative reinforcement, or avoiding pain/discomfort, one's initial substance use can increase in frequency and persist, resulting in an addiction (Clark, 2011).

Akhondzadeh, Shabrang, Rezaei and Rezaei (2014) found that others may initiate substance use for improving social interactions and elevating self-esteem. With the use of substances like alcohol or ecstasy, it has been found that people tend to become more outgoing and confident, which helps them have fun with other people. Another motivation is suggested by Sutton (1987) and theorizes that drug users are not subject to a loss of control; rather, they over-value the perceived benefits of their use and minimize the probability of specific negative consequences. In other words, he stated that drug users may incorrectly evaluate or even ignore the possibility of negative outcomes. Regarding any theory that falls under the psychological

model, Saleebey (1985) asserted that the biological nature of addictions, such as alcoholism, are not effectively addressed.

Another problem with the psychological model involves the inability to clearly explain how two people seeking the same substance for similar reasons might lead only one to become addicted while the other one is able to stop the drug use when needed (Sadava, 1978). Sadava (1978) asserted that individual differences in the development of addiction could be explained by personality. Within the personality model, there are six theories about the relationship between personality and pathological behaviors, such as addiction (Kotov, Gamez, Schmidt, & Watson, 2010). One theory called the vulnerability theory attempts to look at several consistent personality traits that predispose one to addiction, rather than just the presence of transient states like low mood (Eysenck, 1997). More specifically, an individual developed maladaptive personality traits before the initiation of addiction (Sutker & Allain, 1988). Kotov et al. (2010) elaborated on other theories, such as the patholasty theory, which asserts that specific personality characteristics only affect the development and intensity of the addiction once it develops, but do not directly influence the initiation of addiction.

However, there is difficulty in identifying the timeline between personality traits and addiction. Kotov et al. (2010) explained one theory that changes the order of personality and addiction development is the common cause theory, which suggests that personality and problematic behaviors, such as drug use, develop at the same time and share similar “genetic vulnerabilities” (p. 770). They also describe another theory called the spectrum theory, which asserts that personality and addiction could be “different manifestations of the same process” (p. 770). Some researchers have suggested that even if the research shows common personality traits in addicts, there could be speculation that the drug use precipitated and lead to the development

of these personality traits (Clark, 2011). This idea that drug use and other negative behaviors permanently change one's personality is referred to as the scar theory (Kotov et al., 2010). According to Ledrich and Ghana (2013), this theory has not been supported by evidence as much as other models, such as the vulnerability model. Another theory that focuses on substance use and personality change is the complication theory, which stipulates that substance use only temporarily changes personality traits until the behavior is eliminated or the addiction is treated (Kotov et al., 2010). Ledrich and Ghana (2013) emphasized that all the models could be accurate in certain circumstances. Clark, Watson, and Mineka (1994) focused on the complexity of personality and how that would provide support for the multifaceted interaction between personality and psychopathology. Moreover, they asserted that "different personality traits could predispose one to disorder, influence symptomatology and course, and in turn be affected by the experience of the illness" (p. 103).

Feist and Feist (2009) described how many personality theorists would speculate that personality traits develop in childhood and adolescence as a result of the interaction between genes and the environment. They stated that these traits become stable and more permanent once an individual becomes an adult. There are a significant number of specific traits that could describe an individual's personality, but many traits can be grouped into more general personality characteristics (Kotov et al., 2010). Specific personality traits that have been linked to addiction are impulsivity and sensation-seeking (Speranza et al., 2012) while general personality characteristics or dimensions, such as neuroticism and disinhibition, have been linked to addiction (Kotov et al., 2010). The problem with this model is that the research is inconsistent and sometimes in conflict on whether there are personality traits that underlie all addictions (Sukter & Allain, 1988). Further research has highlighted the possibility that certain personality



traits can predict addiction to specific substances; identifying a specific trait may underlie the etiology of addiction to a certain drug (Grekin, Sher, & Wood, 2006). Another problem with the model is that studies on personality often use cross-sectional methods, which would not be able to determine the order of personality development and addiction development (Sher, Bartholow, & Wood, 2000). In any case, the mixed findings warrant more research on the personality theory behind addiction.

### **Substance Addictions**

According to Wakefield (2015), the long-term occurrence of compulsive substance use is an astonishing 30% to 40%, which includes individuals with substance addictions and individuals who have negative consequences due to use. Historically, an “addict” was dependent upon illicit substances, such as heroin or cocaine (Andreassen et al., 2013). Substances like cocaine immediately flood the brain with specific neurotransmitters, such as dopamine, to give the user a mental “high” (Lambert, McLeod, & Schenk, 2006). Typically, the substance is snorted or injected in order to feel the effect faster and experience a more intense high, which is dangerous and leads to a higher chance of addiction (Lambert et al., 2006).

Ling, Mooney, and Hillhouse (2011) reported the prevalence of addiction with other classes of drugs, such as prescription opioids. They describe how the frequency of doctor’s prescribing painkillers for chronic pain conditions have contributed to the rise of this “legal” drug. Similarly, Carroll, Alston, Marsal, and Harris (2014) have reported on the rise of addiction to synthetic drugs, which are currently legal. They described how the drugs are manufactured to mimic the effects of illegal drugs like cocaine; however, these synthetic drugs are available to purchase at public places, such as gas stations. These authors detailed how these drugs are able to be sold legally by advertising the product for other uses, such as bath salts, while putting a

warning on the product to dissuade human consumption. Carroll et al. (2014) also reported that the federal government has tried to ban these specific substances, but manufacturers can keep these substances legal by making simple and frequent changes in the molecular chemistry. Unfortunately, the authors noted these legal substances have also been associated with high rates of automobile accidents, self-harm, suicides, and homicides, comparable to the consequences associated with illicit drug use.

Andreassen et al. (2013) asserted that addiction is not just associated with legally banned or hardcore substances. Along with other researchers, they emphasize that there are various types of substances that have the potential for addiction but are more available to the general public and accepted by society even when compulsively ingested, such as alcohol and, in some states, Cannabis. Alcohol and Cannabis Use Disorders are two of the common disorders associated with substance addiction in the United States (Hodgins, Kim, & Stea, 2017). In addition to alcohol and cannabis, numerous studies have applied the word addiction to other substances and even behaviors (Greenberg, Lewis, & Dodd, 1999; Andreassen et al., 2013). Greenberg et al. (1999) focused their research on more widely available substances, such as caffeine, chocolate, and nicotine. Their results suggested that the abuse of these substances could be classified as an addiction, especially when one individual abuses more than one. While other researchers were focused on addiction to substances, Andreassen et al. (2013) investigated the possibility of behaviors being addictive. They discussed the compulsive nature that certain people exhibit when exercising, using the Internet, playing with a mobile phone, shopping, and working at a job.

## **Behavioral Addictions**

Many people who are addicted to substances have also reported similar compulsions related to other problematic behaviors. Cooper, Wood, Orcutt, and Albino (2003) described the associations between substance use, rule-breaking behavior, and problematic sexual activity. Grant, Schreiber, and Odlaug (2013) report the prevalence of these kinds of behaviors, such as compulsive sexual behavior, which has been found in 2%- 6% of the population. Other compulsive behaviors that often lead to rule-breaking are pathological gambling, which they reported to be found in 0.4% to 1.6% of the population. They reported that 5.8% of the population in the United States engages in compulsive buying and 1.0% to 4.6% of the population engages in binge eating.

While researchers and mental health professionals have been reluctant to identify certain repetitive behaviors as addiction, studies have shown common factors between substance addiction and compulsive behaviors (Grant, Schreiber, & Odlaug, 2013). The similarities are the lack of control, craving or impulse, tolerance, and constantly returning to the addiction after attempts to quit (Karim & Chaudhri, 2012). In addition, substance and nonsubstance addictions are related to obsessive thinking about the behavior, intense mood elevation, the interference with daily life, and the negative consequences of not engaging in the behavior (Andreassen et al., 2013). Negative consequences could include sleep disturbances, obesity, health problems, and even suicide (Thege, Woodin, Hodgins, & Williams, 2015).

There are even neurochemical similarities in those with substance addiction and those with behavioral addictions. Baskerville and Douglas (2010) reported that dopamine and serotonin have influenced behavioral addiction. They discussed how behaviors can disrupt the brain's reward system, comparable to the dysfunction in a substance user.

There have been similarities in motives with people who engage in substance use and certain compulsive behaviors. For example, many individuals have engaged in alcohol abuse in order to reduce a negative emotion; similarly, numerous individuals who engage in risky sexual encounters do so to escape from negative emotions (Cooper et al., 2003). In comparison to substance use, certain behaviors can cause the release of reward neurotransmitters, which have been a part of the underlying biological component of behavioral addictions (Clark, 2014; Thege, Colman et al., 2015). Grant and Chamberlain (2014) conducted a study that showed individuals may initiate the compulsive behavior for some reward or positive feeling, but eventually cannot achieve the same positive rewards after a substantial amount of time in the behavior; yet, they documented that most of these individuals continue to compulsively engage in the behavior due to lack of control (Grant & Chamberlain, 2014). In contrast, Thege, Woodin et al. (2015) claimed that people may not engage in compulsive behaviors throughout their life, noting the varying rates of the behavior's prevalence. They did speculate that the "episodic nature" of the behavioral addictions could be related to the individuals exchanging one compulsive behavior for another.

Due to the related factors, many addicts will exchange substance addictions for certain behavior addictions or vice versa as noted in the research by Grant et al. (2013). Hodgins et al. (2017) reviewed the concerns that certain individuals will seek treatment for one substance addiction and subsequently increase their compulsive use of another substance addiction or behavioral addiction. Treatment for substance addictions and behavioral addictions can be identical. Because of the studies that confirm the addictive nature of certain behaviors, the authors of the *DSM 5* moved the diagnosis of pathological gambling from the impulse control category to the substance-related and addictive disorders category, making it the first recognized

behavioral addiction (Andreassen et al., 2013). According to Thege, Colman et al. (2015), other compulsive behaviors may be listed under the potential for addiction category in the future, such as shopping, Internet use, and sexual behavior. There are still compulsive behaviors, such as Kleptomania and Pyromania, listed in the Impulse Control Disorder category and one listed under the Feeding and Eating Disorders, Binge Eating Disorder (APA, 2013). While the classification of behaviors as addictions has been progressing slowly, in the future several of these disorders might also be moved to the Substance-related and Addictive Disorders category (Andreassen et al., 2013).

When Thege, Colman et al. (2015) compared the perception of substance addictions versus behavioral addictions, there was a distinct difference in the general population's conceptualization. They found that many people who were engaging in an addictive behavior, such as gambling, were considered "liable" for their addiction while people who were ingesting an addictive substance were seen as victims of the addiction, even when research has started to highlight the similarities in the neurochemical influence between behavioral and substance addictions (Baskerville & Douglas, 2010). Thege, Colman et al. (2015) speculated that a reason for the more negative viewpoint of a behavioral addiction is an avoidance tactic due to discomfort and possible implications from admitting that behaviors can become as out of control as much as substance use. Furthermore, they proposed that the perception or stigma associated with compulsive behaviors may deter people from treatment and lead to more crime even more than those addicted to a substance like heroin.

Due to the prevalence and detrimental nature of both substance and behavioral addictions, the aim of this study was to investigate the addictive qualities of more accepted and accessible substances and behaviors (Marsh et al., 2001). The addictive qualities of caffeine were

examined. Additionally, the study looked at a behavioral addiction involving compulsive Internet use.

### **Caffeine Abuse**

According to Marsh et al. (2001), caffeine has been one of the most prominent stimulant drugs used by a large majority of Americans. They attributed this popularity due to it being one of only a few stimulant drugs that is legal and so widely available. In addition, they conducted a study among college students and found that caffeine was commonly abused at similar levels to alcohol.

According to the research of Marsh et al. (2001), this stimulant drug works biologically by increasing activation of the central nervous system and the cardiovascular system, leading to quicker responses from the neurons and faster pumping of the heart. The authors also reported that it increases the rate of digestion and filtration of liquid through the kidneys, acting as a mild laxative and diuretic. Despite its popularity, availability, and positive effects, it has been considered potentially harmful and addictive. (Marsh et al., 2001).

The majority of people use caffeine because there are many positive effects (Lara, 2010). Caffeine is used to reduce fatigue, promote alertness, and strengthen one's focus (Franke, Lieb & Hildt, 2012). Specifically, in moderate amounts, caffeine can aid in processing new stimuli quicker, encoding and retrieving memories more efficiently, increasing one's attention span, and generally improving executive functioning (Lara, 2010). Caffeine can also have a positive effect on mood. Lara (2010) reported that small amounts of caffeine have been linked to lower anxiety and improved mood. Moreover, she referenced studies that discovered the drug, in moderate amounts, was related to lower risk of suicide in individuals. Caffeine can also help with pain management. When added with over the counter pain medicine, Goldstein (2001) reported that

caffeine can reduce inflammation. In fact, caffeine along with aspirin is the most popular treatment for severe symptoms from migraines (Goldstein, 2001).

Caffeine can be found in a multitude of food and beverages, with the most concentrated amounts attributed to coffee, energy drinks, and soda (Jackson et al., 2013). Due to its popularity in drinks, manufacturers have developed over the counter pills that contain high levels of caffeine (Goldstein, 2001). However, Goldstein (2001) found that individuals preferred beverages that contain caffeine over pills because of the pleasant taste of the beverage.

Coffee is a popular beverage that has demonstrated the addictive qualities of caffeine. According to one study, 78% of Americans drink coffee daily (Franke et al., 2012). In fact, Marsh et al. (2001) found that most individuals drink between three and five cups of coffee, which translates into 200mg-300mg of caffeine. Although there is no recommended dosage of caffeine, doctors have usually advised that 200mg should be the limit for daily use for adults with a daily maximum of 100mg for adolescents (Jackson et al., 2013). Yet, out of ten people that drink coffee regularly, one of them drinks 500 mg or more daily (Marsh et al., 2001).

Another prevalent beverage that contains caffeine is energy drinks. Jackson et al. (2013) reported that energy drinks can vary in their caffeine levels from 50mg to 500mg. Because people choose energy drinks for their concentrated caffeine, the authors asserted that most individuals prefer these drinks with caffeine levels closer to 300mg-400mg. In addition to caffeine, they reported that energy drinks tend to have other active ingredients and are therefore classified as a dietary supplement. Unfortunately, dietary supplements are not as strictly regulated with caffeine amounts as beverages, which allows for the likelihood of substantial consumption of caffeine and possible harmful effects (Jackson et al., 2013). In fact, Kristjansson, Mann, Sigfusdottir, and James (2015) reported that there is a new trend of drinking energy drinks

and alcohol together, leading to products that combine the two beverages. They conducted a study that found mixing energy drinks with alcohol was correlated with binge drinking and risky drinking, which required emergency room visits. Benson and Scholey (2014) discussed the concerns that the caffeine in energy drinks can decrease “subjective intoxication” and lead to an increase in alcohol consumption to increase the feelings of being drunk. Their research found that caffeine did decrease alcohol-related symptoms, such as dry mouth, muscle weakness, and problems with motor coordination.

There is research about the effects of caffeine with other drugs. Franklin, Wearne, Homewood, and Cornish (2017) reported that ingesting caffeine prior to stimulant drug use, such as cocaine, can intensify the hyperactive effects of the drug.

Carbonated beverages also contain caffeine, but in smaller doses than energy drinks and coffee, averaging about 50 milligrams per serving (Jackson et al., 2013). According to the article “Energy drinks becoming a problem in schools” (2008), caffeinated beverage and energy drink advertisements are targeted toward children and adolescents. Despite the recommendations that children and adolescents limit their caffeine intake to 100 milligrams, multiple caffeinated beverages and energy drinks are readily consumed in one day despite the potential harmful consequences (“Energy drinks becoming a problem in schools,” 2008).

Lara (2010) reported that there are problems associated with even mild to moderate doses of caffeine depending on the individual. This author explained that some individuals have a low tolerance for caffeine and can experience negative effects, such as anxiety, insomnia, and agitation in doses as low as 50-100 milligrams. Marsh et al. (2001) found that side effects with regular or high dose consumption may include problems with central nervous system functioning, such as difficulty sleeping, panic attacks, headaches, muscle aches or twitching, and



irritability. Other side effects include gastrointestinal problems, such as upset stomach and diarrhea (Marsh et al., 2001).

Rockett and Putnam (2002) discovered that regular caffeine consumption in women can be associated with problems getting pregnant, high chance of miscarriage, and a higher risk of the fetus dying from SIDS. In adolescence, regular consumption of caffeine has been linked to depression, drug use, higher stress levels, and overall poor health (Rockett & Putnam, 2002).

If caffeine is consumed too rapidly or more than 1 gram, then a person can experience caffeine intoxication as discussed in Marsh et al. (2001). The possible resulting symptoms are heart palpitations, increased blood sugar, trouble breathing, dehydration, and sensory hallucinations. Lara (2010) found that caffeine can even induce a manic state or a psychotic state with people who are genetically predisposed towards those psychiatric problems. If a person consumed 5 or more grams of caffeine, he or she could even develop seizures, slip into a coma, and die from respiratory failure (Marsh et al. 2001)

This drug has been associated with several diagnoses in the *DSM-IV*, including caffeine-induced sleep disorder, caffeine induced anxiety disorder, and caffeine intoxication (Rockett & Putnam, 2002). In the updated scientific driven *DSM 5*, a diagnosis of caffeine withdrawal was added as well as moving caffeine-induced disorders under categories related to the symptoms (APA, 2013). While caffeine addiction may not be listed as a diagnosis in the *DSM 5* (APA, 2013), many of the factors related to physical addiction are associated with the drug.

Satel (2006) has shown that caffeine can produce tolerance and withdrawal like most addictions. Ingesting a fixed amount of caffeine can lead the body to habituate to the drug or stop producing the desired effects, such as alertness. To acquire these same effects as the original level produced at the beginning of caffeine consumption, a person would have to increase intake

of caffeine (Sattel, 2006). As with other addictions, the sudden termination of caffeine consumption can lead to undesirable effects known as withdrawal. There are assumptions that withdrawal would only occur in people who consume large doses of caffeine. However, there has been research proposed by Marsh et al. (2001) showing evidence of withdrawal symptoms in participants who regularly ingested only 100-200 mg of caffeine. Many who experience caffeine withdrawal symptoms will report having headaches, muscle tension, fatigue, grogginess, and a general feeling of being ill (Marsh et al., 2001). However, the symptoms from withdrawal have been significantly varied and hard to predict in most people. Others have suggested that other factors may be involved with these symptoms and not solely related to caffeine withdrawal (Sattel, 2006).

### **Internet Abuse**

Another compulsive behavior that has been linked to substance use disorders is Internet use. According to Cheng and Yee-lam Li (2014), over one third of the people in the world use the Internet, including over five sixths of the people in the US. Lu et al. (2017) described how the Internet “allows for the rapid search of information, facilitates sharing of information, and offers a whole new way of communication between people from all over the world” (p. 434). Appropriate Internet use has had favorable effects with individuals, increasing access to resources, increasing cognitive skills, and increasing socialization (Liu, Fang, Deng, & Zhang, 2012).

However, there are many whose Internet use could be described as compulsive and excessive. Hardie (2007) reported that one out of every eight Americans have engaged in excessive Internet use. Lu et al. (2017) asserted that college students tend to be more likely to engage in excessive Internet use, reporting that they spend “six times the amount of time spent

on Internet” (p. 434) than other groups. Liu, Fang, Deng, and Zhang (2012) added that adolescents are another group that often compulsively use the Internet, reporting a prevalence rate of pathological use in 8% to 11% of adolescents. Gunuc (2015) emphasized that this excessive use, in any group, is related to the extreme accessibility of the Internet with the development of smart phones and tablets, increasing the access to the Internet in every environment.

Internet use can become a problem and even a disorder when the compulsive need to be on the Internet interferes with work, social interactions, and daily functioning (Hardie, 2007). A study has shown that symptoms of abuse or addiction in Internet use were more prevalent than a gambling disorder, which is the only behavioral disorder listed under addictions in the *DSM 5* (Cheng & Yee-lam Li, 2014). An Internet Gaming Disorder is currently listed in a category in the *DSM 5* for further research, which focuses on the specific gaming content of the Internet (Van Rooij & Prause, 2014). Yellowlees and Marks (2007) reported that some researchers perceive the specific material, in addition to gaming, on the Internet addictive. For example, the authors referenced specific addictions to sex through the use of pornography or shopping through the use of online websites. However, other researchers such as Van Rooij and Prause (2014) are advocating for a general Internet use disorder. They argue that this disorder would include compulsive behaviors linked to Internet gaming, social media, cell phone applications, and any other Internet activity.

What researchers can agree on is that an Internet addiction can lead to harmful consequences. Saliceti (2015) reported that individuals who are addicted to the Internet may stop receiving satisfaction from human contact and develop an “online loneliness syndrome” (p

1373). He discussed how Internet addiction can cause people to develop a false sense of power and experience mood swings, which can be experienced by both men and women.

Unlike what the general public might expect, Weinstein, Dorani, Elhadif, Bukovza, and Yarmulnik (2015) determined that there were no gender differences in Internet addiction when social media, gaming, and cell phone applications are all included. Also, they noticed that there was no discrepancy in the number of people who use the Internet for social media versus people who use the Internet for gaming (Weinstein et al., 2015).

While compulsive Internet use might not seem like an actual disorder, there has been evidence of interference with daily functioning according to Cheng and Yee-lam Li (2014). These authors have demonstrated that compulsive Internet use has been associated with neural atrophies, impaired cognitive functioning, relationship problems, and emotional problems. Despite these negative consequences, people still persist with the behavior. Overall, people with this behavior have reported poor life satisfaction (Cheng & Yee-lam Li, 2014). In fact, Lehenbauer-Baum and Fohringer (2015) asserted that individuals addicted to the Internet have developed poor self-control, impaired risk evaluation, lack of adaptive abilities in different environments, and real life disengagement. These traits have also been present in individuals who become addicted to heroin, cocaine, alcohol, and other drugs (Lehenbauer-Baum & Fohringer, 2015).

When Van Rooij and Prause (2014) investigated compulsive Internet use, they found several components related to a substance use disorder. When Internet use becomes pathological, individuals experience a preoccupation with the behavior, a tolerance to the behavior, withdrawal symptoms, mood changes, interpersonal conflict, a lack of control, and relapse (Van Rooij & Prause, 2014).

There are also many disorders and problems that have been found to co-occur with problematic Internet use. Wang, Ho, Chan, and Tse (2015) discovered associations between Internet use and “anxiety, depression, insomnia, deteriorating family and peer relations” (p.32). Because of the unlimited access and emotional instability, adolescents are heavily at risk for developing this problem (Wang et al., 2015). Depression, anxiety, and sometimes ADHD, have been prevalent in people who become addicted to the Internet; however, there is evidence that compulsive Internet behavior can produce anxiety, inattentiveness, and depressive symptoms as well (Ho et al., 2014); so, it would be difficult to distinguish between the two disorders in terms of causality.

More specifically, social anxiety has been found in many cases of Internet addiction according to Weinstein et al. (2015). They asserted that many individuals who have become addicted to the Internet have reported feeling uncomfortable around other people, socializing with other people, and a preoccupation with negative evaluation. As a consequence, this anxiety may lead people to use the Internet as an escape from the anxiety or as a way to interact with people without face-to-face communication (Weinstein et al., 2015). Overall, there have been a variety of harmful consequences of compulsive Internet use.

### **Personality and Addiction**

Whether an individual experiences a behavioral addiction or substance addiction, there is an interest in identifying the factors influencing the development of addiction. As previously stated, the personality theory is a prominent model for explaining the etiology of addictions (Kotov et. al, 2010). In order to thoroughly describe this theory, it is important to understand the research and development of the concept of personality.

According to Feist and Feist (2009), personality can be viewed as a consistent and enduring “pattern of behavior” (p. 4). The Trait and Factor Theory discussed in Feist and Feist (2009) hypothesizes that personality can be composed of distinct and measurable traits that mix to formulate different “patterns of behavior” (p.4). Furthermore, specific traits can be grouped into more general characteristics or dimensions (Kotov et al., 2010). A few researchers have viewed a certain pattern of personality traits as a potential precedent for the development of addiction (Sutker & Allain, 1988).

### **Personality Dimensions**

Because personality traits refer to a pattern of behavior and are not absolute, measuring them in individuals can be complicated. Feist and Feist (2009) wrote about the development of trait theory with Eysenck’s theory that personality is composed of three distinct dimensions, which are Extraversion, Neuroticism, and Psychoticism. These authors also described other personality researchers, who expanded on these three personality dimensions. They wrote about McCrae and Costa’s Five-Factor Model, where individuals could be measured higher or lower on these dimensions. Feist and Feist (2009) stated that the theory has five distinct traits: Extraversion, Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. The authors detailed how Neuroticism is used to describe people in terms of experiencing negative affect, Extraversion describes social behavior, Openness describes receptiveness to novelty experiences, Agreeableness describes social interactions, and Conscientiousness describes self-control. Many of the other models of personality traits can be related back to one or more of the five dominant traits.

When analyzing personality traits, many researchers have examined the possibility of a simple “addictive disorder” that can manifest into different substance and behavioral addictions

(Speranza et al., 2012). There have been substantial efforts made in finding out what personality traits may be associated with addictions (Sutker & Allain, 1988). Swann (2012) states that an underlying “behavioral construct” or set of personality traits (p. 888) could be responsible for the development of different addictions.

Much of the research about personality and substance abuse has concentrated on alcohol; however, many of these results have generalized to drug addiction and have led to studies specifically focused on illicit drug use (McGue, Slutske, & Iacono, 1999). The most stable personality dimensions associated with drug addiction are high Neuroticism, low Conscientiousness, and low Agreeableness (Flory, Lynam, Milich, Leukefeld, & Clayton, 2002). One study by Sher et al. (2000) describe a positive relationship between substance abuse and Neuroticism. Higher scores on the scale of neuroticism indicate that an individual tends to fluctuate between negative emotions, such as anxiety, anger, and sadness (Flory et al., 2002). This association appears to be supported by other researchers. The study by Akhondzadeh et al. (2014) identified high Neuroticism as a common factor between different groups of addicts. Livingston, Oost, Heck, and Cochran (2015) described how much of the research on personality and addiction has demonstrated that the low Conscientiousness has been found in a significant number of individuals with drug addictions. Individuals who score low on Conscientiousness often are labelled as “unreliable, irresponsible, disinhibited, and impulsive.” (Flory et al., 2002). Kotov et al. (2010) confirmed that low Agreeableness is connected to substance use and addiction. Individuals who obtain lower scores on Agreeableness often are described as “aggressive, selfish, not trusting, uncooperative, and cold and distant in their interpersonal interactions.” (Flory et al., 2002, p. 426). The research on Openness to Experience and

Extraversion with substance addiction is more mixed, inconsistent, and tends to demonstrate a weak relationship (Kotov et al., 2010).

### **Personality and Specific Substances**

While there has been research demonstrating a few personality traits between addicted individuals, other studies, such as one by Grekin et al. (2006), have observed that different personality traits related to the Big 5 can predict addiction with distinct substances and behaviors. They discovered traits on the big five personality measure such as high Extraversion and low Openness to Experience were associated with alcoholism. Another study, where the Big Three was used to measure personality, also found a positive relationship between Extraversion and alcoholism, but did not measure for Openness to Experience (Sher et al., 2000). Grekin et al. (2006) explored personality dimensions associated with tobacco use, finding that higher scores on the Openness to Experience were able to predict an addiction to tobacco. In alignment with other studies, lower scores on Conscientiousness were associated with illegal drug addiction, such as cocaine (Grekin et al., 2006). Blachnio, Przepiorka, Senol-Durak, Durak, and Sherstyuk (2017) found that addiction to the Internet was related to high Neuroticism, low Conscientiousness, and low Extraversion. Kuss, Griffiths, and Binder (2013) confirmed these traits' association with Internet addiction and added that low Agreeableness was also a variable in the development of this behavioral addiction. Wang et al. (2015) also found that addiction to the Internet is associated with low Openness to Experience while they contradicted Blachnio et al.'s (2017) study and found that high Extraversion was associated with Internet addition, not low Extraversion. However, they made distinctions in traits between using the Internet for social media versus gaming. A gaming addiction has not been associated with high Neuroticism or high



Extraversion while a social networking addiction has not been associated with low Conscientiousness (Wang et al., 2015).

### **Specific Personality Traits**

Other studies have evaluated personality with other measures and with more specific personality traits instead of the general five characteristics. One study found that impulsivity and sensation-seeking are the only two traits that tend to consistently be present in people with addictions (Speranza et al., 2012; Sher et al., 2000). Cooper et al. (2003) explained that the trait of impulsivity is the “tendency to give into urge or impulses, or desires, and to respond to stimuli impetuously, without reflection or planning” (p. 392) while sensation seeking refers to “stable individual differences in preferences for varied, novel, and complex sensations and experiences” (p. 392).

A study by Cooper et. al (2003) reported that negative emotions and avoidance coping styles in addition to impulsivity and sensation-seeking acted as a general predictor of a range of problem behaviors, including substance abuse. They found that coping through avoidance was connected to the initiation of substance use. They asserted that “individuals who experience frequent or intense negative emotions are more likely to rely on avoidant coping mechanisms that alter emotions directly and operate quickly” (p. 392).

Another finding is that addicted individuals, such as alcoholics, have been described as risk taking and aggressive in addition to sensation seeking (Berglund et al., 2011). Cooper et al. (2003) described how risk taking is the tendency to engage in behavior with short-term rewards while ignoring or accepting the potential serious long-term consequences. They also explained how an individual who is sensation-seeking has a higher probability of engaging in risk taking, which may be a result of a sensation-seeker being “more sensitive to reward than punishment

cues” (p.392). Similarly, Romer (2010) emphasized how impulsivity and risk-taking are interconnected, explaining that impulsivity is a trait found in children as young as three years old and how that trait can lead them to engage in more risky behavior as adolescents.

A study by Zaaier et al. (2014) completed research on personality traits of individuals with an addiction, individuals who have only experimented with drugs and did not become addicted, and individuals who have never tried any illegal substances. The authors found that individuals who never used drugs showed a higher sensitivity to social disapproval. Compared to this group, individuals who sporadically tried drugs but did not become addicted were shown to have a stronger drive to seek new experiences and take more risks. The third group of individuals, who had an addiction, were observed with immature personality traits, having a low amount of goal orientation and ability to work with others (Zaaier et al., 2014).

New studies, such as one conducted by Lyvers et al. (2014) are starting to provide evidence that low intrapersonal intelligence might also be a trait associated with substance abuse. They proposed that the lack of knowledge and control over their emotions may lead them to use substances as ways to cope with problematic emotions. Other traits have been linked to addicted individuals, but the studies have too much variability as ascertained in a meta-analysis by Sutker and Allain (1988). With the variety of reasons for abusing substances and the many different kinds of substances abused, the conclusion is that it is unlikely that all addicts will have similar personality traits (Sutker & Allain, 1988). However, there is a possibility that individuals who are addicted to the same substance or behavior may have similar personality traits (Grekin et al., 2006).

Another set of specific personality traits that has been associated with addicted individuals is negative affect and anxiousness (Davis, Cohen, Davids, & Rabindranath, 2015). In

relation to specific addictions, Wang et al. (2015) discussed how anxiety, depressed mood, and inattention are associated with the addiction to the Internet. Other researchers emphasized that poor self-esteem, isolation, and timidity have been associated with individuals who compulsively use the Internet (Blachnio et al, 2017). Jones and Lejuez (2005) studied compulsive caffeine use and dependence, finding impulsivity, sensation-seeking, and extroversion to be personality predictors of this addiction. They also emphasized that risk-taking did not have any relationship to caffeine addiction, which is plausible due to this drug's legality and acceptance of heavy use.

### **Personality Disorders**

While many studies have evaluated personality with both positive and negative personality traits, there are fewer studies using personality models strictly focused on psychopathological personality traits. Some have focused on substance use and personality disorders from the *DSM*. Malow, West, Williams and Sutker (1989) reported that antisocial and borderline personality disorders are associated with both cocaine users and opioid users. Among cocaine users, they found that antisocial personality was the most prevalent personality disorder with users having less negative affectivity than opioid users, which they attributed to cocaine attracting sensation-seeking individuals who experiment with drugs instead of individuals who become addicted. Both individuals with antisocial personality disorder and borderline personality disorder could be described as impulsive and emotionally dysregulated, which is consistent with the research on these types of traits (Albein-Urios, Martinez-Gonzalez, Lozano-Rojas, & Verdejo-Garcia, 2014)

One personality model that focuses on psychopathology is similar to Big Five, which is described in an article by Porter and Risler (2014). They reported how the newest *Diagnostic and Statistical Manual (DSM 5)* developed a new model for conceptualizing personality disorders,

which is assessed by five specific traits. These authors note that these five traits are assessed on a continuum, meaning that a low or high score on the trait has significance, and most of the traits can be correlated with the five factor personality traits. While the *DSM 5* did not apply the changes to the personality disorder section from this new model, the authors described how more research in assessing these five personality traits are important in empirically supporting the model. Bach, Markon, Simonsen, and Krueger (2015) focused their research on the clinical utility of these personality traits rather than simply the model. They explained how the five personality traits are Negative Affectivity, Disinhibition, Antagonism, Detachment, and Psychoticism, which can be broken up into more specific descriptors, such as impulsivity, deceitfulness, and intimacy avoidance. Their study demonstrated that this personality model was reliable and effective in describing personality patterns that were meaningful and related to the personality disorders. In addition, they discussed how this personality model emphasizes the psychopathology of personality, which is needed in analyzing what specific negative traits are linked to addiction in this present study. They argued that this model needs more research to confirm its utility. For this study, this model of personality traits will be utilized. However, the research on addiction and personality traits has utilized the five-factor model. The results from previous research on the five-factor personality traits related to addiction will be used to predict what specific traits from the *DSM 5* personality model might be present in individuals with an addiction.

The type of personality inventory that will be utilized in this study is the Personality Inventory for *DSM-5*, which is based on five traits that focus on pathology. Fossati et al. (2013) demonstrated the strong relationship between the five factor scale of neuroticism and the PID-5's scale of Negative Affectivity. Other five factor scales showed an inverse correlation with the

PID-5 domains; for example, Agreeableness was inversely related to Antagonism and Conscientiousness was inversely correlated with Disinhibition, meaning that a low score conscientious and agreeableness should indicate a high level of antagonism and disinhibition (Fossati et al., 2013). Gore and Widiger (2013) found that openness to experience was inversely correlated with psychoticism. Each domain is described in the *DSM 5*: Negative Affectivity is described as “frequent and intense experiences of high levels of a wide range of negative emotions;” Detachment is described as “avoidance of socioemotional experience, including both withdrawal from interpersonal interactions...and restricted affective experience and expression;” Antagonism is described as “behaviors that put the individual at odds with other people..., encompassing both an unawareness of others’ needs and feelings;” Disinhibition is described as an “orientation toward immediate gratification, leading to an impulsive behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences;” and Psychoticism is described as “exhibiting a wide range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions (APA, 2013, p. 779-780).

In addition to the five domains that correlated with the five factor personality inventory, the PID-5 also creates 25 secondary scales that are related to the domains. These scales could attribute more specific pathological traits to people who have elevations on the five domains, such as attention seeking vs risk taking or anhedonia vs withdrawal (Fossati et al., 2013). Bach et al. (2015) highlighted the pathological traits relationship to the five personality domains. They described how Negative Affectivity is comprised of the personality traits of Emotional lability, Anxiousness, and Separation insecurity; Detachment is derived from the personality traits of Withdrawal, Intimacy Avoidance, and Anhedonia; Antagonism is calculated based on the personality traits of Manipulativeness, Deceitfulness, and Grandiosity; Disinhibition consists of

the personality traits of Irresponsibility, Impulsivity, and Distractibility; and Psychoticism is based on the personality traits of Unusual Beliefs and Experiences, Eccentricity, and Perceptual Dysregulation. They identified that other specific personality traits can contribute to the five personality domains, but the three mentioned in the previous sentence are the strongest predictors and utilized in the calculation of the PID-5. Based on these similarities between the certain personality traits on the five-factor model and the *DSM 5* model, the previous research can be used to predict what *DSM 5* personality traits will be present in addicted individuals.

### **Present Study**

The aim of this study is to distinguish personality traits among individuals addicted to substances and behaviors. Many of the addictions studied have focused on illegal drugs. This study aims to look at more available and legal substances and behaviors that are relatively inexpensive and socially acceptable. These addictions might be more prevalent because of the availability and wide use of these substances and behaviors, which is not true of opioids, amphetamines, or cocaine.

The theories have shown that certain personality traits are related to individuals with addictions (Flory et al., 2002). Based on other studies' findings related to personality traits and addictions, specific personality traits from a different personality inventory will be used to evaluate the relationship between personality and addiction.

As stated in the review of literature, individuals who are addicted to substances or behaviors have been described as sensation seeking, risk taking, and impulsive (Berglund et al., 2011) and often score low on the Conscientiousness dimension on the Big 5 (Flory et al., 2002). Because of the inverse relationship between Conscientiousness and Disinhibition from the PID-5, an individual who struggles with addiction would be expected to score high on Disinhibition

(Fossati et al., 2013). One hypothesis is that there will be a relationship between the compulsive caffeine use and scores on the personality domain of Disinhibition.

Also, previously stated above, the specific personality traits of anxiety, depression, and inattention (Wang et al., 2015) as well as high score on Neuroticism are associated with the addiction to the Internet (Blachnio et al., 2017). Because of the strong positive relationship found between Neuroticism and Negative Affectivity from the PID-5, an addicted individual would be expected to score high on the Negative Affectivity dimension (Fossati et al., 2013). Another hypothesis is that there will be a relationship between compulsive Internet use and scores on the personality domain of Negative Affectivity.

## CHAPTER 2

### METHODS

#### Participants

A total of 65 individuals participated in the study. The participants were a group of individuals who were 18 or older, most being in the 18 to 22 age range due to the college setting. The participants consisted of both male and female individuals. Most of the individuals were Caucasian; however, a small portion of the participants were diverse in ethnicity and race. Ten and seven-tenths percent of the participants were African American. Six percent of the individuals were Asian while 6% of the individuals were also Hispanic. Three percent of the individuals were Native American and 1% was Biracial. The participants were recruited from general psychology classes at Marshall University, where they were given extra credit in those classes for participating in the study. More than 65 individuals signed up for the study, but a significant portion of the participants did not arrive to complete the measures.

#### Measures

A 25-question scale developed by the author was used to assess demographic information and criteria for a legal substance and behavioral addiction (See Appendix B). The demographic information included age, sex, race, hometown, and education level. The legal substance addiction measured is caffeine. The questions were based on the criteria for Caffeine Withdrawal in the *Diagnostic and Statistical Manual of Mental Disorders Fifth Edition* (APA, 2013). According to the *DSM 5*, five or more symptoms endorsed would qualify the person for Caffeine Withdrawal, formerly known as Caffeine Dependence (APA, 2013). The behavioral addiction measured is Internet use. The questions about Internet addiction were based on general criteria for a behavioral addiction, such as gambling disorder, because of the absence of an Internet



addiction diagnosis. Based on similar criteria (APA, 2013), four or more symptoms related to the Internet addiction category would qualify a person for a “compulsion.” While the Internet Gaming Disorder is listed under the category for more research, this term is not an official diagnosis and therefore can only be described as a compulsion.

The Personality Inventory for *DSM 5-Adult* (PID-5) is a self-report questionnaire based on the Big 5 trait theory and modified down into smaller scales (Suzuki, Samuel, Pahlen, & Krueger, 2015). The questionnaire is composed of 220 items with a Likert response style and produces five distinct domains named Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism (Fossati, Krueger, Markon, Borroni, & Maffei, 2013). In addition, those domains can yield 25 secondary scales. According to Fossati et al. (2013), the PID-5 has demonstrated internal consistency using an item analysis method. According to Bach, Maples-Keller, Bo, and Simonsen (2016), the PID-5 has good external reliability and discriminant validity. Specifically, they reported that this measure was able to distinguish between participants in the community against psychiatric participants. The questionnaire is available free on the APA website under Online Assessment Materials. It is included in Appendix C.

### **Procedure**

The participants were recruited from Marshall University psychology classes who would like to receive extra credit. They signed up for this experiment on a website called SONA, which allowed the student to schedule a time and date to participate in this study. They were administered the PID-5 and 25 question scale under the researcher’s supervision. Before the questionnaires were administered, they were provided an informed consent document, detailing what the purpose of this study was and the potential risks. They all agreed to participate in the

study after being informed of its purpose. When they had completed the two measures, they were given a handout for local resources to utilize in case these questionnaires elicited any significant negative emotions.

## CHAPTER 3

### RESULTS

This study utilized correlations and regressions to analyze the data and determine the relationship between these personality dimensions and the compulsive caffeine and Internet use. According to Pallant (2010), the Pearson product-moment correlation coefficient is the most common correlation coefficient utilized for interval data. Any significant correlations were evaluated according to general guidelines that correlation coefficients from .10 to .29 demonstrate a small relationship, .30 to .49 demonstrate a medium relationship while correlation coefficients from .5 to 1 demonstrate a large relationship (Pallant, 2010). All correlations were analyzed with an alpha of .01 unless otherwise specified.

Regressions were utilized to obtain a more “sophisticated exploration” of the connection between the variables, focusing on using the relationship to predict future variables (Pallant, 2010). Only the statistically significant correlations were analyzed by a regression.

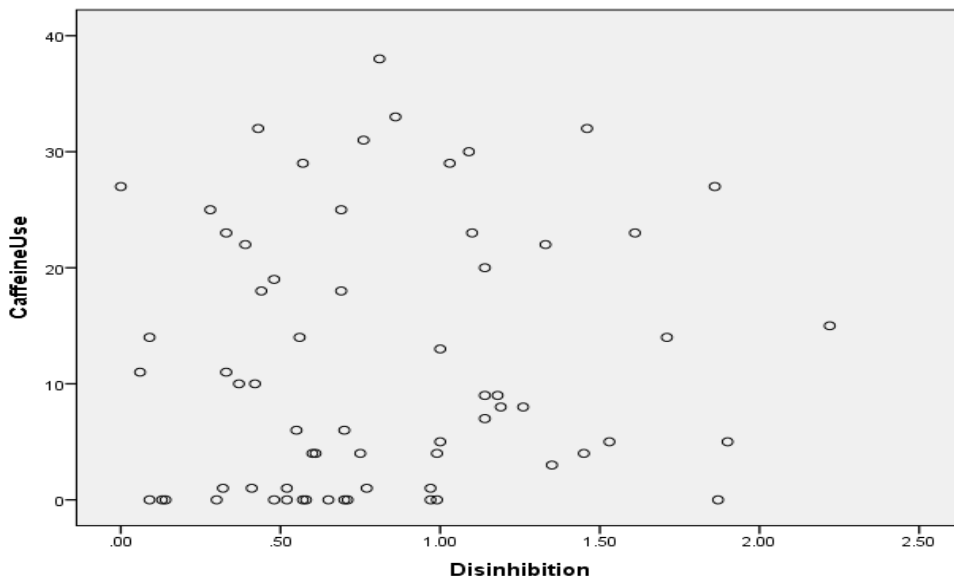
#### **Correlation of Caffeine Use and Personality**

A scatterplot was created to check for any violations of the assumptions for a correlation and allows for good understanding of the relationship between the two variables (Pallant, 2010). Table 1 shows the extremely varied nature of the data, suggesting that there is not a pattern or significant relationship between the two variables. As expected from the scatterplot, there was no significant relationship between compulsive caffeine use and scores on the Disinhibition dimension,  $r = .139$ ,  $p = .271$ . This result is contrary to what other researchers have found (Jones & Lejuez, 2005). To further understand the data, the caffeine use data was analyzed with the other personality dimensions. There was no significant relationship between compulsive caffeine use and scores on the Negative Affectivity dimension,  $r = .047$ ,  $p = .71$ . There was no significant

relationship between compulsive caffeine use and scores on the Detachment dimension,  $r = -.007$ ,  $p = .953$ . There was no significant relationship between compulsive caffeine use and scores on the Psychoticism dimension,  $r = .06$ ,  $p = .636$ . There was no significant relationship between compulsive caffeine use and scores on the Antagonism dimension,  $r = -.128$ ,  $p = .308$ , which showed a weak inverse relationship between the two factors. The relationship between caffeine use and two of the specific personality traits calculated from the PID-5 were analyzed. Inconsistent with the research, there was no significant relationship between caffeine use and the personality trait of impulsivity,  $r = .092$ ,  $p = .466$ . Also, there was no significant relationship between caffeine use and the personality trait of risk taking,  $r = -.02$ ,  $p = .875$ . This result was expected due to the legal, acceptable, and widely available nature of caffeine (Marsh et al., 2001) in addition to the minimal risk compared to illegal drugs associated with caffeine (Jones & Lejuez, 2005).

**Table 1. Scatterplot Graph of Scores on Caffeine Use and Disinhibition**

This table depicts the relationship between the scores on the Caffeine Use scale from the 25 Item Questionnaire and the scores on the Disinhibition dimension of the Personality Inventory for the DSM 5 (PID-5). There does not appear to be a clear pattern, demonstrating a weak relationship between these factors.

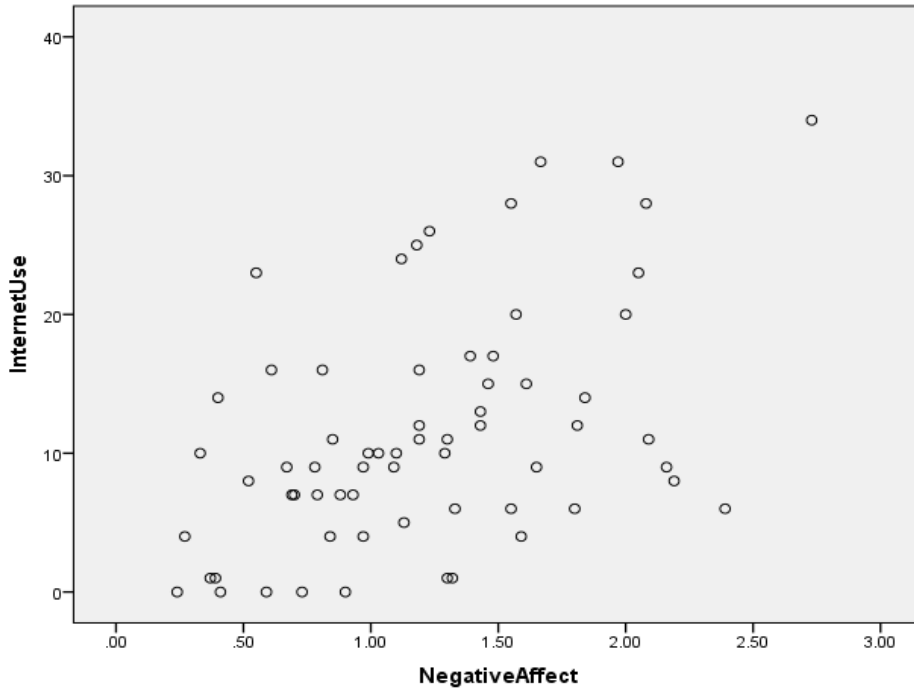


## **Correlation of Internet Use and Personality**

A scatterplot was created to check for any violations of the assumptions and to have a broad idea of the relationship (Pallant, 2010). Table 2 shows this scatterplot, which shows a generally positive relationship. There was a positive significant relationship between compulsive Internet use and scores on the Negative Affectivity dimension,  $r = .441$ ,  $p < .01$ , which was of a medium strength. This result indicated that higher scores on Internet use were associated with higher scores on Negative Affectivity. While Caffeine use was not related to the Disinhibition, there was a positive, medium-strength relationship between compulsive Internet use and scores on the Disinhibition dimension,  $r = .447$ ,  $p < .01$ , indicating that higher scores on Internet use were associated with higher scores on Disinhibition. In addition to this dimension, two other dimensions demonstrated a significant positive relationship with Internet use. There was a positive, medium-strength significant relationship between compulsive Internet use and scores on the Psychoticism dimension,  $r = .413$ ,  $p < .01$ , indicating that higher scores on Internet use were associated with higher scores on Psychoticism. There was a positive, small significant relationship between compulsive Internet use and scores on the Detachment dimension,  $r = .256$ ,  $p < .05$ , indicating that higher scores on Internet use were associated with higher scores on Detachment; however, this result is only significant at the alpha .05 level and therefore does not indicate a relationship as strong as the previous ones. There was not a significant relationship between Internet use and Antagonism,  $r = .047$ ,  $p = .710$ . The relationship between Internet use and two specific personality traits were also evaluated. Unexpectedly, there was not a significant relationship between Internet use and the specific personality trait impulsivity,  $r = .236$ ,  $p = .058$ . There was not a significant relationship between Internet use and the specific personality trait of risk taking,  $r = .039$ ,  $p = .756$ .

**Table 2: Scatterplot Graph of Scores on Internet Use and Negative Affectivity**

This table depicts the relationship between the scores on the Internet Use scale from the 25 Item Questionnaire and the scores on the Negative Affectivity dimension of the Personality Inventory for the DSM 5 (PID-5). The graph suggests that there is a positive relationship between these factors.



**Regression with Internet Use**

A simple linear regression was calculated to predict Internet use by scores on Negative Affectivity. A significant regression equation was found ( $F(1, 63) = 18.624, p < .01$ ), with an  $R^2$  of .228. A simple linear regression was calculated to predict Internet use by scores on Disinhibition. A significant regression equation was found ( $F(1, 63) = 13.666, p < .01$ ), with an  $R^2$  of .178. A simple linear regression was calculated to predict Internet use by scores on Psychoticism. A significant regression equation was found ( $F(1, 63) = 8.362, p < .01$ ), with an  $R^2$  of .117. A simple linear regression was calculated to predict Internet use by scores on Detachment. A significant regression equation was found ( $F(1, 63) = 6.691, p < .05$ ), with an  $R^2$  of .096. All of the significant correlations and regression coefficients are listed in Table 3.

**Table 3: Correlation Coefficients and Regressions**

This table details all the correlation coefficients between caffeine and Internet use and the five domains and two personality traits from the PID-5. The table denotes which relationships and predictors are significant.

<b>Two variables</b>	<b>Correlation Coefficient</b>	<b>R<sup>2</sup></b>	<b>Significant?</b>
<i>Caffeine Use and Disinhibition</i>	.096	N/A	No
<i>Caffeine Use and Negative Affectivity</i>	.047	N/A	No
<i>Caffeine Use and Detachment</i>	.026	N/A	No
<i>Caffeine Use and Antagonism</i>	-.180	N/A	No
<i>Caffeine Use and Psychoticism</i>	-.017	N/A	No
<i>Caffeine Use and Impulsivity</i>	.092	N/A	No
<i>Caffeine Use and Risk Taking</i>	-.020	N/A	No
<i>Internet Use and Disinhibition</i>	.422	.178	Yes, at .01 level
<i>Internet Use and Negative Affectivity</i>	.478	.228	Yes, at .01 level
<i>Internet Use and Detachment</i>	.310	.096	Yes, at .05 level
<i>Internet Use and Antagonism</i>	.047	N/A	No
<i>Internet Use and Psychoticism</i>	.342	.342	Yes, at .01 level
<i>Internet Use and Impulsivity</i>	.236	N/A	No
<i>Internet Use and Risk Taking</i>	.039	N/A	No

## CHAPTER 4

### DISCUSSION

The goal of this study was to evaluate the nature of the relationship between personality traits associated with addiction and compulsive use of caffeine and Internet use, legal addictions. This study provided important results that both confirmed and contradicted prior literature. First, caffeine use was not related to any of the five personality domains or the two personality traits, impulsivity and risk taking. Prior research by Jones and Lejuez (2005) emphasized the positive relationship between caffeine dependence and impulsivity and sensation seeking, which are two of the most common specific traits found in individuals addicted to illicit substances. The lack of significant relationship between compulsive caffeine use and Disinhibition, which is comprised of impulsivity, as well as the specific trait of impulsivity was unexpected. One explanation could be that because almost 80% of the population in the United States drinks coffee every day, the most popular drink with caffeine (Franke et al., 2012), there is a high likelihood that people with a diverse number of personality traits compulsively ingest this substance, which would prevent one specific trait or dimension having an exclusive positive relationship with this use. Another explanation could be that the socially accepted nature of compulsive caffeine use and widely available forms of caffeine (Marsh et al., 2001) could allow for a variety of people with diverse personality traits to engage in this behavior. Because impulsivity refers to succumbing to urges without analyzing consequences (Cooper et al., 2003), the lack of consequences would allow others to engage in compulsive use. Furthermore, a variety of individuals may plan for their caffeine use, by engaging in a routine of drinking coffee in the morning or an energy drink at lunch, which is not associated with the trait of impulsivity, a trait that emphasizes a lack of planning (Cooper et al., 2003).



Second, compulsive Internet use was associated with higher scores on Negative Affectivity, Disinhibition, Psychoticism, and Detachment. In addition, these personality traits were significant in predicting scores on Internet use. Prior research had highlighted the positive relationship between Internet addiction and high Neuroticism and low Conscientiousness from the Big 5 (Blachnio et al., 2017). With the positive relationship between Neuroticism and Negative affectivity and inverse relationship between Conscientiousness and Disinhibition (Fossati et al., 2013), it was expected that higher compulsive use of the Internet was related to higher scores on Negative Affectivity and Disinhibition. While there is not research on the scale of Detachment and Internet abuse, the description of this domain highlights the relationship. Part of the Detachment domain underscored that individuals who score high often “withdrawal from interpersonal interactions.” (APA, 2013). While there is a portion of the Internet used for social exchange, excessive Internet use is associated with impairment, such as life disengagement (Lehenbauer-Baum and Fohringer, 2015), isolation, and loneliness (Blachnio et al, 2017).

The finding that was unexpected was the significant relationship between compulsive Internet use and Psychoticism. Markey and Markey (2010) conceptualized psychoticism (as a trait, not as the dimension on the PID-5) as antisocial behavior in their study on violent video games and described the relationship between psychoticism and low Conscientiousness, low Agreeableness, and high Neuroticism. Furthermore, Wang et al. (2015) described how individuals who engage in compulsive Internet score low on the Openness to Experience, and Gore and Widiger (2013) highlighted the strong inverse relationship between Openness to Experience and Psychoticism. One explanation could be that the dimension of Psychoticism is related to scores on the other dimensions and would lead to the significant relationship. This explanation was supported by the finding of multicollinearity between the five domains with the

exception of Detachment and Negative Affectivity, meaning that significant positive relationships were found between most of the domains with the largest relationship between Disinhibition and Psychoticism. Another explanation could be that a portion of the compulsive Internet users are using substances as well or other rule-breaking behavior, which would be mildly supported by the research on the comorbidity of substance and behavioral addictions (Grant et al., 2013). Also, the significant relationship might be related to the content of the Psychoticism scale on the PID-5. There were many questions involving uncontrollable thoughts, memory problems, and feeling disconnected (APA, 2013). These symptoms could also be interpreted as anxiety symptoms. Anxiety, especially social anxiety, has been correlated with compulsive Internet use, which highlights the problems with social interaction, such as problems interpreting nonverbal cues (De Leo & Wolfert, 2013). The higher scores on Psychoticism could reflect these types of anxiety symptoms.

### **Limitations**

While this study yielded significant results, these results must be interpreted with extreme caution due to the many limitations of the study. One of the biggest limitations of this study was the low number of participants due to no shows and the time constraints of the study. The lower the number of participants, the lower the power and the lower the probability of generalizing the sample to a population (Hinkle, Wiersma, & Jurs, 2003). While some of the findings were consistent with the literature, others were not consistent, which elicits the possibility that those results were unique to this sample and not necessarily a representation of every U.S. citizen or even every college student. Another limitation was the specificity of the participants, where they all were college students who chose to take a general psychology class and chose to participate in a study for extra credit. In addition to the narrow age range of this group, these factors may

highlight the similarities in personality of these individuals and not reflect a diversity in factors, such as personality, or socioeconomic status.

A third limitation of this study was the cross-sectional nature. Sher et al. (2000) described how personality could change over time and how “different personality correlates” (p. 827) could be present in older individuals. A fourth limitation is the self-report method of collecting data on individuals, which are prone to biases (Sher et al., 2000). Other limitations include the third variables and lack of causality in correlational research. Because this study utilized correlations and regressions, there is a high likelihood of other variables confounding the results and that the results cannot determine whether personality traits are risk factors to addiction to substances and behaviors or personality traits are consequences of addiction (Sher et al., 2000).

### **Future Directions**

Adams, Heath, Young, Hewitt, Corley, and Stallings (2003) explained that evaluating the factors that contribute to addiction, such as personality traits, are very useful in potential treatment interventions. Personality traits could be used to identify individuals at risk for addiction and implement strategies to prevent this outcome. Expanding on this research might also highlight the possible progression of legal addictions, such as caffeine and Internet, to illegal addiction, such as heroin and cocaine. If there is a progression, then targeting interventions at individuals addicted to caffeine, Internet, or other legal substances or behaviors could be useful in preventing the development of that addiction. Overall, expanding on this type of research can aid in a better understanding of addiction and the similarities and dissimilarities between substance and behavioral addictions.

Although further understanding the nature of addiction is important, there are possible negative implications. Because of the inclusion of Pathological Gambling into the Substance-

Related and Addictive Disorders (APA, 2013), there is speculation that more behavioral compulsions could be listed as addictions. With this inclusion and the changes in the *DSM 5* to characterize several classes of disorders on a spectrum rather than the previous categorical distinction (Wakefield, 2015), there may be a tendency in the future to over pathologize, classifying previously normal behaviors as pathological. As the research progresses, it is important for professionals in the field of psychology to be cautious about being too quick to identify more substances and behaviors as addiction. Instead, the context of the current culture should be taken into account with the increasing accessibility of Internet, the generational gravitation towards instant pleasure, and the unrealistic demand in productivity. When interpreting excessive Internet and caffeine use in that context, the goal of treatment may shift in focus from treating an individual to changing these problems on a more cultural level.

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## APPENDIX A

### Office of Research Integrity Approval Letter



**Office of Research Integrity**  
Institutional Review Board  
One John Marshall Drive  
Huntington, WV 25755

FWA 00002704

IRB1 #00002205  
IRB2 #00003206

October 5, 2016

Keith Beard, PsyD  
Psychology Department

RE: IRBNet ID# 952455-1

**At:** Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Beard:

**Protocol Title:** [952455-1] An Analysis of Personality on Legal Substance and Behavioral Addictions

**Expiration Date:** October 5, 2017

**Site Location:** MU

**Submission Type:** New Project APPROVED

**Review Type:** Exempt Review

In accordance with 45CFR46.101(b)(2), the above study and informed consent were granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee for the period of 12 months. The approval will expire October 5, 2017. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Elise Edwards.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, ThD, CIP at 304-696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

**APPENDIX B**

**25 Item Questionnaire**

*Age* \_\_\_\_\_ *Ethnicity/Race* \_\_\_\_\_ *Sex* \_\_\_\_\_

*Hometown* \_\_\_\_\_ *Highest Level of Education* \_\_\_\_\_

**Directions:** Read each statement and answer based on how you felt in the past year.

<b><u>Statement</u></b>	<b><u>Strongly Agree</u></b>	<b><u>Somewhat Agree</u></b>	<b><u>Undecided /Unsure</u></b>	<b><u>Somewhat Disagree</u></b>	<b><u>Strongly Disagree</u></b>
I cannot concentrate properly without drinking coffee, soda, or an energy drink each day	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
If I have not had coffee, soda, or an energy drink, I become irritable	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I consume more than 18 ounces of coffee, soda, or energy drinks daily.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
Without daily coffee, soda, or energy drinks, I develop a headache.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I feel fatigued all day if I have not had access to coffee, soda, or energy drinks.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I have tried to quit drinking coffee, soda, or energy drinks and failed	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
People have told me I drink too much coffee, soda, or energy drinks	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree

My coffee, soda, or energy drink consumption is distressing to me.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I often feel dizzy or nauseous if I do not drink coffee, soda, or energy drinks regularly.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
If I have not consume coffee, soda, or energy drinks, I start to feel sad or unhappy.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree

<b><u>Statement</u></b>	<b><u>Strongly Agree</u></b>	<b><u>Somewhat Agree</u></b>	<b><u>Undecided /Unsure</u></b>	<b><u>Somewhat Disagree</u></b>	<b><u>Strongly Disagree</u></b>
My friends and family believe I have an Internet use problem.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I spend a significant amount of time more on the Internet than I intend to.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I had tried to stop or cut down on my Internet use but failed.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I lie about my Internet use behavior.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I become irritable or restless if I go long periods without being on the Internet.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
My Internet use has been continually increasing.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree

I think about the Internet when I am not using it.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
My Internet use behavior is distressing to me.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
I have had conflict with friends and family due to my excessive Internet use.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree
When I am upset, I feel that I need to use the Internet.	Strongly Agree	Somewhat Agree	Undecided /Unsure	Somewhat Disagree	Strongly Disagree

## APPENDIX C

### The Personality Inventory for *DSM-5* (PID-5)—Adult

Name/ID: \_\_\_\_\_ Age: \_\_\_\_\_ Sex:  Male  Female Date: \_\_\_\_\_

<b>Instructions to the individual receiving care:</b> This is a list of things different people might say about themselves. We are interested in how you would describe yourself. There are no “right” or “wrong” answers. So you can describe yourself as honestly as possible, we will keep your responses confidential. We’d like you to take your time and read each statement carefully, selecting the response that best describes you.						Clinician Use
		Very False or Often False	Sometimes or Somewhat False	Sometimes or Somewhat True	Very True or Often True	Item score
1	I don’t get as much pleasure out of things as others seem to.	0	1	2	3	
2	Plenty of people are out to get me.	0	1	2	3	
3	People would describe me as reckless.	0	1	2	3	
4	I feel like I act totally on impulse.	0	1	2	3	
5	I often have ideas that are too unusual to explain to anyone.	0	1	2	3	
6	I lose track of conversations because other things catch my attention.	0	1	2	3	
7	I avoid risky situations.	0	1	2	3	
8	When it comes to my emotions, people tell me I’m a “cold fish”.	0	1	2	3	
9	I change what I do depending on what others want.	0	1	2	3	
10	I prefer not to get too close to people.	0	1	2	3	
11	I often get into physical fights.	0	1	2	3	
12	I dread being without someone to love me.	0	1	2	3	
13	Being rude and unfriendly is just a part of who I am.	0	1	2	3	
14	I do things to make sure people notice me.	0	1	2	3	
15	I usually do what others think I should do.	0	1	2	3	
16	I usually do things on impulse without thinking about what might happen as a result.	0	1	2	3	
17	Even though I know better, I can’t stop making rash decisions.	0	1	2	3	
18	My emotions sometimes change for no good reason.	0	1	2	3	
19	I really don’t care if I make other people suffer.	0	1	2	3	
20	I keep to myself.	0	1	2	3	
21	I often say things that others find odd or strange.	0	1	2	3	
22	I always do things on the spur of the moment.	0	1	2	3	
23	Nothing seems to interest me very much.	0	1	2	3	
24	Other people seem to think my behavior is weird.	0	1	2	3	
25	People have told me that I think about things in a really strange way.	0	1	2	3	
26	I almost never enjoy life.	0	1	2	3	
27	I often feel like nothing I do really matters.	0	1	2	3	
28	I snap at people when they do little things that irritate me.	0	1	2	3	
29	I can’t concentrate on anything.	0	1	2	3	
30	I’m an energetic person.	0	1	2	3	
31	Others see me as irresponsible.	0	1	2	3	
32	I can be mean when I need to be.	0	1	2	3	
33	My thoughts often go off in odd or unusual directions.	0	1	2	3	
34	I’ve been told that I spend too much time making sure things are exactly in place.	0	1	2	3	



35	I avoid risky sports and activities.	0	1	2	3	
36	I can have trouble telling the difference between dreams and waking life.	0	1	2	3	
37	Sometimes I get this weird feeling that parts of my body feel like they're dead or not really me	0	1	2	3	
38	I am easily angered.	0	1	2	3	
39	I have no limits when it comes to doing dangerous things.	0	1	2	3	
40	To be honest, I'm just more important than other people.	0	1	2	3	
41	I make up stories about things that happened that are totally untrue.	0	1	2	3	
42	People often talk about me doing things I don't remember at all.	0	1	2	3	
43	I do things so that people just have to admire me.	0	1	2	3	
44	It's weird, but sometimes ordinary objects seem to be a different shape than usual.	0	1	2	3	
45	I don't have very long-lasting emotional reactions to things.	0	1	2	3	
46	It is hard for me to stop an activity, even when it's time to do so.	0	1	2	3	
47	I'm not good at planning ahead.	0	1	2	3	
48	I do a lot of things that others consider risky.	0	1	2	3	
49	People tell me that I focus too much on minor details.	0	1	2	3	
50	I worry a lot about being alone.	0	1	2	3	
51	I've missed out on things because I was busy trying to get something I was doing exactly right.	0	1	2	3	
52	My thoughts often don't make sense to others.	0	1	2	3	
53	I often make up things about myself to help me get what I want.	0	1	2	3	
54	It doesn't really bother me to see other people get hurt.	0	1	2	3	
55	People often look at me as if I'd said something really weird.	0	1	2	3	
56	People don't realize that I'm flattering them to get something.	0	1	2	3	
57	I'd rather be in a bad relationship than be alone.	0	1	2	3	
58	I usually think before I act.	0	1	2	3	
59	I often see vivid dream-like images when I'm falling asleep or waking up.	0	1	2	3	
60	I keep approaching things the same way, even when it isn't working.	0	1	2	3	
61	I'm very dissatisfied with myself.	0	1	2	3	
62	I have much stronger emotional reactions than almost everyone else.	0	1	2	3	
63	I do what other people tell me to do.	0	1	2	3	
64	I can't stand being left alone, even for a few hours.	0	1	2	3	
65	I have outstanding qualities that few others possess.	0	1	2	3	
66	The future looks really hopeless to me.	0	1	2	3	
67	I like to take risks.	0	1	2	3	
68	I can't achieve goals because other things capture my attention.	0	1	2	3	
69	When I want to do something, I don't let the possibility that it might be risky stop me.	0	1	2	3	
70	Others seem to think I'm quite odd or unusual.	0	1	2	3	
71	My thoughts are strange and unpredictable.	0	1	2	3	
72	I don't care about other people's feelings.	0	1	2	3	

73	You need to step on some toes to get what you want in life.	0	1	2	3	
74	I love getting the attention of other people.	0	1	2	3	
75	I go out of my way to avoid any kind of group activity.	0	1	2	3	
76	I can be sneaky if it means getting what I want.	0	1	2	3	
77	Sometimes when I look at a familiar object, it's somehow like I'm seeing it for the first time.	0	1	2	3	
78	It is hard for me to shift from one activity to another.	0	1	2	3	
79	I worry a lot about terrible things that might happen.	0	1	2	3	
80	I have trouble changing how I'm doing something even if what I'm doing isn't going well.	0	1	2	3	
81	The world would be better off if I were dead.	0	1	2	3	
82	I keep my distance from people.	0	1	2	3	
83	I often can't control what I think about.	0	1	2	3	
84	I don't get emotional.	0	1	2	3	
85	I resent being told what to do, even by people in charge.	0	1	2	3	
86	I'm so ashamed by how I've let people down in lots of little ways.	0	1	2	3	
87	I avoid anything that might be even a little bit dangerous.	0	1	2	3	
88	I have trouble pursuing specific goals even for short periods of time.	0	1	2	3	
89	I prefer to keep romance out of my life.	0	1	2	3	
90	I would never harm another person.	0	1	2	3	
91	I don't show emotions strongly.	0	1	2	3	
92	I have a very short temper.	0	1	2	3	
93	I often worry that something bad will happen due to mistakes I made in the past.	0	1	2	3	
94	I have some unusual abilities, like sometimes knowing exactly what someone is thinking.	0	1	2	3	
95	I get very nervous when I think about the future.	0	1	2	3	
96	I rarely worry about things.	0	1	2	3	
97	I enjoy being in love.	0	1	2	3	
98	I prefer to play it safe rather than take unnecessary chances.	0	1	2	3	
99	I sometimes have heard things that others couldn't hear.	0	1	2	3	
100	I get fixated on certain things and can't stop.	0	1	2	3	
101	People tell me it's difficult to know what I'm feeling.	0	1	2	3	
102	I am a highly emotional person.	0	1	2	3	
103	Others would take advantage of me if they could.	0	1	2	3	
104	I often feel like a failure.	0	1	2	3	
105	If something I do isn't absolutely perfect, it's simply not acceptable.	0	1	2	3	
106	I often have unusual experiences, such as sensing the presence of someone who isn't actually there.	0	1	2	3	
107	I'm good at making people do what I want them to do.	0	1	2	3	
108	I break off relationships if they start to get close.	0	1	2	3	
109	I'm always worrying about something.	0	1	2	3	
110	I worry about almost everything.	0	1	2	3	

111	I like standing out in a crowd.	0	1	2	3	
112	I don't mind a little risk now and then.	0	1	2	3	
111	I like standing out in a crowd.	0	1	2	3	
112	I don't mind a little risk now and then.	0	1	2	3	
113	My behavior is often bold and grabs peoples' attention.	0	1	2	3	
114	I'm better than almost everyone else.	0	1	2	3	
115	People complain about my need to have everything all arranged.	0	1	2	3	
116	I always make sure I get back at people who wrong me.	0	1	2	3	
117	I'm always on my guard for someone trying to trick or harm me.	0	1	2	3	
118	I have trouble keeping my mind focused on what needs to be done.	0	1	2	3	
119	I talk about suicide a lot.	0	1	2	3	
120	I'm just not very interested in having sexual relationships.	0	1	2	3	
121	I get stuck on things a lot.	0	1	2	3	
122	I get emotional easily, often for very little reason.	0	1	2	3	
123	Even though it drives other people crazy, I insist on absolute perfection in everything I do.	0	1	2	3	
124	I almost never feel happy about my day-to-day activities.	0	1	2	3	
125	Sweet-talking others helps me get what I want.	0	1	2	3	
126	Sometimes you need to exaggerate to get ahead.	0	1	2	3	
127	I fear being alone in life more than anything else.	0	1	2	3	
128	I get stuck on one way of doing things, even when it's clear it won't work.	0	1	2	3	
129	I'm often pretty careless with my own and others' things.	0	1	2	3	
130	I am a very anxious person.	0	1	2	3	
131	People are basically trustworthy.	0	1	2	3	
132	I am easily distracted.	0	1	2	3	
133	It seems like I'm always getting a "raw deal" from others.	0	1	2	3	
134	I don't hesitate to cheat if it gets me ahead.	0	1	2	3	
135	I check things several times to make sure they are perfect.	0	1	2	3	
136	I don't like spending time with others.	0	1	2	3	
137	I feel compelled to go on with things even when it makes little sense to do so.	0	1	2	3	
138	I never know where my emotions will go from moment to moment.	0	1	2	3	
139	I have seen things that weren't really there.	0	1	2	3	
140	It is important to me that things are done in a certain way.	0	1	2	3	
141	I always expect the worst to happen.	0	1	2	3	
142	I try to tell the truth even when it's hard.	0	1	2	3	
143	I believe that some people can move things with their minds.	0	1	2	3	
144	I can't focus on things for very long.	0	1	2	3	
145	I steer clear of romantic relationships.	0	1	2	3	
146	I'm not interested in making friends.	0	1	2	3	
147	I say as little as possible when dealing with people.	0	1	2	3	

148	I'm useless as a person.	0	1	2	3
149	I'll do just about anything to keep someone from abandoning me.	0	1	2	3
150	Sometimes I can influence other people just by sending my thoughts to them.	0	1	2	3
151	Life looks pretty bleak to me.	0	1	2	3
152	I think about things in odd ways that don't make sense to most people.	0	1	2	3
153	I don't care if my actions hurt others.	0	1	2	3
154	Sometimes I feel "controlled" by thoughts that belong to someone else.	0	1	2	3
155	I really live life to the fullest.	0	1	2	3
156	I make promises that I don't really intend to keep.	0	1	2	3
157	Nothing seems to make me feel good.	0	1	2	3
158	I get irritated easily by all sorts of things.	0	1	2	3
159	I do what I want regardless of how unsafe it might be.	0	1	2	3
160	I often forget to pay my bills.	0	1	2	3
161	I don't like to get too close to people.	0	1	2	3
162	I'm good at conning people.	0	1	2	3
163	Everything seems pointless to me.	0	1	2	3
164	I never take risks.	0	1	2	3
165	I get emotional over every little thing.	0	1	2	3
166	It's no big deal if I hurt other peoples' feelings.	0	1	2	3
167	I never show emotions to others.	0	1	2	3
168	I often feel just miserable.	0	1	2	3
169	I have no worth as a person.	0	1	2	3
170	I am usually pretty hostile.	0	1	2	3
171	I've skipped town to avoid responsibilities.	0	1	2	3
172	I've been told more than once that I have a number of odd quirks or habits.	0	1	2	3
173	I like being a person who gets noticed.	0	1	2	3
174	I'm always fearful or on edge about bad things that might happen.	0	1	2	3
175	I never want to be alone.	0	1	2	3
176	I keep trying to make things perfect, even when I've gotten them as good as they're likely to get.	0	1	2	3
177	I rarely feel that people I know are trying to take advantage of me.	0	1	2	3
178	I know I'll commit suicide sooner or later.	0	1	2	3
179	I've achieved far more than almost anyone I know.	0	1	2	3
180	I can certainly turn on the charm if I need to get my way.	0	1	2	3
181	My emotions are unpredictable.	0	1	2	3
182	I don't deal with people unless I have to.	0	1	2	3
183	I don't care about other peoples' problems.	0	1	2	3
184	I don't react much to things that seem to make others emotional.	0	1	2	3
185	I have several habits that others find eccentric or strange.	0	1	2	3
186	I avoid social events.	0	1	2	3
187	I deserve special treatment.	0	1	2	3
188	It makes me really angry when people insult me in even a minor way.	0	1	2	3
189	I rarely get enthusiastic about anything.	0	1	2	3
190	I suspect that even my so-called "friends" betray me a lot.	0	1	2	3
191	I crave attention.	0	1	2	3

192	Sometimes I think someone else is removing thoughts from my head.	0	1	2	3	
193	I have periods in which I feel disconnected from the world or from myself.	0	1	2	3	
194	I often see unusual connections between things that most people miss.	0	1	2	3	
195	I don't think about getting hurt when I'm doing things that might be dangerous.	0	1	2	3	
196	I simply won't put up with things being out of their proper places.	0	1	2	3	
197	I often have to deal with people who are less important than me.	0	1	2	3	
198	I sometimes hit people to remind them who's in charge	0	1	2	3	
199	I get pulled off-task by even minor distractions.	0	1	2	3	
200	I enjoy making people in control look stupid.	0	1	2	3	
201	I just skip appointments or meetings if I'm not in the mood.	0	1	2	3	
202	I try to do what others want me to do.	0	1	2	3	
203	I prefer being alone to having a close romantic partner.	0	1	2	3	
204	I am very impulsive.	0	1	2	3	
205	I often have thoughts that make sense to me but that other people say are strange.	0	1	2	3	
206	I use people to get what I want.	0	1	2	3	
207	I don't see the point in feeling guilty about things I've done that have hurt other people.	0	1	2	3	
208	Most of the time I don't see the point in being friendly.	0	1	2	3	
209	I've had some really weird experiences that are very difficult to explain.	0	1	2	3	
210	I follow through on commitments.	0	1	2	3	
211	I like to draw attention to myself.	0	1	2	3	
212	I feel guilty much of the time.	0	1	2	3	
213	I often "zone out" and then suddenly come to and realize that a lot of time has passed.	0	1	2	3	
214	Lying comes easily to me.	0	1	2	3	
215	I hate to take chances.	0	1	2	3	
216	I'm nasty and short to anybody who deserves it.	0	1	2	3	
217	Things around me often feel unreal, or more real than usual.	0	1	2	3	
218	I'll stretch the truth if it's to my advantage.	0	1	2	3	
219	It is easy for me to take advantage of others.	0	1	2	3	
220	I have a strict way of doing things.	0	1	2	3	

## APPENDIX D: VITA

*Elise Edwards*

### Education

Psy.D in Clinical Psychology (in progress)

Marshall University  
Expected August 2018

M.A. In Psychology

Marshall University  
May 2014

B.A in Psychology

Marshall University  
Minor in Counseling  
May 2012

### Clinical Experience

*Psychology Doctoral Intern*

Frontier Health  
July 2017-July 2018

*Supervised Psychologist*

Dr. Alderman & Associates  
June 2015-July 2017

*Supervised Psychologist*

CAMC Cancer Center  
August 2015- May 2016

*Supervised Psychologist*

Valley Health East Huntington  
August 2014-July 2015

*Psychological Trainee*

Marshall University, Huntington, WV  
August 2013- August 2014