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**THE RELATIONSHIP AMONG IDENTITY DEVELOPMENT, DARK PERSONALITY,  
AND RISK-TAKING BEHAVIORS**

by

REILLY BRANCH  
B.S. University of Central Florida, 2021

A thesis submitted in partial fulfillment of the requirements  
for the degree of Master of Arts  
in the Department of Psychology  
in the College of Sciences  
at the University of Central Florida  
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## **ABSTRACT**

Previous research has found significant relationships between various dark personality traits (Machiavellianism, sadism, narcissism, and psychopathy) and externalizing behaviors including delinquency (Muris et al., 2013). Although many studies have examined the relationships among dark personality, risk propensity, and delinquency, little research has examined the role of identity development and identity distress in predicting risky or antisocial behaviors. Therefore, this study examined the utility of using both the Dark Tetrad and identity dimensions to predict risk propensity and delinquent behaviors. Emerging adult college students ( $N = 424$ ) completed an anonymous online survey battery. Results indicated that specific dark personality traits (i.e., Machiavellianism, psychopathy, and narcissism) and identity dimensions (i.e., consolidated and disturbed identity) acted as significant predictors of risk propensity. Additionally, dark personality traits (i.e., psychopathy and sadism) and identity distress significantly predicted delinquency scores. Results demonstrate the utility of including identity-related variables when predicting delinquent or risky behavior. Therefore, targeted prevention and intervention programs aimed at reducing delinquency might promote healthy identity development and the reduction of identity distress.

## **ACKNOWLEDGMENTS**

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## TABLE OF CONTENTS

LIST OF FIGURES.....	vi
LIST OF TABLES .....	vii
LIST OF ACRONYMS (OR) ABBREVIATIONS .....	viii
CHAPTER ONE: INTRODUCTION .....	1
CHAPTER TWO: LITERATURE REVIEW .....	3
The Dark Tetrad.....	3
Identity.....	5
Dark Personality and Identity .....	8
Identity and Risk Behaviors .....	10
Dark Personality and Risk Behaviors .....	13
Rationale.....	18
Hypotheses.....	20
CHAPTER THREE: METHODOLOGY .....	21
Participants .....	21
Measures .....	21
Procedure .....	23
CHAPTER FOUR: RESULTS .....	25
Preliminary and Descriptive Analyses .....	25
Main Analyses .....	27
CHAPTER FIVE: CONCLUSION.....	30
Limitations and Future Research.....	34
APPENDIX A: IRB APPROVAL LETTER .....	38
APPENDIX B: EXPLANATION OF RESEARCH .....	41
APPENDIX C: SURVEY BATTERY .....	44
APPENDIX D: TABLES AND FIGURES.....	50
LIST OF REFERENCES .....	55

## LIST OF FIGURES

Figure 1. Structural Model - Hypothesis 1.....	51
Figure 2. Structural Model - Hypothesis 2.....	52

## **LIST OF TABLES**

Table 1. Means, Standard Deviations, Possible and Actual Range for All Study Variables.....	53
Table 2. Correlation Matrix of Age and All Study Variables.....	54



## **LIST OF ACRONYMS (OR) ABBREVIATIONS**

GRiPS	General Risk Propensity Scale
IDS	Identity Distress Survey
SCIM	Self-Concept and Identity Measure
SD3	Short Dark Triad
SD4	Short Dark Tetrad

## CHAPTER ONE: INTRODUCTION

Identity development is a complex process where people must reconcile a multitude of aspects of themselves into a single, consolidated identity. This process is not always successful, and maladaptive identity development can lead to a variety of negative health outcomes (Berman & Weems, 2016) and an increased frequency in socially inappropriate behaviors such as risk-taking (Bukobza, 2009). Within the last decade, there has been a growing interest in the relationship between darker personality traits and various topics of interest such as aggression (Paulhus & Jones, 2017), delinquency (Wright et al., 2017), problematic social media behaviors (Moor & Anderson, 2019), and attachment styles (Nickisch et al., 2020). These personality traits of interest have been termed dark personality traits (Paulhus, 2014). Paulhus describes dark personality traits as traits that are considered socially adverse, (i.e., undesirable). The personality traits of Machiavellianism, sadism, narcissism, and psychopathy were conceptualized as the Dark Tetrad, a construct which comprises various dark personality traits that may have criminal and practical applications (Paulhus et al., 2021). Aspects of these traits exist within everyone and do not exist solely within the criminal realm, though research to date has primarily focused on criminal implications. Criminal and legal implications are, however, a concern, as previous studies support the notion that those with dark personality traits are more likely to be aggressive in certain situations (Paulhus & Jones, 2017). It has been demonstrated in previous studies that specific dark personality traits such as psychopathy and Machiavellianism were significantly related to aggression, delinquency, and other generally disruptive behaviors (Muris et al., 2013). Previous research has indicated a relationship between levels of the Dark Tetrad personality traits and risk-taking propensity (Stanwix & Walker, 2021). Additionally, research has grown in the area of identity development and identity as a whole. Research, however, has not been

conducted to analyze the relationship between dark personality traits and identity development. Specific dark personality traits (e.g., narcissism) have been theoretically linked to identity development (Cramer, 1995). Additionally, some studies (e.g., Glenn et al., 2010) have found a relationship between malevolent personality traits and a specific facet of identity known as moral identity, though no studies have focused on general identity development. No research has been conducted to analyze the relationship between the Dark Tetrad traits and healthy or unhealthy identity development. However, research has indicated a significant relationship between the Dark Triad and lower scores in both sense of self and self-concept (Doerfler et al., 2021). Therefore, there has been some indication that dark personality and identity may be related and could affect behavior. There is a great deal of practical interest in analyzing the effects of a person having dark personality traits and flawed identity development and subsequent outcomes such as an increased frequency of risky behavior. Of particular interest is if unhealthy identity development is related to elevated levels of Dark Tetrad personality traits. Secondly, if there is a relationship between Dark Tetrad traits and identity development how these factors might affect participation or likelihood of participation in risky behaviors (e.g., drug use) or delinquency is of concern. Therefore, the purpose of the current research is to more adequately examine the nuances of identity development within the context of dark personality traits and if these two aspects of the self affect participation or likelihood of partaking in risky behaviors or delinquency.

## **CHAPTER TWO: LITERATURE REVIEW**

Previous research has analyzed the relationship between various aspects of personality and identity however, the associations among identity and the Dark Tetrad (narcissism, psychopathy, sadism, and Machiavellianism) personality traits (Paulhus, 2014) have not been adequately explored. Risk-taking behaviors and risk propensity, though extensively examined in research, have not been fully understood under the context of maladaptive, or “dark” personality and identity development. The current study seeks to examine the relationship between the Dark Tetrad personality traits, identity development, and risk-taking propensity.

### **The Dark Tetrad**

The Short Dark Tetrad (SD4; Paulhus, 2014) is a measure of subclinical traits which encompass a “dark”, or negative personality. Traits measured with the SD4 include narcissism, psychopathy, sadism, and Machiavellianism. Narcissism, as taxonomized by Paulhus (2014) is mainly characterized by callousness and grandiosity but can also consist of elevated levels of impulsivity and manipulation. Machiavellianism is characterized by callousness and manipulation. Psychopathy is characterized by callousness, manipulation, impulsivity, and criminality, though this trait can also have elevated levels of grandiosity. Sadism consists of high levels of callousness and enjoyment of cruelty. Previously, there has been some debate on whether sadism should be considered a separate dark personality trait, as opposed to a factor of another trait such as psychopathy. Furnham and colleagues (2013) explained that while these aforementioned traits appear to overlap in many aspects (e.g., callousness), they are distinct in nature. Confirmatory factor analysis has demonstrated that these constructs are distinct in nature and support for a four-factor model has been found (Paulhus et al., 2021).

Several studies have found utility in identifying dark personalities, and the SD4 has been used to examine relationships between other constructs of interest such as attachment styles (Nickisch et al., 2020), anti-social behavior (Chabrol et al., 2017), and risk-taking behavior (Stanwix & Walker, 2021). The Short Dark Triad (SD3; Jones & Paulhus, 2014) the older counterpart of the Dark Tetrad, that incorporates narcissism, psychopathy, and Machiavellianism, while still used in research, has been demonstrated to be inadequate. Johnson and colleagues (2019) found that the SD3 did not adequately measure sadism, as it was originally thought to be captured by the other trait subscales. The study found distinction was necessary between the Dark Triarchic traits and sadism, therefore, providing support in replacing the SD3 with the more comprehensive SD4 (Johnson et al., 2019). Though empirical support for the addition of sadism as a feature of dark personality was published multiple years ago, the creation of the Short Dark Tetrad (SD4) was a more recent occurrence (Paulhus et al., 2021). Due to this, few studies to the present date have utilized the SD4 as opposed to the older SD3. Therefore, most studies referenced within this thesis will reflect a broader usage of the SD3, though it is worth noting that the SD4 is the more comprehensive and updated measure.

Various studies have utilized either the SD4 or the SD3 to analyze various factors that might be associated with dark personality traits. Researchers have primarily focused on criminal implications surrounding dark personalities and various relationships that these traits might display (e.g., elevated levels of aggression, violence, bullying). A study by Chabrol and colleagues (2017) demonstrated, for example, that psychopathy and sadism were predictors of antisocial behavior in college students. By analyzing dark personality, identity development, and risky/delinquent behaviors criminal and non-criminal applications will be present. Risk-taking behaviors, while not necessarily criminal in itself can escalate into illegal acts.

## **Identity**

Adolescence is a complex stage in human development. It is a time when young people often consolidate aspects of their identity, such as goals, beliefs, and values found in many salient aspects of their lives. Identity formation is a process where people develop a clearer view of who they are and what their values are. It is a process where people consolidate different aspects of themselves into a single, cohesive identity (Berman & Weems, 2016). Marcia (1966), operationalized Erikson's identity formation theory by suggesting four identity statuses based on two dimensions (exploration and commitment). Exploration is a dimension that focuses on a period of investigating possible future aspects associated with the self (e.g., religious beliefs or job selection), while commitment focuses on the choice to adhere to a specific set of roles, goals, and values among all that are possible. Those that are in the diffusion status lack commitment and exploration (Marcia, 1966) which is normal in children and young adolescents but becomes pathological as one enters adulthood and remains without direction or purpose in life. Those that are in the foreclosure status have committed prematurely and uncritically to identity choices with little or no exploration before making these commitments. Typically, these choices were prescribed by and accepted from authority figures such as parents. Those that are in moratorium are in a current state of searching preceding making commitment, therefore, they are high in exploration but low on commitment. Those in the achievement status have adequately explored their options and have committed to an identity (i.e., high on exploration and commitment). According to Erikson (1963) adolescence is the time where people are tasked with finding and accepting a cohesive sense of identity. Not every adolescent is successful in this task of consolidation. When facing the task of identity consolidation, many adolescents experience some amount of identity distress. Adolescents with very high levels of identity distress might find

themselves in a prolonged state of identity crisis and can experience maladjustment among numerous other psychological issues (Berman & Weems, 2016).

As mentioned previously, identity distress is a suite of strong negative feelings (e.g., obsession, anxiety, depression) resulting from an inability to consolidate and resolve one's identity and related identity issues (Berman & Weems, 2016). Some level of identity distress is widely considered a natural and nonpathological phenomenon if it is considered appropriate at the person's stage of development. However, identity distress can become abnormal if there is an inability to resolve identity issues; a sign of potential maladjustment (Berman et al., 2009). A measure has been created to assist in differentiating normative identity distress and abnormal, maladaptive identity distress which might lead to poor adjustment (Berman et al., 2004). The measure in part was created to ameliorate the lack of literature in the area of identity distress. The creation of this measure, the Identity Distress Survey (IDS; Berman et al., 2004) has brought about more research in the area of identity, specifically identity distress and related concerns (e.g., maladjustment). Identity distress may potentially be experienced among those with dark personality traits, as Kurek and colleagues (2019) have posited the idea that personality traits may be related to identity formation. This is one interest of the current study, as there is no empirical data to demonstrate potential relationships, if any, are present.

Additionally, another interest of the study is the measurement of identity disturbance. Of particular focus is the Self-Concept and Identity Measure (SCIM)'s identity dimensions: lack of identity, consolidated identity, and disturbed identity (Kaufman et al., 2015). Kaufman and colleagues (2015) state that lack of identity is a construct that involves a distinct feeling of emptiness and a feeling of non-existence. Individuals with a lack of identity do not have a fully formed sense of self. Those who score high on the lack of identity subscale may report feeling

lost or not knowing who they are, what they believe, or what they value in life. Consolidated identity, the healthy construct within the SCIM, is present when individuals feel a sense of consistency across a variety of situations and have a stable sense of their values, attitudes, and beliefs. Those who score high on the consolidated identity subscale may report confidence in beliefs, attitudes, and values. Additionally, the confidence in their identity can lead to more positive self-worth. Finally, disturbed identity is a construct which encompasses indecision and a lack of consistency in beliefs, attitudes, and values. Those who score high on the disturbed identity subscale might depend on others to determine their identity or they may vacillate in identity-related areas (e.g., beliefs). Disturbed identity and lack of identity are unique constructs, as the former reflects a quickly shifting identity or an overreliance on others, while the latter reflects an absence of identity with feelings of emptiness or of being lost. The SCIM considers higher scores of consolidated identity to be a sign of healthier, more adaptive functioning, while higher scores in the lack of identity or disturbed identity subscales may indicate more maladaptive functioning (Kaufman et al., 2015). As mentioned previously, the SCIM is a dimensional measure, therefore, it is possible for individuals to score high (or low for that matter) on any combination of these three constructs. However, a factor analysis has demonstrated that they are distinct scales (Kaufman et al., 2015). Results of previous studies indicate that disturbed identity and lack of identity are often negatively associated with consolidated identity, while lack of identity and disturbed identity are often positively correlated to each other (Kaufman et al., 2019). The SCIM has previously been correlated to emotion dysregulation, depression, and other various measures of psychopathology (Kaufman et al., 2015). The current study will analyze potential relationships among dark personality traits measured by the SD4, identity distress, SCIM identity scales, and risky behavior.



## **Dark Personality and Identity**

The relationship between various personality traits and identity has been studied extensively (Luyckx et al., 2014). Luyckx and colleagues (2014) posit that self-related concepts (e.g., self-esteem) may function as a resource in early stages of identity formation. Additionally, a study by Doerfler and colleagues (2021) has indicated that the SD3 may be useful in predicting one's sense of self, a concept closely related to one's identity. Identity could also play into other constructs (e.g., personality constructs) in young adulthood. In a study on the Big 5 personality traits and identity development Luyckx and colleagues (2014) found that personality traits acted as a predictor of adolescents' approach to identity issues. It was also stated that personality traits may act as potential determinants of identity processing in adolescents. As aforementioned, there are multiple aspects of identity that are related to the self. One aspect of identity, moral identity, refers to the importance of morality (e.g., being seen as law-abiding or generous to others) to oneself. Malevolent personality traits have been empirically linked to moral decision-making and moral identity (Glenn et al., 2010; Karandikar et al., 2019; Wrenn, 2020) but not to overall identity. In a study on moral identity and psychopathy, Glenn and colleagues (2010) discussed that individuals with psychopathic traits understand the differences between right and wrong, but continue to engage in risky or delinquent behavior. Additionally, when making decisions, individuals may reference their self-concept (i.e., moral identity), as they understand that choices reflect on their personality. The study found that those higher in psychopathy had a reduced sense of moral identity, regardless of moral judgment. These findings demonstrated that individuals higher in psychopathic traits had internal characteristics which corresponded to behavioral tendencies, therefore continuity was found (Glenn et al., 2010). While moral identity

has been previously demonstrated to be linked to malevolent personality traits, it is entirely possible for all aspects of identity to be connected to these traits as well.

Previously, narcissism has been linked theoretically to identity development (Cramer, 1995). Cramer (1995) found that narcissism predicted change in identity foreclosure and moratorium scores at late adolescence. The author posits that change in moratorium scores was associated with narcissism at late adolescence, as it is a defensive operation to protect against anxiety that may be associated with that identity status. Likewise, the author suggests that anxiety may be exacerbated when the adolescent bases their identity on the adoption of someone else's' goals or values (i.e., identity foreclosure), therefore narcissism may serve as a defense mechanism (Cramer, 1995). Kurek and colleagues (2019) have suggested that certain antisocial personality traits may be associated with maladaptive identity formation. The study by Kurek and colleagues (2019) analyzed associations among dark personality, online disinhibition, and aggressive online behaviors (e.g., posting mean things online about someone else). The authors described the Online Disinhibition Effect and the False Self, both of which explain that people often behave differently online, as compared to in offline settings. Adolescents may be affected by switching between a "false self" and their true self, leading to identity confusion. This confusion and potential damage to self-perception may lead to the promotion of disinhibited behavior online. The authors posited that certain personality constructs that are more prone to moral disengagement may predict false self-perceptions and subsequent disinhibition and aggressive behaviors online. Sadism was found to directly predict cyber aggression, while narcissism and psychopathy acted as predictors but only through the false self. It was suggested that impulsivity could be exacerbated in online settings, testing the fragile self-concepts of those high in psychopathy, therefore responses to perceived attacks or the disinhibition of social

restraints may be increased (Kurek et al., 2019). A study by Barlett (2016) explored the relationship among the Dark Triad traits, facets of emerging adulthood (e.g., experimentation, negativity, feeling in-between), and aggressive behavior (both proactive and reactive). Results indicated that reactive aggression was found to be significantly related to all of the Dark Triad traits, while proactive aggression was only significantly related to narcissism and psychopathy. Additionally, feeling in-between, identity exploration, and negativity acted as mediators between age and aggressive behavior by predicting one or more Dark Triad traits. The author suggests that as participants get older, they explore their identities less, are less negative, and feel less in-between. In doing so, narcissism, Machiavellianism, and psychopathy are reduced, and subsequently a reduction in aggressive behaviors is observed (Barlett, 2016). Previous research has not directly examined how identity development and dark personality traits are related. The purpose of this research is to explore whether these aforementioned dark personality traits could predict healthy and unhealthy identity development and subsequent risk-taking behaviors.

### **Identity and Risk Behaviors**

Identity and risk-taking behaviors have not been thoroughly studied within the context of dark personality. However, studies independently analyzing dark personality or identity development and their relationships with various risky behaviors have been conducted. Much of the research on identity and risk-taking focuses on adolescent substance-use. De Moor and colleagues (2020), applying a framework for understanding psychopathology and identity, stated that difficulties in forming a solid identity could lead to substance use. Adolescence is considered a period of vulnerability due, in part, to the turbulence associated with the changing and exploration of new identities (e.g., an adolescent no longer identifying as a child but as an

adult with mature roles and responsibilities). It has been posited that adolescents struggling with identity development may seek to cope with the discomfort and uncertainty by using mind altering substances (de Moor et al., 2020). Alternatively, Bukobza (2009) suggests that the turbulence caused in adolescence may lead individuals to rebel from the conditions of their upbringing. Adolescents may experience conflict when balancing obedience to normative behavior with the need for autonomy. It is suggested that individuals experiencing high levels of negative emotion associated with identity development may externalize these difficulties through anti-social or rebellious behaviors. These individuals, in the process of forming an identity as an adult, may choose patterns of behavior seen as characteristic of adulthood (e.g., binge drinking or unsafe sexual acts). Additionally, in the process of consolidating various aspects of identity, individuals may experiment with more rebellious roles (Bukobza, 2009). It is possible that adolescents may participate in risky behaviors to cope with internal stressors, for social acceptance, or as a component of general rebellious behavior seen in adolescents.

A study by Dumas and colleagues (2012), for example, found that identity development acted as a buffer between peer pressure and risk-behavior engagement among adolescents. In pressuring peer groups, identity commitment acted as a buffer against substance use, while identity exploration acted as a buffer against general deviancy. In peer groups exhibiting greater amounts of social hierarchy and in-group monitoring (i.e., controlling peer groups), adolescents with greater levels of identity commitment engaged in less risk behavior. The authors suggest based on these results along with previous studies that identity development may facilitate resistance to engagement in risk behaviors and influence of peers. It is possible that those who have begun exploring and/or committing to identity choices are less likely to participate in substance use or other delinquent behaviors with peers, as it may interfere with the goal they

wish to attain in life (e.g., working in a government position). A study conducted by Jones and Hartmann (1988) found that diffused adolescents were significantly more likely to have had experience with alcohol, cigarettes, marijuana, cocaine, or inhalants, as compared to adolescents classified as achieved, moratorium, or foreclosed adolescents. Foreclosed adolescents were the least likely to have experience with any substances. As mentioned above by Dumas and colleagues (2012), it is possible that those who are both low in exploration and commitment may be more likely to engage in substance-use, as they may not have life goals that could be harmed by the behavior (Jones & Hartmann, 1988). It is possible that perception of risk may be lower among those with less consolidated identities, therefore, risky behaviors may not seem as problematic compared to those with more developed identities. A similar study by Hardy and colleagues (2013) examined identity formation and moral identity as predictors of mental health, psychological well-being, and health-risk behaviors. It was found that identity maturity acted as a predictor for 5 of the health outcomes analyzed (including levels of hazardous alcohol use). Additionally, moral identity predicted all of the health outcomes of interest (Hardy et al., 2013). Interactions were found between identity formation and moral identity in predicting health outcomes. The authors mentioned two potential interpretations for these results. Firstly, it was suggested that forming a coherent identity will matter more for health outcomes to the extent that one bases their identity on being moral. Secondly, it was theorized that placing importance on being a moral person will matter more for health outcomes if they have a coherent identity (Hardy et al., 2013). Studies generally incorporate the analysis of positive and negative risk-taking. Generally, negative risk-taking involves risks that can be potentially dangerous, and often have little gain in positive ways while positive risk-taking is relatively safe and often involves great opportunity for positive benefits (e.g., drug use compared to joining a team sport). A study

conducted by Fryt and Szczygiel (2021) on positive and negative risk-taking in adolescents and young adults found that negative risk-taking is driven by sensitivity to reward and low sensitivity to punishment. Negative risk-taking is often chosen by people who look for rewards outside of the norm and those who are not discouraged by potential negative effects. Additionally, it was suggested that negative-risk taking in illegal or dangerous areas may be overlapping with the health/safety and ethical risk-taking domains when looking at domain-specific risk-taking (Fryt & Szczygiel, 2021).

### **Dark Personality and Risk Behaviors**

Previous literature has demonstrated a relationship between Dark Tetrad traits and risk-taking in general. In general, it is thought that individuals with higher levels of dark personality traits might be more likely to engage in externalizing behavior. Jonason and colleagues (2019) state that this may be due to a tendency to avoid blame for wrongdoings committed by the individual. By having a bias towards externalizing behavior, individuals higher in the aforementioned traits are permitted to pursue goals that may be destructive to themselves and others (Jonason et al., 2019). These destructive goals may include various degrees of risk-taking. Research has also indicated that those with certain dark personality traits may have heightened perceptions regarding the benefits of risk-taking, downplay the seriousness or potential losses associated with the risk, enjoy the thrill of risk-taking, have lowered ability for impulse regulation, or have an illusion of control (Crysel et al., 2013; Grover & Furnham, 2021; Malesza & Ostazewski, 2016; Stanwix & Walker, 2021). Nott and Walker (2021) described the various motivations commonly observed among those higher in specific dark personality traits. Motivation towards risk-taking in psychopathy is thought to be related to the nature of the trait

itself, particularly the empathy deficits that may lead to a reduced concern regarding the effects of taking a risk and the deficits in self-control which can cause more impulsive, risky behaviors. Individuals higher in narcissism are thought to be motivated by novelty (or “thrill seeking”), goal-oriented planning, or grandiosity, rather than impulsive behaviors. Those higher in Machiavellianism have not demonstrated the same degree of risk-taking as other dark personality traits (e.g., Crysel et al., 2013), however, the trait itself is centered around manipulation and deception. Thus, it is thought that those higher in Machiavellianism take more calculated, strategic risks. Sadism has not been as well-researched, as it has only recently been added to the list of dark personality traits as a distinct trait. It is thought that those higher in sadism may be motivated to take risks due to boredom intolerance, perceived ego-threats, or sensation seeking (Nott & Walker, 2021).

Swogger and colleagues (2010) conducted a study on risk-taking and psychopathy. The authors stated that antisocial behavior of psychopathic individuals may be explained by risk-taking propensity. This theory is based on clinical descriptions of the trait, which often include a variety of terms connected to risk-taking (e.g., impulsivity or sensation-seeking). Psychopathy significantly accounted for variance on both self-reported criminal history risk-taking measures and a behavioral risk-taking measure (Swogger et al., 2010). Stanwix and Walker (2021) aimed to investigate the Dark Tetrad personality traits and their relation to advantageous and disadvantageous risk-taking. It was found that narcissism positively predicted advantageous and disadvantageous risk-taking behaviors. It was suggested by the authors that narcissists may have heightened perceptions of the benefits associated with taking a risk. They posit that the filtering of extraneous ambiguous information can be adaptive for those higher in narcissism. Psychopathy predicted disadvantageous risk-taking at the domain and cluster levels, though

advantageous risk-taking was only significant at the cluster level. While significance being found for disadvantageous risk-taking is consistent with previous research (e.g., Swogger et al., 2010), the relationship between psychopathy and advantageous risk-taking is less clear. Additionally, sadism predicted all aspects of risk-taking in the study, while Machiavellianism predicted no aspects of risk-taking. It has been suggested that sadism predicts advantageous and disadvantageous risk-taking, as many of the risks sound appealing in and of itself (Stanwix & Walker, 2021). Crysel and colleagues (2013) explored the Dark Triad and risk behavior. Significant correlations were found between Dark Triad traits and impulsive behaviors. The study also found correlations between Dark Triad traits and sensation-seeking behaviors in general. Overall, it was found that narcissism was most strongly and consistently related to tasks of behavioral risk. Additionally, narcissism was positively related to higher probabilistic and temporal discounting (i.e., on a behavioral risk task involving monetary rewards participants preferred a smaller amount of money at the present time versus more money later). Therefore, the authors concluded that narcissism might be driving the relationship between the Dark Triad and risk-taking behaviors (Crysel et al., 2013). Additionally, Malesza & Ostaszewski (2016) found that narcissism and psychopathy were significant predictors of adolescent risk behaviors on both a self-report measure and on two behavioral tasks. The same study indicated that on both the self-reported measure and the behavioral tasks, Machiavellianism was found to be unrelated. Those high in psychopathy were theorized to be higher in risk-taking behaviors, as previous studies indicated impulse regulation issues and a drive to take needless risks for smaller gains. Those high in narcissism may take more risks due to an illusion of control and a downplay of potential losses by taking the risk (Malesza & Ostaszewski, 2016). Another study by Grover and Furnham (2021) found that there was a significant correlation between specific Dark Triad traits



and various risk-taking measures (behavioral, hypothetical, and self-report) used in the study. Primary psychopathy and Machiavellianism had no effect on predicting risk-taking. Secondary psychopathy and narcissism positively predicted risk-taking. The authors described previous studies where psychopathy was split into two constructs (primary and secondary psychopathy). They explained that previous research had not demonstrated the relationship between risk-taking behaviors and primary psychopathy to be as strong as the aforementioned behaviors and secondary psychopathy. The authors explained that secondary psychopathy encompasses different aspects of risk-taking such as impulsivity or neuroticism, while primary psychopathy is thought to consist more of emotional detachment and less anxiety. Those high in narcissism are thought to make riskier decisions, as they have a greater confidence in their abilities and may perceive greater potential benefits in taking a risk. Machiavellianism was not a significant predictor of risk-taking, a common finding in dark personality research (Grover & Furnham, 2021).

Other studies have taken a more specific approach when analyzing risky behaviors and dark personality traits. Onyedire and colleagues (2021), for example, analyzed problem gambling and the Dark Triad. The authors found that psychopathy and age predicted problem gambling. Additionally, it was found that narcissism acted as a negative predictor of gambling. Those higher in psychopathy may be more likely to gamble as they could be prone to sensation-seeking, may have higher levels of dysfunctional impulsivity, and may have higher thresholds for responding to stimuli that could be fear-provoking. Machiavellianism, however, did not significantly predict gambling behaviors. It was suggested that narcissism acted as a negative predictor within this study, as the distribution of gambling subtypes analyzed in the study may vary, and therefore affect the direction of association between problem gambling and narcissism.

Though Machiavellianism was not a significant predictor of gambling, it was posited that those higher in this trait are strategic, and therefore may be less likely to invest money or other resources in situations where the gains are uncertain or unlikely to occur (Onyedire et al., 2021). In terms of driving behaviors, a study conducted by Endriulaitienė and colleagues (2018) found that the Dark Triad was significantly related to riskier driving attitudes (e.g., drunk driving, speeding) in learner drivers. Psychopathy was thought to be related to riskier driving attitudes due to the deficits in self-control, a characteristic of this trait. Narcissism was theorized to be related to risky attitudes, as those high in this trait may be more likely to underestimate possible punishment and focus on rewards. Additionally, those high in narcissism may be more sensitive to threats (perceived or real) to the ego and may experience feelings of superiority when driving. While Malesza and Ostazewski (2016) found that Machiavellianism did not contribute to risk behavior, the Endriulaitienė and colleagues' (2018) study did (aside from attitudes on traffic rule violations). The authors note that those higher in Machiavellianistic tendency may show risk aversion to socially unacceptable behaviors (e.g., those who are higher in Machiavellianistic tendencies may obey traffic rules) while demonstrating risk proneness in areas that may be acceptable for males (e.g., joyriding). The authors explain that this may be a demonstration of strategic calculation techniques that are a major component of Machiavellianism (Endriulaitienė et al., 2018). Finally, Nnam and colleagues (2021) found that demographic variables and the Dark Triad acted as joint predictors in predicting hazardous drinking. More specifically, older students that had traits of Machiavellianism were more likely to engage in hazardous drinking as compared to younger students or students that did not have traits of Machiavellianism (Nnam et al., 2021). It is possible that identity development may act as a buffer between Dark Tetrad personality traits and the engagement of risky behaviors. An explanation for these findings may

be that those high in psychopathy and/or Machiavellianism live a faster life strategy (i.e., short-term focus, present-oriented attitude to risk-taking) and therefore, may behave from a more antisocial perspective (Nnam et al., 2021).

## **Rationale**

Previous literature has demonstrated relationships among aspects of identity, dark personality, and risk-taking behaviors, though these constructs have not been analyzed as a whole. Research has generally indicated that individuals with more consolidated identities may be less likely to participate in risk-taking behaviors, though no research has been conducted on dimensions of healthy and unhealthy identity development (SCIM dimensions). Studies have indicated strong relationships between psychopathy and risk-taking behavior, as well as between narcissism and risk-taking behavior. Less clear results have been found for Machiavellianism. Additionally, unclear results have been found for sadism though, as a Dark Tetrad construct, it has not been studied adequately. This may be in part due to the inclusion of sadism into the dark tetrad occurring more recently compared to its longer-standing counterparts (Paulhus et al., 2021). Adequate research has not been conducted to determine the relationship between identity development and dark personality, however, Kurek and colleagues (2019) have mentioned that maladaptive identity formation may be related to dark personality traits. When combining these findings, it is possible to see that dark personality formed in childhood or adolescence may affect identity development, which could subsequently lead to higher levels of risky behavior. Mercer and colleagues (2017) have indicated that individual variation in personal characteristics and capabilities are related to successful (or unsuccessful) identity formation. The authors conclude that these individual differences (e.g., differences in impulsivity or judgement ability) along with

maladaptive identity development may contribute to delinquency and risk-taking (Mercer et al., 2017). Dark personality traits and identity development as predictors of risk propensity (see Figure 1) and delinquency (see Figure 2) will be examined in this thesis. A bidirectional relationship between identity development and the dark personality traits is depicted in both models, as literature suggests that identity might cause changes in personality in adolescence (Klimstra, 2013) and personality traits may affect identity and self-concept (Doerfler et al., 2021). Though risk propensity and delinquency on the surface appear to be similar constructs, and thus might only require one analytical model, risk propensity focuses on a participant's current attitudes/tendencies towards risk taking, while delinquency focuses on actual behaviors whether current or past. Therefore, it is important to analyze these models independently.

It could be helpful to study identity development of those high on dark personality traits, as it is not currently known how identity may be related to the aforementioned traits. Though specific criminal or legal implications (e.g., relationships to recidivism and violent crime) are of interest, it is important to develop a comprehensive understanding of dark personality traits as a whole. Additionally, aside from gaining general knowledge on how identity and dark personality are related, risky behaviors among college students are of particular interest. By forming a better understanding about participation in risky behaviors under the context of flawed identity development and dark personality, intervention and prevention programs may be created or modified to assist students in developing a more consolidated identity which may in turn decrease participation in risky behaviors that may cause harm. Hernandez and colleagues (2006), for example, found that measuring identity distress among at-risk adolescents might be useful to determine difficulty in identity development and to determine links between issues in identity development and other areas of functioning.

## **Hypotheses**

- 1) The Dark Tetrad will significantly predict risk propensity scores alone, however, identity variables will be better predictors in accounting for the variance and the combined effect will greatly reduce the amount of variance predicted by the Dark Tetrad.
- 2) The Dark Tetrad will significantly predict delinquency scores alone, however, identity variables will be better predictors in accounting for the variance and the combined effect will greatly reduce the amount of variance predicted by the Dark Tetrad.

## CHAPTER THREE: METHODOLOGY

### Participants

Participants ( $N = 424$ ,  $M_{age} = 20.66$ ,  $SD = 4.44$ ) were undergraduate students sampled from the University of Central Florida; a large public university located in the Southeastern United States. The gender breakdown was 65.3% female, 31.8% male, 1.7% non-binary, 0.9% transgender, and 0.2% classifying as other. The ethnicity breakdown was 47.4% White, non-Hispanic, 28.3% Hispanic or Latino/a, 9.2% Asian or Pacific Islander, 8.5% Black, non-Hispanic, 0.2% Native American or Alaskan Native, and 6.4% Mixed ethnicity or Other. The education breakdown was 38.7% Freshman, 17.7% Sophomore, 26.2% Junior, 15.8% Senior, 0.5% Non-degree Seeking, 0.2% Graduate Student, and 0.7% Other.

### Measures

*Demographic Questionnaire* was the first measure utilized in the study. Participants were asked to report their age, sex, ethnicity, and education level.

*Delinquency Measure* (Belmi et al., 2015). The Delinquency Measure is a 38-item self-report measure that assesses delinquency. Participants are asked to report the extent to which they engaged in certain delinquent behaviors at school within the past year. Each item is reported on a 7-point Likert scale ranging from 1 (never) to 7 (very often). An example behavior is “Stolen something that belongs to the university”. Belmi and colleagues (2015) found the Cronbach Alpha to be .98 in their study. In the current study, internal consistency reliability was found to be .93.

*General Risk Propensity Scale (GRiPS; Zhang et al., 2019).* The GRiPS is an 8-item self-report scale measuring the general construct of risk propensity. Participants are asked to rate their level of agreement with each item. The level of agreement is measured on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). An example item from this measure is “I would take a risk even if it meant I might get hurt.”. The Cronbach Alpha for this measure has previously been found to be .91 (Zhang et al., 2019). The measure was again found to have a Cronbach’s alpha of .91 in the current study.

*Identity Distress Survey (IDS; Berman et al., 2004).* The IDS is a 7-item self-report scale measuring distress related to unresolved identity issues. Distress is measured for 7 types of potential identity issues (long-term goals, career choice, friendships, sexual orientation, religion, values/beliefs, and group loyalties). These 7 types of potential identity issues are averaged to obtain an Average Distress Rating. Items generally begin with the following question stem “To what degree have you recently been upset, distressed, or worried over the following issues in your life?”. Each item is reported on a 5-point scale (1=Not at all, 2=Mildly, 3=Moderately, 4=Severely, 5=Very Severely). An example item from the IDS is, “Friendships (e.g., experiencing a change of friends, change of friends, etc.)”. The Cronbach’s Alpha for the IDS was found to be .80 (Berman et al., 2004). The current study found a Cronbach’s Alpha of .83.

*Self-Concept and Identity Measure (SCIM; Kaufman et al., 2015).* The SCIM is a 27-item self-report measure used to assess the level of identity consolidation and identity disturbance. Three subscales indicate Disturbed Identity, Consolidated Identity, and a Lack of Identity. Participants are asked to indicate their level of agreement or disagreement to given statements. The level of agreement is measured on a 7-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Unsure, 5= Slightly Agree, 6= Agree, 7=Strongly Agree). An example

item from the Disturbed Identity subscale is “I imitate other people instead of being myself”. An example item from the Consolidated Identity subscale is “When someone describes me, I know if they are right or wrong”. Finally, an example item from the Lack of Identity subscale is “I no longer know who I am”. The Cronbach’s Alpha for the SCIM was previously found to be .82 for Disturbed Identity, .73 for Consolidated Identity, .86 for Lack of Identity (Kaufman et al., 2019). In the current study, the internal consistency was found to be .86, .82, and .92 respectively.

*Short Dark Tetrad (SD4; Paulhus et al., 2021).* The SD4 is a 28-item scale that captures the four traits of dark personality: narcissism, Machiavellianism, psychopathy, and sadism. An example item from the Machiavellianism subscale is “Manipulating the situation takes planning”. An item from the psychopathy subscale is “People who mess with me always regret it”. An example item of narcissism is “I’m likely to become a future star in some area” and, for sadism, an example item is “I really enjoy violent films and video games”. There are 7 items for each of the 4 subscales used. Participants will be asked to rank their agreement with each statement using a 5-point scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The Cronbach alphas of the subscales were previously found to be .75 for Machiavellianism, .81 for psychopathy, .80 for narcissism, and .81 for sadism (Paulhus et al., 2021). In the current study, the internal consistency was found to be .73, .78, .80, and .82 respectively.

## **Procedure**

The survey was submitted to the University of Central Florida’s Institutional Review Board (IRB), where it was reviewed for approval. Once approved, the survey was uploaded in Qualtrics and synched with SONA, the psychology research participation program utilized at



UCF. Students taking introductory level psychology classes are encouraged to participate in research on SONA and receive participation credits within their courses. Students who do not wish to participate in research at UCF are offered alternative assignments by their professors that have been designated to be worth the same time and effort as research participation. Students are offered a choice of research studies in which to participate on the SONA system. Those that chose to participate in this study completed the survey online. Participants were assured that the survey responses they provided would remain anonymous. Participants were able to take the survey at a location of their choosing. Due to the nature of the questions asked during this survey, mental health resources were provided (e.g., Counseling and Psychological Services, the UCF campus counseling program).

## CHAPTER FOUR: RESULTS

### Preliminary and Descriptive Analyses

Means, standard deviation, possible and actual range for all study variables are reported in Table 1.

To determine if any study variables were associated with age, a Pearson Product Moment Correlation was utilized (See Table 2). Machiavellianism ( $r = -.14, p = .007$ ), sadism ( $r = -.16, p = .001$ ), disturbed identity ( $r = -.29, p < .001$ ), and risk propensity ( $r = -.13, p = .007$ ) were significantly negatively correlated with age. The correlation matrix also indicated patterns of significance between the Dark Tetrad traits and the SCIM identity dimensions. A significant positive relationship was found between Machiavellianism and both disturbed identity ( $r = .18, p < .001$ ) and lack of identity ( $r = .17, p < .001$ ). Similarly, sadism was positively correlated to both disturbed identity ( $r = .20, p < .001$ ) and lack of identity ( $r = .17, p < .001$ ). Additionally, psychopathy was significantly correlated with both disturbed ( $r = .23, p < .001$ ) and lack of identity ( $r = .20, p < .001$ ), and a negative correlation was found between psychopathy and consolidated identity ( $r = -.10, p = .042$ ). Therefore, Machiavellianism, psychopathy and sadism were all positively correlated with both disturbed identity and lack of identity. Narcissism was positively correlated with consolidated identity ( $r = .40, p < .001$ ) and negatively correlated with lack of identity ( $r = -.12, p = .015$ ).

To determine if any gender differences were present, independent samples t-tests were conducted. Gender differences were found in both Machiavellianism and sadism. Men ( $M = 3.43, SD = 0.62$ ) had higher levels of Machiavellianism, as compared to women ( $M = 3.25, SD = 0.66; t(410) = 2.57, p = .011$ ). Similarly, men ( $M = 2.85, SD = 0.81$ ) had higher levels of sadism

compared to women ( $M = 2.06, SD = 0.79; t(410) = 9.43, p < .001$ ). Lack of identity had a significant gender difference, with women ( $M = 2.76, SD = 1.48$ ) scoring higher than men ( $M = 2.44, SD = 1.47; t(410) = -2.05, p = .041$ ). Finally, identity distress was found to have significant gender differences, with women ( $M = 2.37, SD = 0.81$ ) having higher levels of identity distress than men ( $M = 2.10, SD = 0.81; t(410) = -3.14, p = .002$ ).

To determine if any ethnicity differences were present all study variables were analyzed via a one-way Analysis of Variance (ANOVA). Significant differences were found for scores on Machiavellianism ( $F_{(4, 419)} = 5.33, p < .001$ ), narcissism ( $F_{(4, 415)} = 2.48, p = .044$ ), and identity distress ( $F_{(4, 419)} = 3.90, p = .004$ ). LSD post-hoc analyses indicate that Black, non-Hispanic and Asian or Pacific Islander participants scored significantly higher than both White, non-Hispanic and Hispanic or Latino/a participants in Machiavellianism. Black, non-Hispanic participants scored significantly higher than White, non-Hispanic, Asian or Pacific Islander, and Mixed ethnicity/Other participants in narcissism. Additionally, on the same SD4 subscale, Hispanic or Latino/a participants scored higher than White, non-Hispanic participants. Participants who were of Mixed ethnicity or identified as “Other” scored higher in identity distress than White, non-Hispanic, Hispanic or Latino/a, and Asian or Pacific Islander participants. Finally, Asian or Pacific Islander participants scored lower than White, non-Hispanic and Black, non-Hispanic participants in identity distress.

To determine if any educational differences were present all study variables were analyzed via an additional one-way ANOVA. Significant differences were found for psychopathy ( $F_{(4, 418)} = 2.67, p = .032$ ), sadism ( $F_{(4, 418)} = 4.96, p < .001$ ), and disturbed identity ( $F_{(4, 418)} = 3.75, p = .005$ ). LSD post-hoc analyses revealed that freshman participants scored significantly higher in psychopathy than junior or senior participants. Juniors and seniors scored

lower in sadism than both freshman and sophomore participants. Similarly, juniors and seniors scored lower than freshman and sophomore participants in disturbed identity.

## **Main Analyses**

*Hypothesis 1* (The Dark Tetrad will significantly predict risk propensity scores alone, however, identity variables will be better predictors in accounting for the variance and the combined effect will greatly reduce the amount of variance predicted by the Dark Tetrad) was tested with a stepwise multiple regression analysis. Sex and age were entered on Step 1, the Dark Tetrad dimensions (Machiavellianism, narcissism, psychopathy, and sadism) were entered on Step 2, identity dimensions (disturbed identity, consolidated identity, and lack of identity) and identity distress were entered on Step 3, with risk propensity scores as the dependent variable. At step 2, the resulting equation was significant ( $R^2 = .36$ , Adjusted  $R^2 = .35$ ,  $F_{(6, 392)} = 37.35$ ,  $p < .001$ ;  $\Delta R^2 = .35$ ,  $\Delta F_{(4, 392)} = 53.53$ ,  $p < .001$ ), with standardized coefficient betas reaching significance for Machiavellianism ( $\beta = .14$ ,  $t = 3.19$ ,  $p = .002$ ), psychopathy ( $\beta = .40$ ,  $t = 8.98$ ,  $p < .001$ ), and narcissism ( $\beta = .30$ ,  $t = 7.08$ ,  $p < .001$ ). At step 3 the resulting equation was significant ( $R^2 = .40$ , Adjusted  $R^2 = .38$ ,  $F_{(10, 388)} = 25.50$ ,  $p < .001$ ;  $\Delta R^2 = .03$ ,  $\Delta F_{(4, 388)} = 5.32$ ,  $p < .001$ ). Standardized coefficient betas reached significance for Machiavellianism ( $\beta = .13$ ,  $t = 3.05$ ,  $p = .002$ ), psychopathy ( $\beta = .42$ ,  $t = 9.35$ ,  $p < .001$ ), narcissism ( $\beta = .24$ ,  $t = 5.18$ ,  $p < .001$ ), consolidated identity ( $\beta = .12$ ,  $t = 2.16$ ,  $p = .031$ ), and disturbed identity ( $\beta = .17$ ,  $t = 3.07$ ,  $p = .002$ ). The Dark Tetrad was successful in predicting risk propensity alone at step 2, though the identity variables (specifically consolidated and disturbed identity) contributed to a significant combined model at step 3. While some of the identity development variables were significant and step 3 accounted for a greater amount of variance than step 2, there was a more significant

change in the  $R^2$  values at step 2 than at step 3 ( $\Delta R^2 = .35$  and  $.03$ , respectively). Significance of both consolidated identity and disturbed identity demonstrates the utility of including identity-related variables in predicting risk propensity, though findings indicate that these variables are not necessarily better predictors of risk propensity than the Dark Tetrad. Therefore, Hypothesis 1 was only partially supported.

*Hypothesis 2* (The Dark Tetrad will significantly predict delinquency scores alone, however, identity variables will be better predictors in accounting for the variance and the combined effect will greatly reduce the amount of variance predicted by the Dark Tetrad) was tested with a stepwise multiple regression analysis. Sex and age were entered on Step 1, the Dark Tetrad dimensions (Machiavellianism, narcissism, psychopathy, and sadism) were entered on Step 2, identity dimensions (disturbed identity, consolidated identity, and lack of identity) and identity distress were entered on Step 3, with delinquency scores as the dependent variable. At step 2, the resulting equation was significant ( $R^2 = .23$ , Adjusted  $R^2 = .22$ ,  $F_{(6, 390)} = 19.69$ ,  $p < .001$ ;  $\Delta R^2 = .23$ ,  $\Delta F_{(4, 390)} = 28.90$ ,  $p < .001$ ), with standardized coefficient betas reaching significance for age ( $\beta = .13$ ,  $t = 2.77$ ,  $p = .006$ ), psychopathy ( $\beta = .37$ ,  $t = 7.40$ ,  $p < .001$ ), and sadism ( $\beta = .24$ ,  $t = 4.60$ ,  $p < .001$ ). At step 3 the resulting equation was significant ( $R^2 = .27$ , Adjusted  $R^2 = .25$ ,  $F_{(10, 386)} = 14.15$ ,  $p < .001$ ;  $\Delta R^2 = .04$ ,  $\Delta F_{(4, 386)} = 4.72$ ,  $p = .001$ ). Standardized coefficient betas reached significance for psychopathy ( $\beta = .33$ ,  $t = 6.71$ ,  $p < .001$ ), sadism ( $\beta = .23$ ,  $t = 4.46$ ,  $p < .001$ ), and identity distress ( $\beta = .17$ ,  $t = 3.04$ ,  $p = .003$ ). Some variables of the Dark Tetrad were successful in predicting delinquency scores alone at step 2, though identity distress contributed to a significant model at step 3. While identity distress was significant and step 3 accounted for a greater amount of variance than step 2, there was a more

significant change in the  $R^2$  values at step 2 than at step 3 ( $\Delta R^2 = .23$  and  $.04$ , respectively).

Therefore, Hypothesis 2 was only partially supported.

## CHAPTER FIVE: CONCLUSION

Machiavellianism, psychopathy, narcissism, consolidated identity, and disturbed identity acted as significant positive predictors of risk propensity. It was found that for risk propensity, dark personality traits were not the sole predictor, and other factors (i.e., identity) appeared to be large contributors to explaining the variance. The findings of the study were consistent with Jones and Paulhus' (2011) study, which found that those with high levels of narcissism and psychopathy were more likely to have higher scores on both functional impulsivity (e.g., being adventurous) and dysfunctional impulsivity (e.g., inability to regulate self). There has been some inconsistency in the literature regarding dark personality traits and their relationship with risk propensity or risk-taking, particularly with Machiavellianism and sadism. The aforementioned study found no correlation between Machiavellianism and impulsivity (Jones & Paulhus, 2011), though this is not consistent with the findings from the present study. Additionally, in Grover and Furnham's (2021) study, Machiavellianism was not a significant predictor of risk propensity. However, Crysel and colleagues (2013) found that all subscales Dark Triad, including Machiavellianism, were positively correlated to both impulsivity and sensation seeking. It is important to note that Jones & Paulhus' (2011) study, Grover & Furnham's (2021) study, and Crysel and colleagues' (2013) study utilized different measures of Machiavellianism. Differences in conceptualization and measurement across scales might explain some of the inconsistencies across the previous findings. Additionally, there has been some criticism regarding the SD3 and SD4, particularly in the overlap between psychopathy (the impulsive construct of the Dark Tetrad) and Machiavellianism (Watts et al., 2017). These criticisms of validity are due to suggested redundancy across certain dark traits (e.g., Machiavellianism and psychopathy). These jangle fallacies, where it is assumed that two similar or nearly identical

constructs are different simply because they have different names, have become a common criticism across many measures of dark traits, even beyond the SD3 and SD4 (Kowalski et al., 2021). These criticisms offer a valuable path to future research focusing on the improvement conceptualization and measurement of the Dark Tetrad traits and their relationship with externalizing behaviors. Additionally, future research could use measures that capture the basic “ingredients” of each construct (e.g., agreeableness) to utilize a more parsimonious approach. Though the aforementioned criticism is important to consider within the context of the study, it is worth noting that Machiavellianism and psychopathy were only moderately correlated ( $r = .13, p = .009$ ) and demonstrated varied results in the current study (e.g., psychopathy reaching significance in H2, which Machiavellianism did not). Despite a previous finding supporting the role of sadism in risk taking (i.e., advantageous and disadvantageous risk taking; Stanwix & Walker, 2021), this result was not substantiated in the current study. Stanwix and Walker (2021), upon finding a relationship between sadism and risk-taking, suggested that the items for the risk-taking measure may have been appealing for those high in sadism (e.g., revealing someone’s secret that the person knows might be detrimental to reveal). Due to the use of a general risk propensity measure in the current study, as opposed to any specific disadvantageous risk-taking measure (which may include more “sadistic” risk-taking such as rating the likelihood of participation in an extramarital affair), it is possible that the statements utilized in the GRiPS (e.g., “I am a believer of taking chances”; Zhang et al., 2019) may not have been as appealing to someone with high levels of sadism. Similarly, it is possible that both identity consolidation and disturbed identity functioned as positive predictors of risk propensity due to the nature of the measure utilized. It is possible that the items provided in the GRiPS could be interpreted as propensity for positive or negative risk taking. Lack of identity was not found to be a significant



predictor of risk propensity. In a study by Hardy and colleagues (2013) participants with stronger identity consolidation had higher self-esteem and had lower levels of risky alcohol use.

Therefore, it is possible that identity consolidation may protect against disadvantageous risk-taking but could predict more general risk-taking. Future studies may want to utilize various measures of risk propensity (both advantageous and disadvantageous), impulsivity, and risk-taking through dimensional or domain-specific measures that would allow researchers to parse out the more general relationships found within the current study.

In the current study, psychopathy, sadism, and identity distress acted as significant, positive predictors of delinquency. Machiavellianism, narcissism, and the SCIM identity statuses (disturbed identity, lack of identity, and consolidated identity) did not act as significant predictors in this model. It is surprising that Machiavellianism and narcissism were not significant predictors of delinquency as previous studies have found strong relationships between the aforementioned traits and delinquency levels (Ali, 2020). Though psychopathy and Machiavellianism overlap in many aspects (e.g., callousness; Paulhus, 2014). It is possible that Machiavellianism was not a significant predictor of delinquency, as many of the items on the delinquency measure used are more impulsive acts by nature (e.g., “Drank alcohol excessively or beyond your limit”; Belmi et al., 2015). Machiavellianism typically represents more thoughtful, strategic manipulation to obtain goals, rather than impulsivity and disinhibition, that is more typical of psychopathy (Furnham et al., 2013). Therefore, it is possible in the current study that delinquency, at least in the measure used, focused on impulsive behaviors which is better predicted through the psychopathy trait of the Dark Tetrad. Additionally, it is possible that narcissism did not act as a significant predictor, as those high in narcissism tend to involve themselves in delinquent, risky, or aggressive behavior in the presence of perceived slights or

ego-threats against them (Lambe et al., 2018). This measure focused on the acts themselves, rather than the reasonings behind them. Therefore, those high in narcissism may not have identified with the items used (e.g., “Purposely dirtied or littered”; Belmi et al., 2015). Future studies may want to examine both risk propensity/risk-taking related to impulsiveness and more strategic risk-propensity, as it is possible to take risks in calculated manner. Similarly studies of risk propensity might benefit from looking at a variety of relevant factors such as perceived benefit to taking the risk or the situational factors/motivations associated with risk propensity. The aforementioned results are somewhat consistent with Chabrol and colleagues’ (2009) study, which found that Machiavellianistic and narcissistic traits did not contribute to delinquent behavior in young boys or girls. Additionally, the authors found that psychopathic and sadistic traits were predictors of delinquent behavior, however, this finding was limited to young boys. The authors suggested that heightened levels of impulsive and aggressive tendencies might facilitate the expression of more psychopathic/sadistic traits in the perpetration of delinquent behavior in boys. However, they stated that girls might have lower levels of these tendencies or that the aggression might be expressed in a different way than in boys such as through non-violent or non-delinquent behaviors (Chabrol et al., 2009). Additionally, relational aggression and other similar behaviors that might be more commonly expressed in girls or women could be potentially linked to the aforementioned tendencies, though they might not be captured by delinquency scales that often focus on overt behaviors (e.g., physical aggression) that are more typical among boys or men. It is important to note that the study conducted by Chabrol and colleagues (2009) utilized a different measure of delinquency and only included moderate delinquency and severe antisocial behavior. The current study looked at a wide spectrum of delinquency, including more “minor” acts of deviance (e.g., “Came to class late without a valid

excuse”; Belmi et al., 2015). Therefore, the measure was not limited to more “extreme” acts of delinquency that might be more prevalent among males (e.g., physical assault). Ultimately, the current study found no significant gender difference in predicting delinquency. It was surprising that the SCIM identity subscales did not function as significant predictors within the hypothesized model, particularly because they are correlated with the risk taking and delinquency scores. It is possible that sex, age, and/or the Dark Tetrad could be acting as mediating or moderating variable(s). This is an avenue for future analysis, as relevant variables (particularly the Dark Tetrad) might be pulling variance in the model, potentially leading to low levels of significance of the SCIM identity subscale within the model. It is also possible that identity development does not predict delinquency in itself, however, distress regarding identity status does predict these externalizing behaviors. Support for this explanation has been found in the current study, with identity distress acting as a significant positive predictor of delinquency, though future studies might attempt to better understand whether delinquency is related to issues with identity development or distress regarding adolescent identity. In a study on emotional distress, deviant norms, and substance use in adolescents, Webb (1996) found that emotional distress variables were found to be strong predictors of minor deviance. It is possible that distress itself could be an important factor in participation of delinquent acts.

### **Limitations and Future Research**

The current study did have some methodological limitations. First, it is important to note that all data analyses were correlational in nature. Causation and any causal processes may not be assumed due to the cross-sectional nature of the data. Future research could benefit from examining these processes using a longitudinal method. Though the variables used within the

study cannot be experimentally manipulated, a longitudinal design could provide temporal evidence that might support claims of causality.

Another limitation worth mentioning is the nature of the sample. The current study recruited participants from a large metropolitan university in the Southeastern United States, and some demographics were skewed (e.g., gender). As demonstrated within the current study and previous literature, there are some gender differences in the presentation of dark personality traits, therefore, it is important to consider that the sample was primarily young, White female students. Future research could benefit by examining these differences across various age groups. Another limitation regarding the nature of the sample is the measure of dark personality traits, risk, and delinquency. It is possible that data is skewed, as college students high in dark personality traits may represent successful variations of these traits, possibly reducing the power in this study (i.e., those who successfully utilize their dark personality traits may not participate in delinquency or risk taking). Therefore, the data may only be generalizable to people that are successfully utilizing these traits (e.g., successful psychopathy and leadership effectiveness; Vergauwe et al., 2021). Future studies could benefit from administering similar survey batteries to populations which have presumably “unsuccessful” presentations of these dark personality traits, that may show stronger relationships with delinquency or risk propensity.

An additional limitation worth noting is the nature of the survey battery. The survey battery was self-report. Participants may not be entirely truthful when completing the survey battery. As the study was completed through the university’s study participation system, participants may not have answered truthfully due to concerns regarding study anonymity. Attempts were made to reduce concerns to validity in the current study. Participants were provided a validity question following the completion of the survey battery that reminded them

of potential distractors that may be present in the environment during online studies. The question allowed participants to designate whether they wanted their data to be used in the analysis. Additionally, participants were assured that their answers would remain anonymous and were reminded of this prior to completing more sensitive measures (e.g., Belmi et al.'s 2015 Delinquency Measure). It is possible that students completing the survey battery may have been nervous to answer truthfully for fear of university repercussion, especially for measures that were asking specific questions related to delinquency and misbehavior at school. Similarly, participants may have answered items in socially-desirable ways, which might affect validity of responses. Future studies could benefit from designs that are more protected from biased reporting, such as utilizing a clinical interview format and/or adding a social desirability measure to the survey battery.

A final limitation to acknowledge is the overlap between items on the predictor and outcome variables, particularly in the case of psychopathy. Some items on the psychopathy subscale of the SD4 may be directly capturing risk-taking or risk propensity (e.g., "I tend to dive in, then ask questions later"; Paulhus et al., 2021). A similar item on the GRiPS is "I am a believer of taking chances"; Zhang et al., 2019). Additionally, some of the items on the psychopathy subscale of the SD4 (e.g., "I've been in trouble with the law"; Paulhus et al., 2021) may have overlap with items on the Delinquency Measure (e.g., "Done something that could have gotten you in trouble with the police"; Belmi et al., 2015). While this limitation is important to consider when interpreting results of the present study, the predictor variables in question do not appear to pull unreasonably large levels of variance within the regression models tested. Future studies might utilize multifaceted measures of the dark personality to determine whether there is a relationship between dark personality and risk propensity beyond the behavioral

criteria of the traits. This is particularly salient when studying psychopathy, a trait that has noted affective, interpersonal, and behavioral characteristics that may extend beyond the behavioral impulsivity (e.g., superficial charm or lack of empathy; Thomson et al., 2019) captured within the SD4. Research on identity development and its relationship to these other components could be crucial to understanding their combined relationship with risk propensity and delinquency.

Despite the aforementioned limitations, it can be concluded from this research that some dark personality traits and identity variables may be useful predictors of risk propensity and delinquency. Overall, it appears that there is utility in using both dark personality traits and identity to predict risk propensity and delinquency.

**APPENDIX A: IRB APPROVAL LETTER**



UNIVERSITY OF CENTRAL FLORIDA

**Institutional Review Board**  
FWA00000351  
IRB00001138, IRB00012110  
Office of Research  
12201 Research Parkway  
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

May 20, 2022

Dear Reilly Branch:

On 5/20/2022, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Exempt category 2i
Title:	Identity, Personality, and Behavior
Investigator:	Reilly Branch
IRB ID:	STUDY00004324
Funding:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> <li>• HRP 251-Identity_Personality_and_Behavior_Completed.pdf, Category: Faculty Research Approval;</li> <li>• Identity_Personality_and_Behavior_Survey Battery.docx, Category: Survey / Questionnaire;</li> <li>• IRB Branch 3590 HRP-255_Identity, Personality, and Behavior.docx, Category: IRB Protocol;</li> <li>• Updated- IRB Branch 3590 HRP-254_Identity, Personality, and Behavior.pdf, Category: Consent Form;</li> </ul>

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or [irb@ucf.edu](mailto:irb@ucf.edu). Please include your project title and IRB number in all correspondence with this office.



Sincerely,

A handwritten signature in cursive script that reads "Gillian Bernal".

Gillian Bernal  
Designated Reviewer

## **APPENDIX B: EXPLANATION OF RESEARCH**



UNIVERSITY OF  
CENTRAL FLORIDA

## **EXPLANATION OF RESEARCH**

**Title of Project:** Identity, Personality, and Behavior

**Principal Investigator:** Reilly Branch

**Faculty Advisor:** Dr. Steven L. Berman

You are being invited to take part in a research study. Whether you take part is up to you.

We are interested in examining the relationship between your identity, personality traits, and behavior. You will be asked to answer questions regarding previous behaviors in your own experience, hypothetical behaviors (how you might respond to an imaginary situation), your personality, and your feelings about yourself. Some topics in the survey include questions about drugs and alcohol use. Please be assured that your responses will be anonymous and no identifiable information will be collected.

The survey should take you around 30 minutes to complete.

You will receive SONA credits for your participation. You may skip any questions that you feel uncomfortable answering and still receive full credit. If you choose not to participate, you can complete an alternate assignment of equal time and effort for equal credit through your psychology course.

Your participation in this research is voluntary. You are free to withdraw your consent and discontinue participation in this study at any time without prejudice or penalty. Your decision to participate or not participate in this study will in no way affect your relationship with UCF, including continued enrollment, grades, employment, or your relationship with the individuals who may have an interest in this study.

**You must be a UCF student and 18 years of age or older to take part in this research study.**

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or please contact Reilly Branch ([reillybranch@knights.ucf.edu](mailto:reillybranch@knights.ucf.edu)), Principal Investigator, or Dr. Steven Berman ([steven.berman@ucf.edu](mailto:steven.berman@ucf.edu)), Faculty Advisor.

**IRB contact about your rights in this study or to report a complaint:** If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901, or email [irb@ucf.edu](mailto:irb@ucf.edu).

This survey contains questions about illegal activity and substance use. If you are struggling with substance use, or are feeling distressed, you may feel a need or desire to process some of your

own personal experiences. Support resources you may wish to utilize or share with others are listed below and will be repeated at the end of the survey.

SAMHSA's National Helpline (also known as the Treatment Referral Routing Service) is a confidential, free, 24-hour-a-day information service for individuals and family members facing mental and/or substance use problems.

Telephone: 1-800-662-HELP (4357)

Online Treatment Locator: <https://findtreatment.samhsa.gov/>

UCF Counseling and Psychological Services at (407) 823-2811.

National Suicide Prevention Lifeline

1-800-273-8255

Counseling/therapy

1-800-THERAPIST (to find a local therapist)

800-843-7274

## **APPENDIX C: SURVEY BATTERY**

**Demographics**

1. What is your age? \_\_\_\_\_
2. How would you define your gender?
  - a. Male
  - b. Female
  - c. Transgender
  - d. Non-Binary
  - e. Other (please specify):
3. Select the ethnic/racial identifier that best describes you:
  - a. White, non-Hispanic
  - b. Black, non-Hispanic
  - c. Hispanic or Latino/a
  - d. Asian or Pacific Islander
  - e. Native American
  - f. Mixed ethnicity or other (please specify):\_\_\_\_\_
4. Indicate year in school:
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
  - e. Non-degree seeking
  - f. Graduate student
  - g. Other

**General Risk Propensity Scale (GRiPS)**

Rate your agreement with each statement using a 5-point scale:

<b>Strongly Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither agree nor disagree</b>	<b>Somewhat Agree</b>	<b>Strongly Agree</b>
1	2	3	4	5

1. Taking risks makes life more fun
2. My friends would say that I'm a risk taker
3. I enjoy taking risks in most aspects of my life
4. I would take a risk even if it meant I might get hurt
5. Taking risks is an important part of my life
6. I commonly make risky decisions
7. I am a believer of taking chances
8. I am attracted, rather than scared, by risk

### Identity Distress Scale (IDS)

To what degree have you recently been upset, distressed, or worried over any of the following issues in your life? (Please select the appropriate response, using the following scale).

None at all	Mildly	Moderately	Severely	Very Severely
1	2	3	4	5

1. Long term goals? (e.g., finding a good job, being in a romantic relationship, etc.)
2. Career choice? (e.g., deciding on a trade or profession, etc.)
3. Friendships? (e.g., experiencing a loss of friends, change in friends, etc.)
4. Sexual orientation and behavior? (e.g., feeling confused about sexual preferences, intensity of sexual needs, etc.)
5. Religion? (e.g., stopped believing, changed your belief in God/religion, etc.)
6. Values or beliefs? (e.g., feeling confused about what is right or wrong, etc.)
7. Group loyalties? (e.g., belonging to a club, school group, gang, etc.)

### SHORT DARK TETRAD (SD4)

Rate your agreement with each statement using a 5-point scale:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

### IDENTITY 1: "CRAFTY"

1. It's not wise to let people know your secrets.
2. Whatever it takes, you must get the important people on your side.
3. Avoid direct conflict with others because they may be useful in the future.
4. Keep a low profile if you want to get your way.
5. Manipulating the situation takes planning.
6. Flattery is a good way to get people on your side.
7. I love it when a tricky plan succeeds.

### IDENTITY 2: "SPECIAL"

8. People see me as a natural leader.
9. I have a unique talent for persuading people.
10. Group activities tend to be dull without me.
11. I know that I am special because people keep telling me so.
12. I have some exceptional qualities
13. I'm likely to become a future star in some area.
14. I like to show off every now and then.

**IDENTITY 3: "WILD"**

15. People often say I'm out of control.
16. I tend to fight against authorities and their rules.
17. I've been in more fights than most people of my age and gender.
18. I tend to dive in, then ask questions later.
19. I've been in trouble with the law.
20. I sometimes get into dangerous situations.
21. People who mess with me always regret it.

**IDENTITY 4: "MEAN"**

22. Watching a fist-fight excites me.
23. I really enjoy violent films and video games.
24. It's funny when idiots fall flat on their face.
25. I enjoy watching violent sports.
26. Some people deserve to suffer.
27. Just for kicks, I've said mean things on social media.
28. I know how to hurt someone with words alone.

**Self-Concept and Identity Measure (SCIM)**

For the following 30 statements, please decide how much you disagree or agree with each, using the following scale.



<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Unsure</b>	<b>Slightly Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1	2	3	4	5	6	7

1. I know what I believe or value.
2. When someone describes me, I know if they are right or wrong.
3. When I look at pictures from my childhood I feel like there is a thread connecting my past to now.
4. Sometimes I pick another person and try to be just like them, even when I'm alone.
5. I know who I am.
6. I change a lot depending on the situation.
7. I like who I am most of the time.
8. I have never really known what I believe or value.
9. I feel like I am someone else instead of myself.
10. I feel like a puzzle and the pieces don't fit together.
11. I am good.
12. I imitate other people instead of being myself.
13. I feel whole.
14. I have been interested in the same types of things for a long time.
15. I am so different with different people that I'm not sure which is the "real me".
16. I am broken.
17. When I remember my childhood I feel connected to my younger self.
18. I feel lost when I think about who I am.
19. At least one person sees me for who I really am.
20. I always have a good sense about what is important to me.
21. I am so similar to certain people that sometimes I feel like we are the same person.
22. I am basically the same person that I've always been.
23. I feel empty inside, like a person without a soul.
24. My opinions can shift quickly from one extreme to another.
25. I no longer know who I am.
26. I am more capable when I am with others than when I am by myself.
27. No one knows who I really am.
28. I try to act the same as the people I'm with (interests, music, dress) and I change that all the time.
29. I am only complete when I am with other people.
30. The things that are most important to me change pretty often.

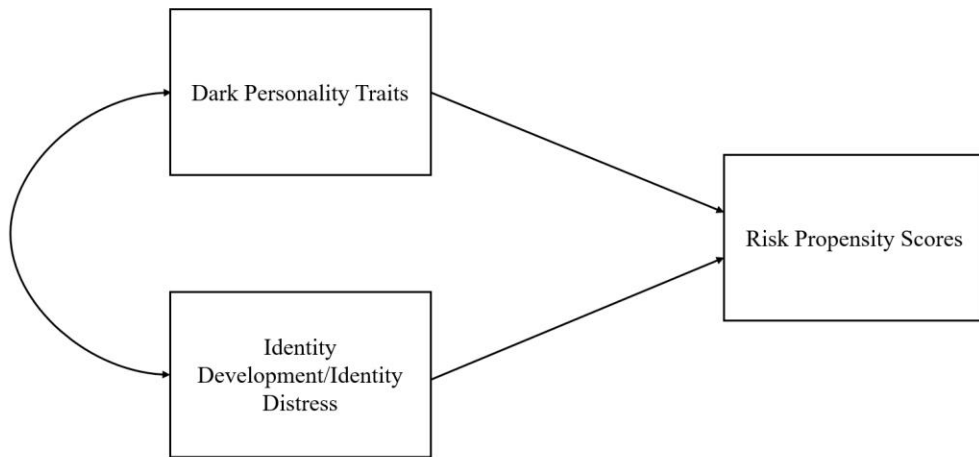
### **Delinquency Measure**

Listed below are a number of statements concerning previous behaviors. Read each item and rate how often you have partaken in the activity.

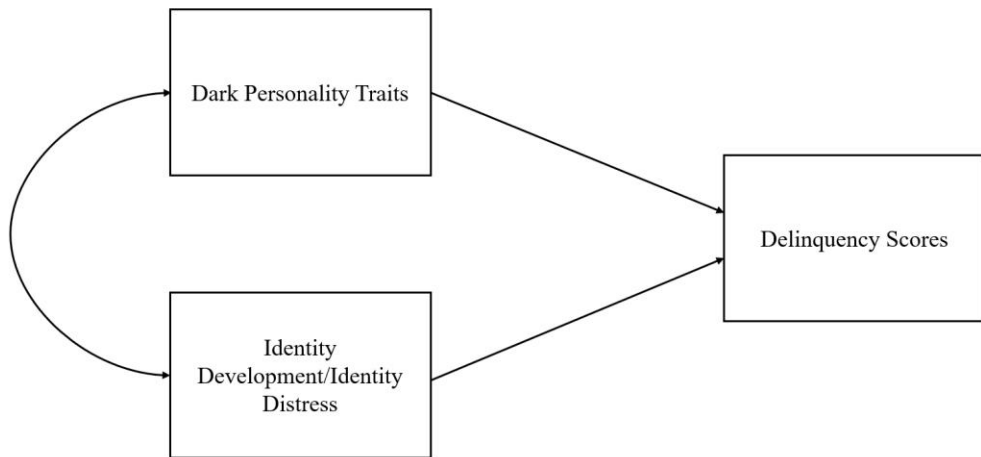
<b>Never</b>	<b>Very Rarely</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>	<b>Very Often</b>	<b>Always</b>
1	2	3	4	5	6	7

1. Purposely wasted the university's materials or supplies
2. Purposely damaged a piece of equipment or property
3. Purposely dirtied or littered
4. Cheated on a test
5. Copied someone else's work and passed it off as your own
6. Violated your school's honor code
7. Came to class late without a valid excuse
8. Skipped a class without a valid excuse
9. Stolen something that belongs to the university
10. Took supplies or tools home without permission
11. Stole something that belongs to another student in school
12. Start a damaging or harmful rumor about another student
13. Been nasty or rude to another student
14. Insulted another student
15. Made fun of another student
16. Verbally abused someone
17. Picked up a fight with someone
18. Threatened someone in school with violence
19. Threatened someone in school, but not physically
20. Hit or pushed someone else
21. Played a mean prank to embarrass someone else
22. Made racist remarks to hurt someone else
23. Started a bad rumor about a professor
24. Threatened a professor or authority figure
25. Smoked marijuana
26. Used illegal drugs
27. Drank alcohol excessively or beyond your limit
28. Drove recklessly
29. Had unprotected sex
30. Abused prescription pills
31. Used over-the-counter drugs to get high
32. Skipped classes because you were high
33. Missed classes because you were drunk
34. Carried a weapon, such as a knife, gun, or club
35. Ruined or damaged other people's properties or possessions on purpose
36. Stolen something or tried to steal something worth more than US\$50
37. Done something that could have gotten you in trouble with the police
38. Done something that could have gotten you in trouble with the school authorities

## **APPENDIX D: TABLES AND FIGURES**



**Figure 1. *Structural Model - Hypothesis 1***



**Figure 2. Structural Model - Hypothesis 2**

**Table 1. Means, Standard Deviations, Possible and Actual Range for All Study Variables.**

	<i>M</i>	<i>SD</i>	Possible Range	Actual Range
Machiavellianism	3.31	0.65	1.00 – 5.00	1.00 – 5.00
Narcissism	3.13	0.76	1.00 – 5.00	1.00 – 5.00
Psychopathy	1.82	0.66	1.00 – 5.00	1.00 – 4.14
Sadism	2.32	0.87	1.00 – 5.00	1.00 – 5.00
Consolidated Identity	5.32	0.89	1.00 – 7.00	1.60 – 7.00
Disturbed Identity	3.00	1.13	1.00 – 7.00	1.00 – 7.00
Lack of Identity	2.69	1.49	1.00 – 7.00	1.00 – 7.00
Identity Distress	2.30	0.84	1.00 – 5.00	1.00 – 5.00
Risk Propensity	2.95	0.92	1.00 – 5.00	1.00 – 5.00
Delinquency	1.47	0.56	1.00 – 5.00	1.00 – 4.57

**Table 2. Correlation Matrix of Age and All Study Variables**

	1	2	3	4	5	6	7	8	9	10	11
1. Age	--										
2. Risk Propensity	-.13**	--									
3. Delinquency Scores	.07	.13*	--								
4. Machiavellianism	-.14**	.24***	.05	--							
5. Narcissism	-.09	.44***	.04	.19***	--						
6. Psychopathy	-.09	.46***	.42***	.13**	.25***	--					
7. Sadism	-.16**	.19***	.33***	.33***	.10*	.35***	--				
8. Consolidated Identity	.04	.20***	-.19***	.08	.40***	-.10*	-.07	--			
9. Disturbed Identity	-.29***	.16**	.21***	.18***	-.02	.23***	.20***	-.38***	--		
10. Lack of Identity	-.09	-.01	.20***	.17***	-.12*	.20***	.17***	-.60***	.63***	--	
11. Identity Distress	-.08	-.01	.23***	.10*	.06	.12*	.06	-.32***	.41***	.59***	--

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

## LIST OF REFERENCES

- Ali, A. S. A. (2020). Delinquency as predicted by dark triad factors and demographic variables. *International Journal of Adolescence and Youth*, 25(1), 661–675.  
<https://doi.org/10.1080/02673843.2020.1711784>
- Barlett, C. P. (2016). Exploring the correlations between emerging adulthood, Dark Triad traits, and aggressive behavior. *Personality and Individual Differences*, 101, 293–298.  
<https://doi.org/10.1016/j.paid.2016.05.061>
- Belmi, P., Barragan, R. C., Neale, M. A., & Cohen, G. L. (2015). Threats to social identity can trigger social deviance. *Personality and Social Psychology Bulletin*, 41(4), 467–484.  
<https://doi.org/10.1177/0146167215569493>
- Berman, S. L., Montgomery, M. J., & Kurtines, W. M. (2004). The development and validation of a measure of identity distress. *Identity: An International Journal of Theory and Research*, 4(1), 1-8, [https://doi.org/10.1207/S1532706XID0401\\_1](https://doi.org/10.1207/S1532706XID0401_1)
- Berman, S. L. & Weems, C. F. (2016). Identity distress. *Encyclopedia of Adolescence*.  
[https://doi.org/10.1007/978-3-319-32132-5\\_143-2](https://doi.org/10.1007/978-3-319-32132-5_143-2)
- Berman, S. L., Weems, C. F., & Petkus, V. F. (2009). The prevalence and incremental validity of identity problem symptoms in a high school sample. *Child Psychiatry Human Development*, 40, 183-195. <https://doi.org/10.1007/s10578-008-0117-6>
- Bukobza, G. (2009). Relations between rebelliousness, risk-taking behavior, and identity status during emerging adulthood. *Identity: An International Journal of Theory and Research*, 9(2), 159–177. <https://doi.org/10.1080/15283480802676932>



- Chabrol, H., Bouvet, R., & Goutaudier, N. (2017). The Dark Tetrad and antisocial behavior in a community sample of college students. *Journal of Forensic Psychology Research and Practice, 17*(5), 295–304. <https://doi.org/10.1080/24732850.2017.1361310>
- Chabrol, H., Van Leeuwen, N., Rodgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences, 47*(7), 734–739. <https://doi.org/10.1016/j.paid.2009.06.020>
- Cramer, P. (1995). Identity, narcissism, and defense mechanisms in late adolescence. *Journal of Research in Personality, 29*(3), 341–361. <https://doi.org/10.1006/jrpe.1995.1020>
- Crysel, L. C., Crosier, B. S., & Webster, G. D. (2013). The Dark Triad and risk behavior. *Personality and Individual Differences, 54*(1), 35–40. <https://doi.org/10.1016/j.paid.2012.07.029>
- de Moor, E. L., Sijtsema, J. J., Weller, J. A., & Klimstra, T. A. (2020). Longitudinal links between identity and substance use in adolescence. *Self and Identity, 21*(1), 113–136. <https://doi.org/10.1080/15298868.2020.1818615>
- Doerfler, S. M., Tajmirriyahi, M., Ickes, W., & Jonason, P. K. (2021). The self-concepts of people with dark triad traits tend to be weaker, less clearly defined, and more state-related. *Personality and Individual Differences, 180*. <https://doi.org/10.1016/j.paid.2021.110977>
- Dumas, T. M., Ellis, W. E., & Wolfe, D. A. (2012). Identity development as a buffer of adolescent risk behaviors in the context of peer group pressure and control. *Journal of Adolescence, 35*(4), 917–927. <https://doi.org/10.1016/j.adolescence.2011.12.012>

- Endriulaitienė, A., Šeibokaitė, L., Žardeckaitė-Matulaitienė, K., Markšaitytė, R., & Slavinskienė, J. (2018). Attitudes towards risky driving and Dark Triad personality traits in a group of learner drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, *56*, 362–370. <https://doi.org/10.1016/j.trf.2018.05.017>
- Erikson, E. H. (1963). *Childhood and Society* (2nd Ed.). New York: Norton.
- Fryt, J. & Szczygiel, M. (2021). Predictors of positive and negative risk-taking in adolescents and young adults: Similarities and differences. *Europe's Journal of Psychology*, *17*(1), 17-30. <https://doi.org/10.5964/ejop.2169>
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass*, *7*(3), 199-216. <https://doi.org/10.1111/spc3.12018>
- Glenn, A. L, Koleva, S., Iyer, R., Graham, J., & Ditto, P. H. (2010). Moral identity in psychopathy. *Judgment and Decision*, *5*(7), 497-505. Retrieved from <https://escholarship.org/uc/item/5b6767j5>
- Grover, S., & Furnham, A. (2021). The moderating effects of emotional stability on the relationship between the dark triad and different measures of risk-taking. *Personality and Individual Differences*, *171*, 110450. <https://doi.org/10.1016/j.paid.2020.110450>
- Hardy, S. A., Francis, S. W., Zamboanga, B. L., Kim, S. Y., Anderson, S. G., & Forthun, L. F. (2013). The roles of identity formation and moral identity in college student mental health, health-risk behaviors, and psychological well-being. *Journal of Clinical Psychology*, *69*(4), 364–382. <https://doi.org/10.1002/jclp.21913>

- Hernandez, L., Montgomery, M. J., & Kurtines, W. M. (2006). Identity distress and adjustment problems in at-risk adolescents. *Identity: An International Journal of Theory and Research*, 6(1), 27-33. [https://doi.org/10.1207/s1532706xid0601\\_3](https://doi.org/10.1207/s1532706xid0601_3)
- Johnson, L. K., Plouffe, R. A., & Saklofske, D. H. (2019). Subclinical sadism and the dark triad: Should there be a dark tetrad? *Journal of Individual Differences*, 40(3), 127–133. <https://doi.org/10.1027/1614-0001/a000284>
- Jonason, P. K., Fletcher, S. A., & Hashmani, T. (2019). Externalizing and internalizing, but not rationalizing: Some psychodynamic biases associated with the Dark Triad traits. *Personality and Individual Differences*, 137, 9-11. <https://doi.org/10.1016/j.paid.2018.08.003>
- Jones, R. M., & Hartmann, B. R. (1988). Ego identity: Developmental differences and experimental substance use among adolescents. *Journal of Adolescence*, 11(4), 347–360. [https://doi.org/10.1016/S0140-1971\(88\)80034-4](https://doi.org/10.1016/S0140-1971(88)80034-4)
- Jones, D. N. & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences*, 51, 679-682. <https://doi.org/10.1016/j.paid.2011.04.011>
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, 21(1), 28–41. <https://doi.org/10.1177/1073191113514105>
- Karandikar, S., Kapoor, H., Fernandes, S., & Jonason, P. K. (2019). Predicting moral decision-making with dark personalities and moral values. *Personality and Individual Differences*, 140, 70-75. <https://doi.org/10.1016/j.paid.2018.03.048>

- Kaufman, E. A., Cundiff, J. M., & Crowell, S. E. (2015). The development, factor structure, and validation of the Self-concept and Identity Measure (SCIM): A self-report assessment of clinical identity disturbance. *Journal of Psychopathology and Behavioral Assessment*, 37(1), 122–133. <https://doi.org/10.1007/s10862-014-9441-2>
- Kaufman, E. A., Puzia, M. E., Crowell, S. E., & Price, C. J. (2019). Replication of the Self-Concept and Identity Measure (SCIM) among a treatment-seeking sample. *Identity: An International Journal of Theory and Research*, 19(1), 18–28. <https://doi.org/10.1080/15283488.2019.1566068>
- Klimstra, T. (2013). Adolescent personality development and identity formation. *Child Development Perspectives*, 7(2), 80–84. <https://doi.org/10.1111/cdep.12017>
- Kowalski, C. M., Rogoza, R., Saklofske, D. H., Schermer, J. A. (2021). Dark triads, tetrads, tents, and cores: Why navigate (research) the jungle of dark personality models without a compass (criterion)? *Acta Psychologica*, 221. <https://doi.org/10.1016/j.actpsy.2021.103455>
- Kurek, A., Jose, P. E., & Stuart, J. (2019). ‘I did it for the LULZ’: How the dark personality predicts online disinhibition and aggressive online behavior in adolescence. *Computers in Human Behavior*, 98, 31–40. <https://doi.org/10.1016/j.chb.2019.03.027>
- Lambe, S., Hamilton-Giachritsis, C., Garner, E., & Walker, J. (2018). The role of narcissism in aggression and violence: A systematic review. *Trauma, Violence, & Abuse*, 19(2), 209–230. <https://doi.org/10.1177/1524838016650190>
- Luyckx, K., Teppers, E., Klimstra, T. A., & Rassart, J. (2014). Identity processes and personality traits and types in adolescence: Directionality of effects and developmental

- trajectories. *Developmental Psychology*, 50(8), 2144–2153.  
<https://doi.org/10.1037/a0037256>.
- Malesza, M., & Ostaszewski, P. (2016). The utility of the Dark Triad model in the prediction of the self-reported and behavioral risk-taking behaviors among adolescents. *Personality and Individual Differences*, 90, 7–11. <https://doi.org/10.1016/j.paid.2015.10.026>
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551–558. <https://doi.org/10.1037/h0023281>
- Mercer, N., Crocetti, E., Branje, S., van Lier, P., & Meeus, W. (2017). Linking delinquency and personal identity formation across adolescence: Examining between- and within-person associations. *Developmental Psychology*, 53(11), 2182–2194.  
<https://doi.org/10.1037/dev0000351>
- Moor, L., & Anderson, J. R. (2019). A systematic literature review of the relationship between dark personality traits and antisocial online behaviours. *Personality and Individual Differences*, 144, 40–55. <https://doi.org/10.1016/j.paid.2019.02.027>
- Muris, P., Meesters, C., & Timmermans, A. (2013). Some youths have a gloomy side: Correlates of the dark triad personality traits in non-clinical adolescents. *Child Psychiatry and Human Development*, 44(5), 658–665. <https://doi.org/10.1007/s10578-013-0359-9>
- Nickisch, A., Palazova, M., & Ziegler, M. (2020). Dark personalities—Dark relationships? An investigation of the relation between the Dark Tetrad and attachment styles. *Personality and Individual Differences*, 167, 110227. <https://doi.org/10.1016/j.paid.2020.110227>
- Nnam, M. U., Effiong, J. E., Iloma, D. O., Terfa, I. M., & Ajah, B. O. (2021). Hazardous drinking and the dark triad: An antidote for manipulative behaviour among students. *Current Psychology: A Journal for Diverse Perspectives on Diverse*

*Psychological Issues*. Advance online publication. <https://doi.org/10.1007/s12144-021-01680-0>

Nott, D. & Walker, B. R. (2021). The Dark Tetrad in the prediction of self-reported and behavioural risk-taking. *Australian Journal of Psychology*, *73*(4), 569-577. <https://doi.org/10.1080/00049530.2021.1955224>

Onyedire, N. G., Chukwuorji, J. C., Orjiakor, T. C., Onu, D. U., Aneke, C. I., & Ifeagwazi, C. M. (2021). Associations of dark triad traits and problem gambling: Moderating role of age among university students. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, *40*(5), 2083–2094. <https://doi.org/10.1007/s12144-018-0093-3>

Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, *23*(6), 421–426. <https://doi.org/10.1177/0963721414547737>

Paulhus, D. L., Buckels, E. E., Trapnell, P. D., & Jones, D. N. (2021). Screening for dark personalities: The Short Dark Tetrad (SD4). *European Journal of Psychological Assessment*, *37*(3), 208-222. <http://dx.doi.org/10.1027/1015-5759/a000602>

Paulhus, D. L., & Jones, D. N. (2017). Individual differences in aggression: The role of dark personalities. In B. J. Bushman (Ed.), *Aggression and violence: A social psychological perspective*. (pp. 105–118). Routledge/Taylor & Francis Group.

Stanwix, S. & Walker, B. R. (2021). The Dark Tetrad and advantageous and disadvantageous risk-taking. *Personality and Individual Differences*, *168*, 110338. <https://doi.org/10.1016/j.paid.2020.110338>

- Swogger, M. T., Walsh, Z., Lejuez, C. W., & Kosson, D. S. (2010). Psychopathy and risk taking among jailed inmates. *Criminal Justice and Behavior*, *37*(4), 439–452.  
<https://doi.org/10.1177/0093854810361617>
- Thomson, N. D., Bozgunov, K., Psederska, E., & Vassileva, J. (2019). Sex differences on the four-facet model of psychopathy predict physical, verbal, and indirect aggression. *Aggressive Behavior*, *45*(3), 265–274. <https://doi.org/10.1002/ab.21816>
- Vergauwe, J., Hofmans, J., Wille, B., Decuyper, M., & De Fruyt, F. (2021). Psychopathy and leadership effectiveness: Conceptualizing and testing three models of successful psychopathy. *The Leadership Quarterly*. <https://doi.org/10.1016/j.leaqua.2021.101536>
- Watts, A. L., Waldman, I. D., Smith, S. F., Poore, H. E., & Lilienfeld, S. O. (2017). The nature and correlates of the dark triad: The answers depend on the questions. *Journal of Abnormal Psychology*, *126*(7), 951–968. <http://dx.doi.org/10.1037/abn0000296>
- Webb, J. W. (1996). Links between emotional distress, deviant norms, and adolescent substance use: A mediational path model [ProQuest Information & Learning]. In *Dissertation Abstracts International: Section B: The Sciences and Engineering* (Vol. 57, Issue 1–B, p. 0717).
- Wrenn, Kayli, "Dark Tetrad Responses to Moral Dilemmas" (2020). *UNLV Theses, Dissertations, Professional Papers, and Capstones*. 3975.  
<http://dx.doi.org/10.34917/19412206>
- Wright, J. P., Morgan, M. A., Almeida, P. R., Almosaed, N. F., Moghrabi, S. S., & Bashatah, F. S. (2017). Malevolent forces: Self-control, the dark triad, and crime. *Youth Violence and Juvenile Justice*, *15*(2), 191–215. <https://doi.org/10.1177/1541204016667995>

Zhang, D. C., Highhouse, S., & Nye, C. D. (2019). Development and validation of the general risk propensity scale (GRiPS). *Journal of Behavioral Decision Making*, *32*(2), 152–167.  
<https://doi.org/10.1002/bdm.2102>