

Examining the Link between Dark Triad Traits, Impulsiveness,  
and Procrastination Behaviour in College Students.

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## Declaration

### Declaration

'I declare that this thesis that I have submitted to Dublin Business School for the award of BA (Hons) Psychology is the result of my own investigations, except where otherwise stated, where it is clearly acknowledged by references. Furthermore, this work has not been submitted for any other degree.'

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### *Abstract*

A study was conducted to examine the link between the Dark Triad Traits, impulsivity, and procrastination in college students, and to explore gender differences among the Dark Triad traits. Data was collected via a quantitative survey comprised of some demographic questions and 3 psychological scales; the Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014), the Short Barratt Impulsiveness Scale Version 11 (Spinella, 2007), and the Irrational procrastination scale (Steel, 2010). The results showed that there was a significant difference in the prevalence of Dark Triad traits amongst genders, and identified psychopathy as a predictor of impulsivity. The analyses also found a significant relationship between impulsivity and procrastination. It was proposed that the Dark Triad traits are predictors of procrastination, however neither psychopathy, machiavellianism, or narcissism were identified as predictors of procrastination. The findings of this study could be applied in interventions for targeting maladaptive procrastination behaviours.

## ***1.Introduction***

This quantitative study will examine the role that the impulsivity associated with the Dark Triad traits plays in the procrastination behaviours of college students. It seeks to explore the impact of the Dark Triad personality traits on the behaviour of a subclinical population, and to add to the current body of research surrounding these traits in a non-criminal sample. It will also investigate the difference in prevalence rates of the Dark Triad traits between genders.

### *1.1 The Dark Triad*

The Dark Triad of Personality is comprised of three personality traits; narcissism, machiavellianism, and psychopathy. Furham, Richards, and Paulhus (2013) described the Dark Triad traits as “aversive but still within the normal range of functioning” (pg.200) in a subclinical environment. Most research into traits like psychopathy is conducted on forensic populations, so research conducted on a subclinical sample within the general population overcomes this sample bias (Jakobwitz & Egan, 2006). According to Muris, Merckelbach, Otgaar, and Meijer (2017), the concept of psychopathy originates from psychiatry, where clinicians studied patients who behaved antisocially, showed a lack of empathy and remorse, and were superficially charming; these traits are typical of individuals high in psychopathy (Hare, 2003). Cooke and Michie (2001) stated that psychopaths can be characterised by “an arrogant and deceitful interpersonal style, deficient affective experience, and impulsive and irresponsible behavioural style” (pg.171). They can be callous and manipulative (Lee & Ashton, 2005), and are often motivated to exploit others for their own personal gain (Sellbom & Phillips, 2013). Psychopaths are said to be to be guiltless, egocentric, and charismatic (Ali, Amorim, & Chamorro-Premuzic, 2009). They are known thrill-seekers with low anxiety levels (Paulhus & Williams, 2002), and are generally irresponsible (Hart & Dempster, 1997). Individuals high in

psychopathy can be deceptive (Hare, Black, and Walsh, 2013), and share the tendency to fail in the formation of close emotional relationships with individuals high in machiavellianism (Ali, Amorim, & Chamorro-Premuzic, 2009). Reputation and planning are not important in psychopathy, and neither are friends and family (Hare & Neumann 2008). In contrast, planning, coalition forming, and reputation building are key qualities of machiavellianism, which distinguishes it from psychopathy (Jones & Paulhus, 2014).

Christie and Geis (1970) based the concept of Machiavellianism on the writings of Niccolo Machiavelli. Machiavelli wrote about using people as a means to gain power during the early sixteenth century (Wilson, Near, & Wilson, 1996). Christie and Geis (1970) defined machiavellianism as a personality trait centred around four things; a lack of affect in personal relationships, a lack of concern for morality, lack of a gross psychopathology, and low ideological commitment. They also stated that people high in machiavellianism are known to manipulate others for their own gain (Christie & Geis, 1970). The three qualities that define machiavellians are manipulateness, callous affect, and a strategic-calculating orientation (Jones and Paulhus, 2014). Machiavellians are known to be deceitful and proficient liars (Geis & Moon, 1981), and similarly to psychopathy, machiavellians can be characterised by their callousness (Lee & Ashton, 2005). They have a “propensity to distrust” (pg.1) and seek control over others (Dahling, Whitaker, & Levy, 2009). Wilson, Near, and Miller (1996) stated that there is a lack of research on Machiavellianism in subclinical, real-life situations, which the current study hopes to address.

The concept of Narcissism is derived from an ancient Greek myth which tells the story of a man called Narcissus, who falls in love with his own reflection and neglects every other aspect of

his life just to gaze at it until he withers away and dies (Hamilton, 1993). In psychology, narcissism refers to a personality trait associated with a sense of entitlement and superiority (Paulhus & Williams, 2002). It is the result of conflicting grandiosity and insecurity (Jones & Paulhus, 2014). Research has suggested that there are two forms of narcissism; Overt narcissists are outwardly exhibitionist and preoccupied with attention and the admiration of others, whereas covert narcissists have unconscious feelings of grandeur and appear to lack self-confidence (Wink, 1991). Narcissists have a fragile sense of self and a preoccupation with success (Ames, Rose, & Anderson, 2006). They often exaggerate accomplishments in order to be considered special (Paulhus & John, 1998). Machiavellians and psychopaths share low conscientiousness, but narcissism does not (Paulhus & Williams, 2002). The results of a study conducted by Muris et al (2017) suggested that narcissism is a more unique trait in comparison to the other Dark Triad traits. They found machiavellianism and psychopathy were associated with lack of sincerity, whereas narcissism was more associated with a lack of modesty and greed avoidance (Muris et al, 2017). Shah (2017) stated that narcissism is prominent amongst students- the current study seeks to explore this further.

The Dark Triad traits are their own “distinct constructs” (Paulhus & Williams, 2002, pg. 556); narcissism is the trait which best predicts ego-promoting behaviour, machiavellianism best predicts strategic behaviour, and psychopathy best predicts impulsive, anti-social behaviour (Jones & Paulhus, 2014). Although each trait is distinct, it is possible for individuals to score highly in more than one of the traits; due to their positive intercorrelation it is likely that a subgroup of individuals that score highly on all three traits exists within the subclinical population (Furham, Richards, & Paulhus, 2013). According to Jones and Paulhus (2014), these traits have different motivators behind their behaviour; narcissists are motivated by ego-reinforcement, whereas psychopaths and machiavellians are motivated by “instrumental or



material” (pg.3) gain. However, they do share qualities such as disagreeableness, emotional coldness, and self-importance, and in previous research they are always positively correlated (Furnham, Richards, & Paulhus, 2013). Research suggests that all three Dark Triad traits have a social style based on exploiting people in a short-term social context, and are all associated with high levels of self-interest and low levels of empathy (Jonason, Webster, & Schmitt, 2009). The three Dark Triad traits all come with a tendency towards aggression, deceit, and self-promotion (Paulhus & Williams, 2002). Furnham, Richards, and Paulhus (2013) stated that the conceptual resemblance and empirical overlap between the three Dark Triad traits at this subclinical level causes confusion amongst the traits.

As research in this area expands, the distinctions between the Dark Triad traits have begun to blur (Jones & Paulhus, 2014). Literature on the Dark Triad has largely been preoccupied with the combination of the traits rather than their own unique characteristics (Muris et al, 2017). Paulhus and Williams (2002) grouped the three together as the Dark Triad to encourage more research into both their unique qualities and their overlapping ones. The development of non-clinical measures like the Short Dark Triad (Jones & Paulhus, 2014) has made it possible to evaluate the relationships between these traits in normal populations (Paulhus & Williams, 2002). The purpose of the current study is to identify whether impulsivity could be an important mutual quality shared between all three traits, and to determine its effect on a subclinical group.

### *1.2 The Dark Triad & Gender*

As the Dark Triad scale was first introduced in 2002, research on gender differences within its subscales are scarce. However, research has repeatedly shown that males score higher in all three traits on both the original scale (Jonason & Tost, 2010, Jonason & Webster, 2010, Jonason

et al, 2013, Paulhus & Williams, 2002), and the short version (Jones, & Paulhus, 2014). Furnham, Richards, and Paulhus (2013) stated that males typically score higher in psychopathy, narcissism, and machiavellianism regardless of the instrument of measurement being used.

In a meta-analytic review of narcissism, Grijalva et al (2015) found that males consistently score higher than females on a variety of narcissism scales. Foster, Campbell, and Twenge (2003) corroborated this research, stating that males had higher levels of narcissism when using the Narcissistic Personality Inventory. Christie and Geis' (1970) seminal work on machiavellianism stated that males tend to be higher in machiavellianism than females; the work by Tang and Chen (2008) supported this statement. Despite this, there is still little information on the gender differences of these personality types, especially psychopathy. Considering this, the first hypothesis in the current study seeks to add to and expand upon this body of research using the Short Dark Triad Scale as measurement, and to examine gender differences across the Dark Triad.

### *1.3 Impulsivity*

A popular theory is that the Dark Triad traits share a common core (Paulhus & Williams, 2002). Research offers many possibilities for this; Jakobwitz and Egan (2006) suggest that narcissism, machiavellianism, and psychopathy share low rates of agreeableness, whereas Jonason et al (2009) proposed this common core is the exploitative nature of each trait. Jones and Paulhus (2011) reported that the Dark Triad traits show a “coherent pattern” of impulsivity (pg. 679); Jonason and Tost (2010) corroborated this research, stating that the Dark Triad traits share limited self-control and tend to disregard the potential consequences of their actions. Therefore, the current study seeks to examine whether impulsivity could be the common core.

Dickman (1990) defined impulsivity as the tendency to act with less forethought than most people. Impulsive people often prefer instant gratification over delayed gratification as they do not tend to give much thought to future consequences, and as a result they often neglect long term responsibilities (Steel, 2007). According to Vazire and Funder (2006), narcissists are dispositionally impulsive; they lack the self-control to regulate the negative behaviours keeping them from achieving their goals, and their behaviour often serves to provide immediate gratification to the detriment of long-term success. They react aggressively to ego threats, and tend to blame external forces for failure, but internal forces for their success (Vazire & Funder, 2006). This lack of self-control is potentially the reason narcissists struggle to regulate their inflated self-concept, thus having a negative effect on their ability to gain social recognition (Vazire & Funder, 2006). Vazire and Funder (2006) stated that narcissists behaviour is often short sighted and aggressive. They reported that impulsivity alongside cognitive and affective appraisals are key factors in aggression in narcissists, that impulsivity affects their ability to delay gratification, and that impulsivity should be considered as a possible cause of their self-defeating behaviours (Vazire and Funder, 2006). They also stated that there has been little research conducted into the specific role impulsivity plays in subclinical narcissism (Vazire & Funder, 2006), which is what the current study hopes to address.

Hart & Dempster (1997) said that “It is difficult to imagine a psychopath who is not impulsive” (pg.218), and stated that impulsivity is a key construct in psychopathy. Impulsivity can be divided into three separate meanings that have all been linked to psychopathy; acting with little forethought or planning to the detriment of the individual, a type of aggression, and a general personality trait (Hart & Dempster, 1997). Literature suggests that there is a relationship between risk-taking, impulsive behaviour and psychopathy (Hunt, Hopko, Bare, Lejuez, & Robinson, 2005). According to Hunt et al (2005), individuals high in psychopathy are more

likely to partake in high-risk behaviour than people who are not psychopathic; they are inclined to engage in these behaviours to a maladaptive degree. A psychopath's impulsivity contributes to their need for instant gratification (Lau & Marsee, 2013).

According to Snowden and Gray (2011), psychopathy can be split into two dimensions; primary and secondary psychopathy. They reported that primary psychopaths have lower levels of anxiety and fear and are less reactive to consequences than secondary psychopaths who can be overreactive. As psychopathy is not a unitary concept, not all psychopaths appear to be high in impulsivity (Snowden & Gray, 2011). Snowden and Gray (2011) reported that impulsivity is therefore more associated with secondary psychopathy, which is related to acting without much forethought. Although impulsivity is an important facet in psychopathy, there has been few studies carried out to explore the link between psychopathy and impulsivity as measured by the Barratt Impulsiveness Scale (Snowden, & Gray, 2011), which is the impulsiveness measure that will be used in the current study. Jones and Paulhus (2011) found that Machiavellianism had no association with impulsivity; which is not unexpected as machiavellianism is known to be associated with deliberate actions, goal directedness, and self-control (Muris et al, 2017). However, Jones and Paulhus (2014) did state that the machiavellians' relationship with impulsivity is paramount in differentiating it from the other Dark Triad traits

According to Jones and Paulhus (2011), narcissists are more likely to be impulsive in social situations, whereas psychopaths have poor self-regulation which is why they're impulsive; this distinction may explain the differences in the Dark Triad traits. Impulsivity is a feature of two members of the Big Five; high extraversion and low conscientiousness (Jones & Paulhus,

2011). Confidence, proneness to boredom, and risk taking are all features of extraversion, whereas poor self-regulation is associated with low conscientiousness (Jones & Paulus, 2011). Paulhus and Williams (2002) reported that narcissism and psychopathy are most commonly linked to extraversion and low conscientiousness respectively.

Dickman (1990) identified two different forms of impulsivity; functional impulsivity which is primarily associated with the extroversion of narcissists, and dysfunctional impulsivity which is primarily associated with the “erratic disorderliness” of psychopaths (Jones & Paulhus, 2011, pg. 680). Dickman (1990) defined dysfunctional impulsivity as the tendency to act with little forethought when this is not beneficial, and defined functional impulsivity as the tendency to act with little forethought when this is optimal. Machiavellianism however is not associated with either type of impulsivity- machiavellians’ impulse control is of the same level as non-machiavellians (Jones & Paulhus, 2011). Within the current study, hypothesis two will attempt to determine the strength of the relationship between the Dark Triad traits and impulsivity.

#### *1.4 Procrastination*

According to Wiggins and Pincus (1989), personality psychologists widely believe the theory that some pathological traits, such as the Dark Triad, are just exaggerated normal personality traits. The current study seeks to examine how these traits affect subclinical groups like college students. Furnham, Richards, and Paulhus (2013) reported that individuals high in Dark Triad traits are tempted to cut corners in academic settings. These traits have been linked to low conscientiousness (Paulhus & Williams, 2002), which is an important predictor of academic dishonesty (Giluk & Postlethwaite, 2015). Low conscientiousness has also been found to predict procrastination (Lee, Kelly, & Edwards, 2006). Steel (2007) defined procrastination as

the act of voluntarily delaying an action despite the knowledge that one will be worse off as a result. Procrastination occurs when an individual intends to work, but they are instead impulsively distracted by other temptations that may provide them with more immediate gratification (Steel, 2010). According to Steel (2010), researchers often debate the nature of procrastination; certain fields define it as an irrational delay, yet it is commonly divided into a tripartite model of avoidance, arousal, and decisional procrastination. After conducting metanalytic and factor analytic reviews however, Steel (2010) reported that evidence does not support the tripartite model, it supports the idea that procrastination is an irrational delay. The Irrational Procrastination Scale was created as a more valid measure of procrastination by measuring a single factor, dysfunctional delay, rather than the tripartite model (Steel, 2010); this measure will be used for the current study.

Lyons and Rice (2014) identified impulsivity as a predictor of procrastination. Similarly, Steel (2007) described impulsivity as a “strong and consistent” (pg.2) predictor of procrastination. Procrastination appears to share both low conscientiousness and impulsivity with the Dark Triad (Jones & Paulhus, 2011; Paulhus & Williams, 2002, Steel, 2007). It has been linked to self-regulatory failure (Steel, 2007), which in turn has been linked to both narcissism and psychopathy (Jones & Paulhus, 2011). Lyons and Rice (2014) stated that this self-regulatory failure is associated with individuals high in impulsivity, which is a feature shared by narcissism, psychopathy, and procrastination (Jones & Paulhus, 2011).

Psychopaths are known to have low anxiety levels (Paulhus & Williams, 2002), and they are known to be impulsive (Jones & Paulhus, 2011); this creates a conflict in terms of predicting procrastination behaviours, as impulsivity predicts procrastination (Lyons & Rice, 2014), but

so does high anxiety (Shah, 2017). Similarly, machiavellians have high anxiety levels (Fehr & Samsom, 2013), but are low in impulsivity (Jones and Paulhus, 2011). Brown (1997) stated that narcissists experience an anxiety that occurs as a result of their reliance on the evaluations of others to validate their self-esteem, this alongside Vazire and Funder's (2006) statement that narcissists are impulsive supports the claim that narcissists are more prone to procrastination (Lyons & Rice, 2014, Steel, 2007). Narcissists have an inflated sense of self-confidence- this can cause them to overestimate their capabilities, altering their belief of their own ability to perform a given task in a limited time frame, however sub-clinical narcissism has been linked to academic success (Shah, 2017). If narcissists tend to overestimate their ability to work quickly, they may procrastinate and leave their work to the last minute, thus the current study seeks to examine this effect.

Baughman (2015) suggested that while the main focus of literature on the Dark Triad traits is the maladaptive nature of their behaviour, the traits may actually be adaptive when it comes to self-serving behaviour. Each trait has both adaptive and maladaptive features (Furham, Richards, & Paulhus, 2013). According to Sigall, Kruglanski, and Fyock (2000), there is an assumption that most individuals do not consciously engage in maladaptive behaviour such as procrastination, and thus whether consciously or not, they must on some level believe that they will complete the task in the desired timeframe. In a study carried out by Baughman (2015), psychopathy was the trait with the strongest link to a decreased ability to delay gratification.

Machiavellianism has previously been linked to poor self-control (Jonason & Tost, 2010), but there is no clear relationship between it and delayed gratification (Baughman, 2015). Vazire and Funder (2006) also reported that narcissists have a diminished ability to delay gratification.

However, a study carried out by Snowden and Gray (2011) found that secondary psychopaths that are typically linked with impulsive behaviour did not show a decreased ability to focus and concentrate. So, although the Dark Triad traits share many features with procrastination, their relationship remains unclear. Research suggests that impulsiveness is strongly associated with procrastination (Steel, 2010), so considering this, hypothesis three of the current study will investigate the link between impulsivity and procrastination.

Moeller et al (2001) reported that impulsive individuals are less sensitive to negative consequences and react quickly to stimuli before properly processing the necessary information. Evenden (1999) found that people who are low in impulsiveness tend to perform better at tasks which require great focus and attention, whereas impulsive individuals often give into temptation which can delay progress on long term goals (Gustavson et al, 2014), as seen in procrastination. Given the proposed link between impulsivity and the Dark Triad, and between impulsivity and procrastination, hypothesis four in the current study will explore procrastination in connection with the Dark Triad.

### *1.5 Aim & Rationale*

The aim of the current study is to investigate the link between Dark Triad Traits, impulsiveness, and procrastination behaviour in college students, and also examine gender differences amongst the Dark Triad traits. As individuals high in Dark Triad traits tend to be impulsive (Jones & Paulhus, 2011), it is possible that they are prone to procrastination as a result, given that impulsivity is a predictor of procrastination (Lyons & Rice, 2014). As males have been found to have higher rates of all three of the Dark Triad traits in previous research, (Jonason & Tost, 2010, Jonason & Webster, 2010, Jonason et al, 2013, Jones & Paulhus, 2014, Lyons &



Rice, 2014, Paulhus, & Williams, 2002), it is expected that the current study will achieve similar results. During the course of the current study, participants will fill out a questionnaire which will assess their levels of Dark Triad traits, impulsivity, and procrastination, and will also collect some demographic information such as gender, age, and college course. The self-report nature of the current study could potentially prevent any strong conclusions from being drawn (Jonason & Tost, 2010), therefore the results will be correlational rather than causal. The results will be analysed according to four hypotheses addressing the link between the Dark Triad, gender, impulsivity, and procrastination. The current study aims to contribute to the growing body of research surrounding the Dark Triad traits in subclinical populations, the different prevalence rates amongst genders, the Dark Triad's connection with impulsivity, and the effect of impulsivity on procrastination.

### *1.6 Hypotheses*

In order to examine the Dark Triad traits and their relationship with impulsiveness and procrastination behaviour in college students, the study will test the following four hypotheses:

- The first hypothesis proposed that there will be significant gender differences in the prevalence of Dark Triad traits.
- The second hypothesis proposes that The Dark Triad personality traits will predict impulsivity.
- The third hypothesis proposes that there will be a significant relationship between impulsivity and procrastination.
- The fourth hypothesis proposes that the Dark Triad traits will significantly predict procrastination.

## ***2.Methodology***

### *2.1 Participants*

A total of 114 participants volunteered to take part in the current study; 62 from an online sample consisting of undergraduate students in Ireland, and 52 from a sample of undergraduate psychology students from Dublin Business School. There were 21 male participants, 90 female participants, and 1 who chose the Other option for gender. The age of participants ranged from 18 to 47, with a mean age of 22.09 (SD=5.41). Participants came from a variety of college course types such as social sciences, business, and education. Snowball sampling was used for the online portion of the study, with participants filling out the survey from Facebook, Twitter, and Instagram, and purposive convenience sampling was used to collect the rest of the data from Dublin Business School.

### *2.2 Design*

The study was of non-experimental, cross-sectional, correlational design. Hypothesis one proposed that there would be significant gender differences in the prevalence of Dark Triad traits; the independent/predictor variable was gender, and the dependent/criterion variable was the Dark Triad split into three subscales- psychopathy, narcissism, and machiavellianism. Hypothesis two proposed that The Dark Triad personality types would predict impulsivity; the independent/predictor variable was the Dark Triad personality types split into three subscales- Psychopathy, Narcissism, and Machiavellianism, and the dependent/criterion variable was impulsivity. Hypothesis three proposed that there would be a significant relationship between impulsivity and procrastination; the independent/predictor variable was impulsivity, and the dependent/criterion variable was procrastination. Hypothesis four proposed that there would be a significant relationship between the Dark Triad personality types and procrastination; the

independent/predictor variable was the Dark Triad personality types split into three subscales- Psychopathy, Narcissism, and Machiavellianism, and the dependent/criterion variable was procrastination.

### *2.3 Materials*

The participants were provided with an information sheet giving a brief description of the study (See Appendix A) and explaining that by submitting the questionnaire, they are giving consent to participate in the study. They were then presented with the quantitative questionnaire (See Appendix B) which consisted of some short demographic questions regarding age, gender, and college course type, and three psychological scales. The first scale used is the Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014); this is a 27-item scale containing three nine-item subscales used to measure the Dark Triad traits- Narcissism, Psychopathy, and Machiavellianism. Jones & Paulhus (2014) developed the SD3 as a valid measure of the Dark Triad; the results of four studies that they conducted indicated that it is a valid and reliable measure. Coefficient Alpha for this scale ranges from 0.68-0.74 (Jones & Paulhus, 2014). This scale uses a Likert scoring system where participants are asked to rate statements such as “I like to use clever manipulation to get my way.” from 1-5, where 1 is Strongly disagree, and 5 is strongly agree.

The second scale used is the short 15-item version of The Barratt Impulsiveness Scale, Version 11 (Patton, Stanford, & Barratt, 1995) created by Spinella (2007). It has a Coefficient Alpha value of 0.79 (Spinella, 2007). The 15-item version of the BIS 11 maintains the good validity of the 30-item version (Spinella, 2007). This scale uses a Likert scoring system where participants are asked to rate statements such as ‘I do things without thinking’ from 1-4. 1

being Rarely/Never, 4 being Almost always/always. The final scale used is the Irrational procrastination scale (Steel, 2010); this is a nine-item scale used to measure procrastination where Coefficient Alpha is 0.91 (Steel, 2010). This scale uses a Likert scoring system where participants are asked to rate statements such as "I delay tasks beyond what is reasonable" from 1-5, where 1 is very seldom/ not true of me, and 5 is very often true/ true of me. Participants were then provided with a debrief sheet detailing the true nature of the study and containing the details of relevant support services (See Appendix C). The questionnaire pack was created on Google Forms for the use of online participants and was handed out on paper in class for the rest of the participants. The data was analysed using SPSS statistics software.

#### *2.4 Procedure*

Firstly, the questionnaire pack was prepared for both the online participants on google forms, and the in-person participants in Microsoft Word. The online questionnaire was shared on social media such as Facebook, Twitter, and Instagram. After receiving permission from the relevant lecturers, in-class visits were made to gather data from Dublin Business School undergraduate psychology students. In both the online and in-class situations, participants were first provided with an information sheet which briefly described the survey as an exploration of the effect of various personality traits on procrastination behaviours in students and informed the participants that by submitting the survey they are consenting to their data being used. Then participants were provided with a questionnaire pack consisting of some short demographic questions, the Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014), the Short version of the Barratt Impulsiveness Scale 11 (Spinella, 2007), and the Irrational procrastination scale (Steel, 2010). The names of the scales were withheld from the participants until the end of the study to eliminate the possibility of them influencing the responses. Once

the questionnaires were submitted, participants were provided with a debrief sheet which gave a more detailed description of the study, including the titles of the scales used, and also listed relevant support services in case participants were negatively affected by the topics covered. After data collection, the data was then analysed using SPSS statistics software.

### *2.5 Ethics*

The current study was approved by the Dublin Business School Ethics Board at the proposal stage. All participants were 18 years of age or over, and the study was completely anonymous, so the participants were unidentifiable. The information sheet clearly states that by submitting the questionnaire, the participant has given their consent for their data to be used in the study. It also states that as a result of the anonymous nature of the study, submissions cannot be withdrawn. Although the true title of the study and the names of the scales used are initially withheld from participants, they were presented with a debrief sheet once they submitted their survey which fully disclosed the true nature of the study along with the title and names of the scales. The study addresses sensitive issues such as the Dark Triad personality types, and procrastination, which can be a source of great stress for students- thus the debrief sheet provided participants with a list of phonedlines and online resources to help with any negative feelings that may have arisen as a result of the current study. Participants were also advised that their data will be stored securely in an encrypted file on a laptop and will be disposed of according to the Privacy and Confidentiality section of the Code of Professional Ethics (Psychological Society of Ireland, 2011).

## *2.6 Data Analysis*

For hypothesis one, the MANOVA method of analysis was used to examine the gender differences in the prevalence of the Dark Triad traits as the dependent/predictor variable, is scale, and the independent/criterion variable has two or more categories. For hypothesis two, the Multiple Regression method of analysis was used to examine the causal relationship between the Dark Triad and impulsivity as there is only criterion variable, the predictor variable is split into three subscales. the criterion variable is normal, and both variables are scale. For hypothesis three the Pearson's correlation method of analysis was used to examine the relationship between impulsivity and procrastination as the criterion variable, is normal and both variables are scale. For hypothesis four the multiple regression method of analysis was used to examine the relationship between the Dark Triad and procrastination as there is only one criterion variable, the predictor variable is split into three subscales, the criterion variable is normal, and both variables are scale. Descriptive statistics were run for each hypothesis, such as the mean and standard deviation, and exploring demographic differences in college course type amongst each variable. A Cronbach's Alpha was also run to evaluate the reliability of each variable.

### 3.Results

#### 3.1 Descriptive Statistics

A descriptive statistical analysis was run for all demographic variables. Upon analysis of Gender, there were 21 male participants, 90 female participants, and 1 participant who identified as other. The mean age of the sample was 22.09 with a standard deviation of 5.41, and ages ranging from 18 to 47. As shown by Figure 1, the most frequently reported course type was social sciences with 71 responses, then arts with 16 responses, then science with 9 responses, both business and marketing courses and media received 6 responses, and both healthcare and education-based courses received 3 responses each.

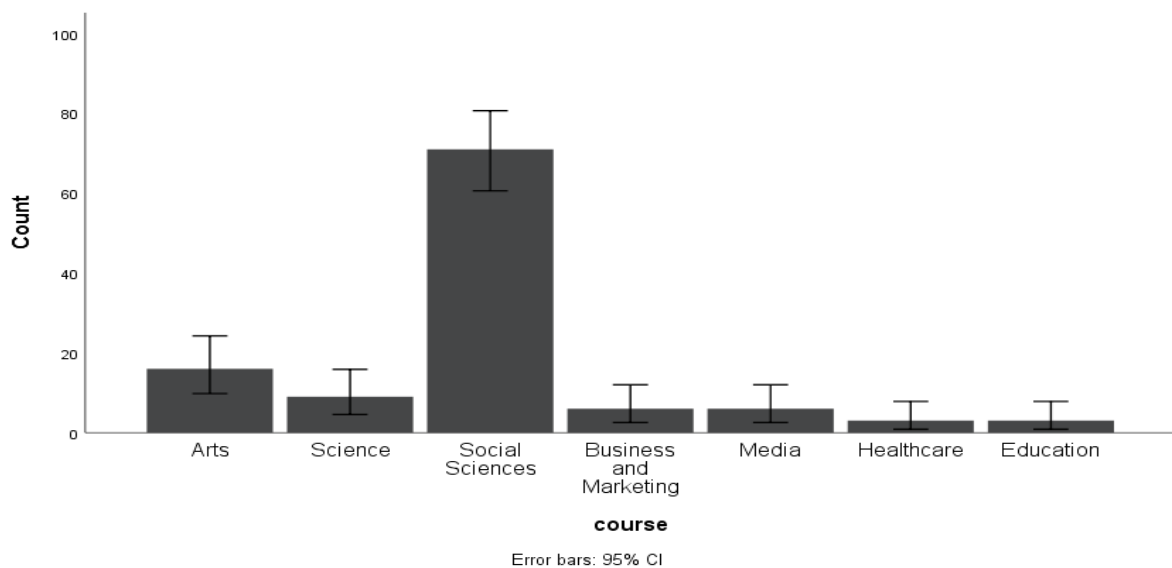


Figure 1. *Distribution of Participants amongst College Course Types*

A descriptive statistical analysis of criterion/dependent variables was also conducted to examine the mean and standard deviation of each variable. Figure 2 shows the differences in levels of impulsivity amongst genders. For male participants, the mean level of impulsivity was 34.05 (SD= 7.89). Females reported a lower level of impulsivity with a mean of 32.93

(SD=7.36). As only one participant identified their gender as other, impulsivity remained constant and was omitted from this analysis.

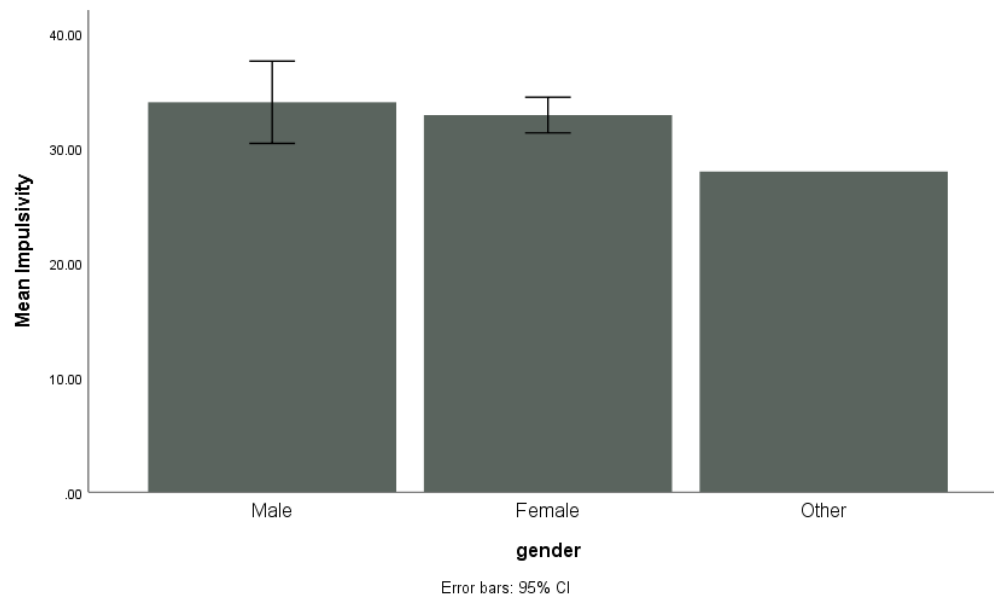


Figure 2. *Gender Prevalence of Impulsivity*

Table 1 displays the mean and standard deviation of impulsivity amongst different course types. Students who are taking media courses reported the highest levels of impulsivity with a mean of 40.17 (SD=8.23), whereas students taking healthcare-related courses reported the lowest levels of impulsivity with a mean of 29.33 (SD=2.31).

Table 1. *Impulsivity Prevalence in Various Course Types*

	Mean	Standard Deviation
Arts	31.00	8.30
Science	36.33	10.10
Social Science	33.03	6.87
Business & Marketing	31.50	4.64
Media	40.17	8.23
Healthcare	29.33	2.31
Education	32.00	0.00



Figure 3 shows the differences in procrastination levels amongst genders. For male participants, the mean level of procrastination was 27.60 (SD= 8.17). Females reported a higher level of procrastination with a mean of 29.72 (SD=7.43). As only one participant identified their gender as other, procrastination remained constant and was omitted from this analysis.

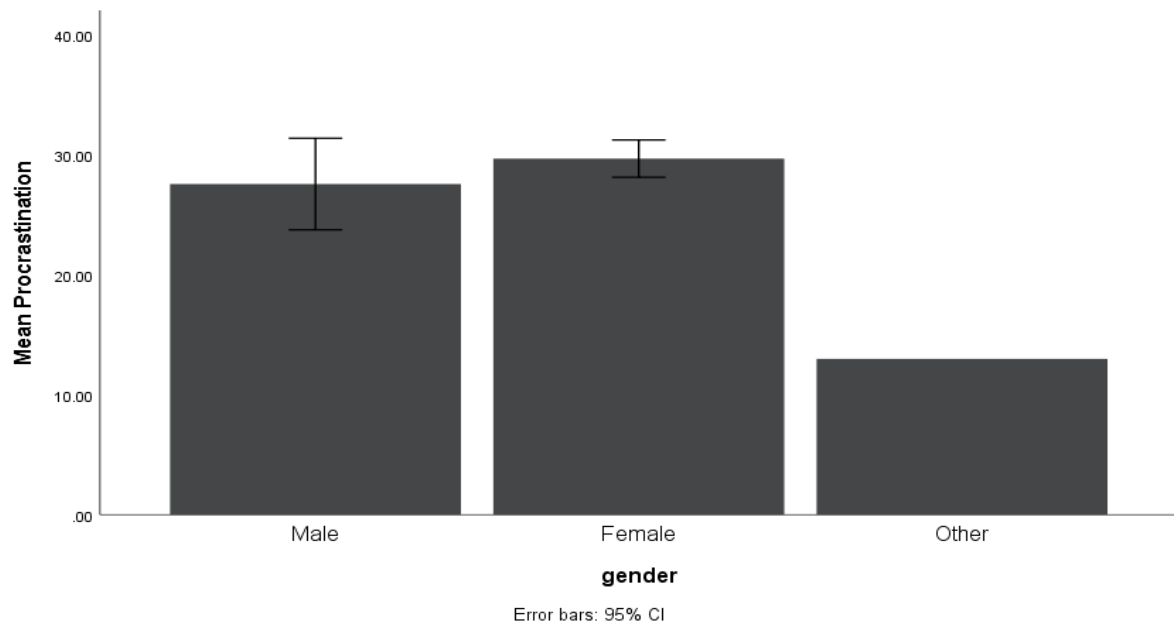


Figure 3. *Gender Prevalence of Procrastination*

Table 2 displays the mean and standard deviation of procrastination amongst different course types. Students taking media courses reported the highest levels of procrastination with a mean of 39.17 (SD=3.13), whereas students taking education-related courses reported the lowest levels of procrastination with a mean of 26.67 (SD=8.08).

Table 2. *Procrastination Prevalence in Various Course Types*

	Mean	Standard Deviation
Arts	30.31	6.54
Science	33.00	5.57
Social Science	27.60	7.77
Business & Marketing	29.00	7.93
Media	39.17	3.13
Healthcare	37.00	4.36
Education	26.67	8.08

Table 3 displays the mean and standard deviation of machiavellianism amongst different course types. Students taking science and education-related courses both reported the highest levels of machiavellianism with means of 28.00, and standard deviations of 2.61 and 0.00 respectively. Students taking healthcare-related courses reported the lowest level of machiavellianism with a mean of 21.00 (SD=4.24).

Table 3. *Machiavellianism Prevalence in Various Course Types*

	Mean	Standard Deviation
Arts	25.60	4.33
Science	28.00	2.61
Social Science	27.43	5.17
Business & Marketing	23.83	3.66
Media	23.67	3.79
Healthcare	21.00	4.24
Education	28.00	0.00

Table 4 displays the mean and standard deviation of narcissism amongst different course types. Students taking media and education courses reported the highest levels of narcissism with means of 25.00 and standard deviations of 1.00 and 0.00 respectively. Students taking science-related courses reported the lowest level of narcissism with a mean of 20.83 (SD=4.07).

Table 4. *Narcissism Prevalence in Various Course Types*

	Mean	Standard Deviation
Arts	23.30	5.33
Science	20.83	4.07
Social Science	23.02	5.23
Business & Marketing	21.83	3.19
Media	25.00	1.00
Healthcare	23.00	4.24
Education	25.00	0.00

Table 5 displays the mean and standard deviation of psychopathy amongst different course types. Students taking education-based courses reported the highest levels of psychopathy with a mean of 24.00 (SD=0.00). Students taking science courses reported the lowest level of psychopathy with a mean of 16.33 (SD=3.14).

Table 5. *Psychopathy Prevalence in Various Course Types*

	Mean	Standard Deviation
Arts	17.70	4.22
Science	16.33	3.14
Social Science	19.90	4.96
Business & Marketing	18.50	5.43
Media	22.67	1.15
Healthcare	18.00	5.66
Education	24.00	0.00

Reliability of each scale and subscale was also analysed by conducting a Cronbach's Alpha Test of reliability. Within the Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014), coefficient Alpha for Machiavellianism equalled .68 which shows that the scale is reliable. Similarly, coefficient Alpha for the Narcissism and Psychopathy subscales equalled .72 and .71 respectively; both values are above .70 which again shows that the scales are reliable. Coefficient Alpha for the short 15-item version of The Barratt Impulsiveness Scale Version 11 (Spinella, 2007) equalled .83 > .70, thus this scale too, is reliable. Coefficient Alpha for the Irrational procrastination scale (Steel, 2010) equalled .88 > .70; therefore, all scales used in the current study have good reliability.

### 3.2 Inferential Statistics

The current study set out to examine the link between the Dark Triad traits, gender, impulsivity, and procrastination. The study tested four hypotheses; hypothesis one proposed that there will be significant gender differences in prevalence rates of the Dark Triad traits, hypothesis two proposed that the Dark Triad traits will significantly predict impulsivity, hypothesis three proposed that there will be a significant relationship between impulsivity and procrastination, and hypothesis four proposed that the Dark Triad personality types will significantly predict and procrastination.

For the first hypothesis, a one-way multivariate ANOVA found that there was a statistically significant difference in the prevalence of Dark Triad traits between genders ( $F(6,180)=2.45$ ,  $p=.027$ , effect size= .75). Following a Bonferroni adjustment to .017, there was no significant difference in the prevalence rates of narcissism ( $F(2,92)= .48$ ,  $p= .623$ , effect size= .10) or machiavellianism ( $F(2,92)= .83$ ,  $p= .441$ , effect size= .18) between genders. But there was a statistically significant difference in the prevalence rates of psychopathy ( $F(2,92)= 7.39$ ,  $p=.001$ , effect size= .138) as displayed in figure 4, with individuals identifying their gender as Other ( $M=31$ ,  $SD= N/A$ ) rating higher in psychopathy than males ( $M=22.2$ ,  $SD=5$ ) and females ( $M=18.7$ ,  $SD=4.4$ ). Thus, the null hypothesis can be rejected, and the research hypothesis which proposes that there will be significant gender differences in the prevalence of Dark Triad traits can be accepted.

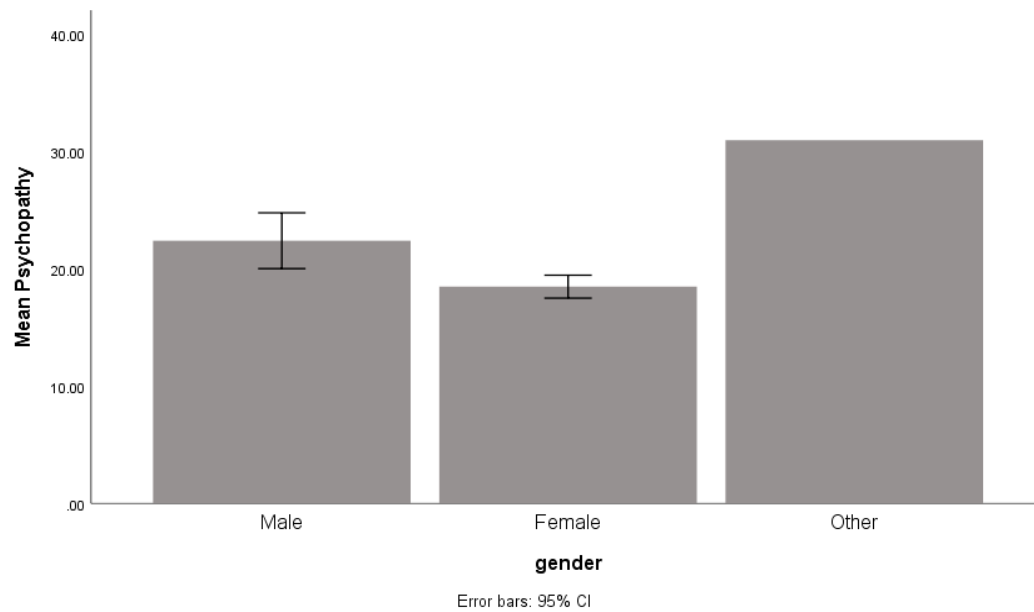


Figure 4. *Gender Differences in Psychopathy*

For the second hypothesis, a multiple regression was used to test whether the Dark Triad personality types are predictors of impulsivity. The results of the regression indicated that 3 predictors (narcissism, psychopathy, and machiavellianism) explained 14% of the variance ( $r^2 = .14$ ,  $F(3,92) = 6.05$ ,  $p = .001$ ). It was found that psychopathy significantly predicted impulsivity ( $\beta = .31$ ,  $p = .004$ , 95% CI = .14, .73), whereas narcissism ( $\beta = -.14$ ,  $p = .297$ , 95% CI = -.408, .126) and machiavellianism ( $\beta = .26$ ,  $p = .065$ , 95% CI = -.016, .539) did not. Based on this result, the null hypothesis can be rejected as psychopathy was identified as a predictor of impulsivity. However as a whole, given that neither narcissism or machiavellianism significantly predicted impulsivity, the null cannot be fully rejected.

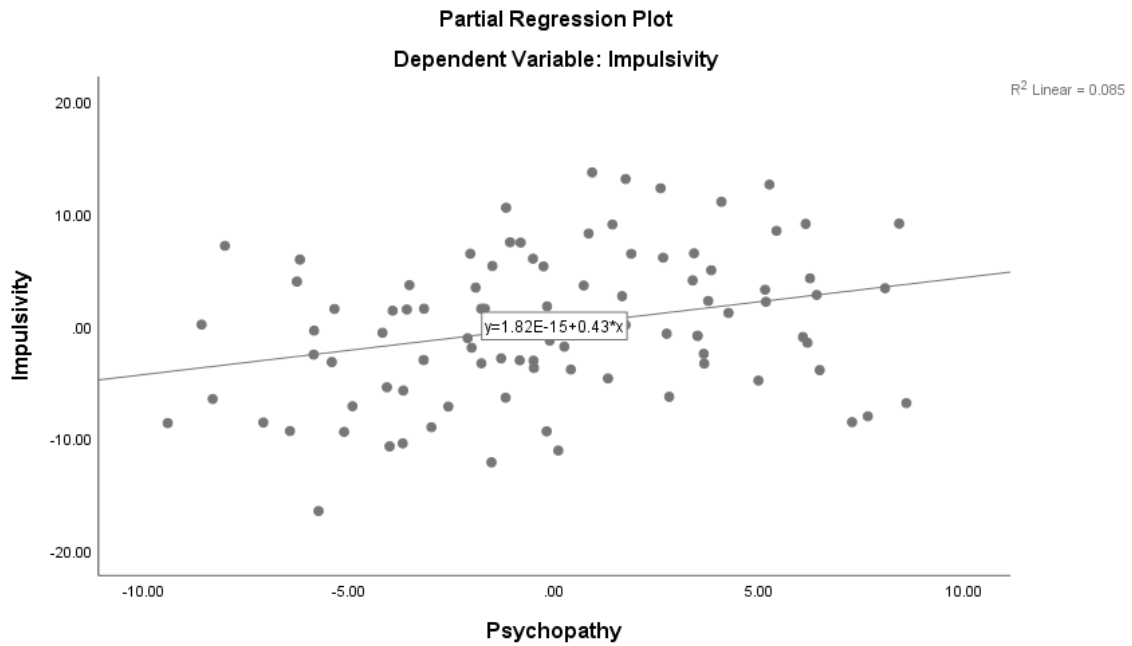


Figure 5. *Psychopathy predicts impulsivity*

For the third hypothesis, a Pearson's correlation coefficient found that there was a strong positive significant relationship between impulsivity ( $M=33.18$ ,  $SD=7.38$ ) and procrastination ( $M=29.33$ ,  $SD=7.74$ ) ( $r(109) = .55$ ,  $p < 0.001$ ) as shown in figure 6. Thus, the null hypothesis is rejected, and the research hypothesis which proposes that there will be a significant relationship between impulsivity and procrastination is accepted. This relationship can account for 30.25% of variation of scores.

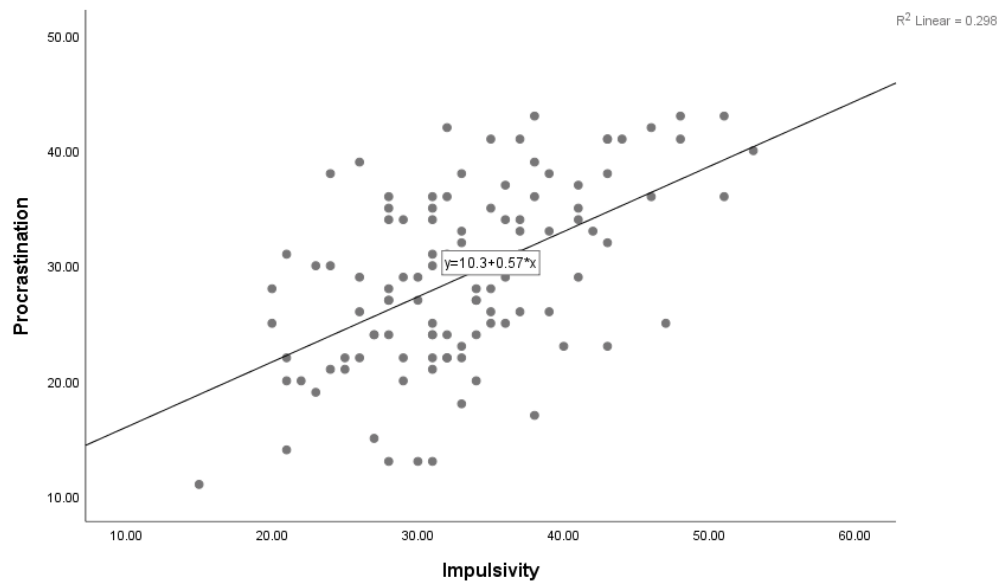


Figure 6. *Strong positive relationship between impulsivity and procrastination*

For the fourth hypothesis, a multiple regression was used to test if the Dark Triad personality types significantly predicted procrastination. The results of the regression indicated that the 3 predictors explained -.7% of the variance ( $r^2 = -.007$ ,  $F(3, 92) = .79$ ,  $p = .50$ ). It was found that narcissism ( $\beta = .03$ ,  $p = .80$ , 95% CL =  $-.29, .36$ ), machiavellianism ( $\beta = .13$ ,  $p = .25$ , 95% CL =  $-.14, .53$ ), and psychopathy ( $\beta = .05$ ,  $p = .67$ , 95% CL =  $-.27, .42$ ) did not significantly predict procrastination. Thus, the null hypothesis cannot be rejected.

#### *4. Discussion*

The current study aimed to explore the link between the Dark Triad Traits, impulsivity, and procrastination in college students, and to examine gender differences among the Dark Triad traits. The first hypothesis proposed that there will be a significant difference in the prevalence of Dark Triad traits between genders; the results of the current study partially supported this hypothesis. The results showed that there was a significant difference in the prevalence rates of psychopathy amongst genders, but there were no significant differences in the prevalence rates of narcissism and machiavellianism amongst genders. Previous research suggested that males score higher in psychopathy than females on a multitude of scales including the short Dark Triad scale used in the current study (Furnham, Richards, & Paulhus, 2013, Jonason & Tost, 2010, Jonason & Webster, 2010, Jonason et al, 2013, Jones & Paulhus, 2014, Paulhus & Williams, 2002). While the current study found that males reported slightly higher rates of psychopathy than females, the difference was non-significant, and individuals who identified their gender as 'other' reported the highest levels of psychopathy. However, previous research did not include 'other' as an option for gender.

These same studies also reported that males score higher in machiavellianism and narcissism; while the current study found that again males scored higher than females, but the difference was non-significant, and individuals who identified their gender as 'other' reported the highest levels of both traits. Grijalva et al (2015) and Foster, Campbell, and Twenge (2003) both reported that males score higher in machiavellianism on a variety of scales, which contradicts the results of the current study as the differences between genders were non-significant. Similarly, research by Christie and Geis' (1970) and Tang and Chen (2008) has shown that males have higher levels of machiavellianism than females in contrast with the results of the



current study which again found that there was no significant difference between genders. None of the previous studies conducted an analysis including 'other' as an option for gender.

The second hypothesis proposed that the Dark Triad traits will predict impulsivity. The results of the current study partially supported this hypothesis as psychopathy was found to be a predictor of impulsivity, but machiavellianism and narcissism were not. Previous research corroborated the findings of the current study that identified psychopathy as a predictor of impulsivity (Hart & Dempster, 1997, Hunt et al, 2005, Jonason & Tost, 2010, Jones & Paulhus, 2011, Lau & Marsee, 2013). However, previous research has also identified narcissism as a predictor of impulsivity (Jonason & Tost, 2010, Jones & Paulhus, 2011, Vazire & Funder, 2006), whereas the current study did not identify such a relationship. Although Jonason and Tost (2010) stated that the Dark Triad traits share limited self-control, no association has been found between machiavellianism and impulsivity in previous research (Jones and Paulhus, 2011). In the current study, machiavellianism did not predict impulsivity, and so supported the findings of previous research. Thus, while it is still possible that the Dark Triad traits share a common core as suggested by Paulhus and Williams (2002), the current study indicates that the common core is not impulsivity.

The third hypothesis proposed that there would be a significant relationship between impulsivity and procrastination. The results of the current study supported this hypothesis as there was found to be a strong positive significant relationship between impulsivity and procrastination. In previous research, impulsivity has been found to predict procrastination (Lyons & Rice, 2014, Steel, 2007). It has also been linked to low conscientiousness and self-regulatory failure (Steel, 2007) which are associated with impulsivity (Lyons & Rice, 2014). Therefore, this research supports the results of the current study.

The fourth hypothesis proposed that the Dark Triad traits will predict procrastination. This hypothesis was not supported by the results of the current study, as neither psychopathy, machiavellianism, or narcissism were identified as predictors of procrastination. Previous research states that the Dark Triad traits share features such as low conscientiousness and impulsivity with procrastination (Jones & Paulhus, 2011; Paulhus & Williams, 2002, Steel, 2007). Procrastination has also been linked to self-regulatory failure (Steel, 2007); a trait which has been shown to be associated with narcissism and psychopathy (Jones & Paulhus, 2011). Psychopathy has been linked to high impulsivity (Hart & Dempster, 1997, Hunt et al, 2005, Jonason & Tost, 2010, Jones & Paulhus, 2011, Lau & Marsee, 2013), and as impulsivity is associated with procrastination (Lyons & Rice, 2014, Steel, 2007), the current study hypothesised that therefore psychopathy would be a predictor of procrastination.

Although the current study found a significant relationship between impulsivity and procrastination, and linked psychopathy with impulsivity, psychopathy was not identified as a predictor of procrastination. Similarly, narcissism has been linked to impulsivity (Jonason & Tost, 2010, Jones & Paulhus, 2011, Vazire & Funder, 2006), but the current study neither identified it as a predictor of impulsivity or procrastination. Machiavellians, on the other hand, have been shown to be low in impulsivity (Jones and Paulhus, 2011), and thus one could hypothesise that machiavellians would rate low on the procrastination scale. The current study found that machiavellians did rate low in impulsivity, but that machiavellianism was not a predictor of procrastination. Therefore, the Dark Triad traits did not appear to predict procrastination, and the results of the current study were not corroborated by previous research.

The current study had many strengths; it addresses the lack of research into gender differences between the Dark Triad traits, and is more inclusive of varying genders by including an ‘other’

option for gender, rather than just male and female. It also adds to the body of research on Machiavellianism, which according to Wilson, Near, and Miller (1996) is lacking. Similarly, Vazire and Funder (2006) stated that there is a lack of research conducted to investigate the role of impulsivity plays in subclinical narcissism, which the current study also explores. After conducting a Cronbach's Alpha analysis, the Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014), The Short Barratt Impulsiveness Scale, Version 11 (Spinella, 2007), and the Irrational procrastination scale (Steel, 2010), all had good reliability ranging from .68 to .88. The large sample size was another strength of the current study as there were 114 participants.

However, the current study also had a number of limitations, for example, there was a large gender imbalance. There were 90 female participants, but only 21 male participants, and only 1 participant who identified their gender as 'other', which negatively affects the generalisability of the results. As the analyses of the first hypothesis showed that there is a significant difference in the prevalence of psychopathy between genders, the gender imbalance may have implications for the results of analyses involving the Dark Triad traits. Generalisability of the findings is also negatively affected as 52 of the participants were undergraduate psychology students from Dublin Business School, and in total, 71 participants were from social science-related courses including psychology. Although the scales used in the current study had good reliability, reliance on self-report measures can lead to problems like response biases, misunderstanding of questionnaire items, and social desirability (Baughman, 2015, Hunt et al, 2005, Muris et al, 2017). Social desirability is caused by an individual's desire to portray themselves in a certain light, whether positive or negative; this could potentially be a larger issue within individuals high in traits like psychopathy given the nature of their characteristics (Snowden & Gray, 2011). Self-report measures allow the researcher to find out whether these

behaviours are long term, but are unsuitable for repeated use, which limits their effectiveness (Moeller et al, 2001). Another limitation of the study is that brief measures such as the Short Dark Triad have often been criticised as they are possibly too simple to reflect the “richness” (pg.195) of traits like the Dark Triad (Muris et al, 2017).

Future research should address the limitations of the current study to increase the generalisability and accuracy of the results. As Dickman (1990) identified two types of impulsivity that manifest differently in traits such as narcissism and psychopathy (Jones & Paulhus, 2011), future research should conduct a more in-depth analysis of the role of impulsivity in the Dark Triad traits and procrastination using the functional and dysfunctional impulsivity subscales of the Functional and Dysfunctional Impulsivity scale (Dickman, 1990). Similarly, Wink (1991) stated that there are two types of narcissism, overt and covert, and Snowden and Gray (2011) stated that there are two dimensions of psychopathy, primary and secondary. By analysing these subsets of personality traits and their relationship with impulsivity, procrastination, and gender, future research may be able to achieve more detailed results.

Future research should also consider examining the Dark Triad traits, impulsivity, and procrastination while controlling for anxiety. High levels of anxiety are known to predict procrastination (Shah, 2017) but the Dark Triad traits have varying levels of anxiety; psychopaths are low in anxiety (Paulhus & Williams, 2002), whereas machiavellians are high in anxiety (Fehr & Samsom, 2013), and narcissists also experience anxiety to a degree (Brown, 1997). Therefore, the levels of anxiety associated with the Dark Triad traits could potentially influence the results, and so should be controlled for in future research.

The results of the current study provide valuable insight into how the Dark Triad traits manifest in subclinical populations and in different genders, and the Dark Triad's relationship with impulsivity and procrastination. In terms of the implications of these results, they contradicted a number of findings from previous research; possibly due to the aforementioned limitations. The results suggest that there is no relationship between the Dark Triad traits and procrastination, including psychopathy, despite the correlation between psychopathy and impulsivity. The inconsistency between the results of the previous research and that of the current study suggests that more research should be conducted in this area. For example, previous research supported the hypothesis that Dark Triad traits predict procrastination. Although the results of the current study dispute this, the link between procrastination and the Dark Triad should be further researched to clarify this relationship, as it may have implications for those high in Dark Triad traits such as an academic disadvantage due to a tendency to procrastinate.

The current study identified a strong positive relationship between impulsivity and procrastination; this finding could be applied to the creation of interventions to help individuals who struggle with procrastination as a result of impulsivity. Similarly, if this study was replicated and conducted in a forensic sample where the Dark Triad traits may be more prevalent, the findings regarding the Dark Triad's relationship with impulsivity could potentially be applied in the design of interventions to improve an individual's ability to self-regulate.

The current study sought to examine gender differences among the Dark Triad traits. It was found that there was a significant difference in the prevalence of psychopathy between genders,

but not in narcissism or machiavellianism. It also aimed to explore the link between the Dark Triad Traits, impulsivity, and procrastination in college students. Psychopathy was identified as a predictor of impulsivity, but narcissism and machiavellianism were not. A strong positive relationship was found between impulsivity and procrastination, but the Dark Triad traits were not identified as predictors of procrastination. Therefore from the results of this study, it can be concluded that impulsivity is not the common core of the Dark Triad, and that individuals high in Dark Triad traits are not more prone to procrastination.

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## 6. Appendices

### Appendix A- Information Sheet

#### **“Examining the Link between Personality Traits, Impulsiveness, and Procrastination Behaviour in College Students.”**

My name is Rachel Sargent and I am conducting research in the Dublin Business School Department of Psychology that explores the effect of various personality traits on procrastination behaviours in students. This research is being conducted as part of my studies and will be submitted for examination and possibly publication.

If you are over the age of 18 and currently studying at an undergraduate level in Ireland, you are invited to take part in the current study. Participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part. Participation is anonymous and confidential; thus, responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected. The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact;

Rachel Sargent, xxxxxxxx

My supervisor can be contacted at xxxxxxxx

Thank you for taking the time to complete this survey.

## Appendix B- Questionnaire Pack with Coding Sheets

Please indicate your gender by ticking the relevant box: Male [ ] Female [ ] Other [ ]

Please Indicate your Age:

Please Indicate what College Course Type you are doing (e.g. Arts, Business, Science):

### The Dark Triad of Personality (D3-Short) measurement (Paulhus, 2013)

SD3.1.1 – 27 items

*Please rate your agreement or disagreement with each item using the following guidelines.*

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

#### *Machiavellianism subscale*

1.It's not wise to tell your secrets.

1. I like to use clever manipulation to get my way.
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. It's wise to keep track of information that you can use against people later.
5. You should wait for the right time to get back at people.
6. There are things you should hide from other people because they don't need to know.
7. Make sure your plans benefit you, not others.
8. Most people can be manipulated.

*Narcissism subscale*

1. People see me as a natural leader.
2. I hate being the centre of attention. (R)
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me. (R)
7. I have been compared to famous people.
8. I am an average person. (R)
9. I insist on getting the respect I deserve.

*Psychopathy subscale*

1. I like to get revenge on authorities.
2. I avoid dangerous situations. (R)
3. Payback needs to be quick and nasty.
4. People often say I'm out of control.
5. It's true that I can be mean to others.
6. People who mess with me always regret it.
7. I have never gotten into trouble with the law. (R)
8. I enjoy having sex with people I hardly know
9. I'll say anything to get what I want.

Note. The subscale headings should be removed before the SD3 is administered. Items should be kept in the same order. Reversals are indicated with (R). Add the score for each question together to find the total score for each subscale. The higher the sum of the score, the higher the rate of the trait being measured.

**Barratt Impulsiveness Scale- Version 11 (Patton, Stanford, & Barratt, 1995)**

DIRECTIONS: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and put an X on the appropriate circle on the right side of this page. Do not spend too much time on any statement. Answer quickly and honestly.

○	○	○	○
Rarely/Never	Occasionally	Often	Almost Always/Always

All items are answered on a 4-point scale and are scored from 1-4, 4 being the most impulsive. The higher the sum of score, the higher the level of impulsiveness.

***15 item version of the Barratt Impulsiveness Scale Version 11 (BIS) (Spinella, 2007)***

1. I act on impulse (inverted).
2. I act on the spur of the moment.
3. I do things without thinking.
4. I say things without thinking.
5. I buy things on impulse.
6. I plan for job security (inverted).
7. I plan for the future (inverted).
8. I save regularly (inverted).
9. I plan tasks carefully (inverted).
10. I am a careful thinker (inverted).
11. I am restless at lecturers or talks.
12. I squirm at plays or lectures.
13. I concentrate easily (inverted).
14. I don't pay attention.
15. Easily bored solving thought problems.



### Irrational procrastination scale (Steel, 2010)

#### Procrastination Quotient

Note that questions 2, 5, and 8 are scored in the opposite direction from the other items.

	Very Seldom or Not True of Me	Seldom True of Me	Sometimes True of Me	Often True of Me	Very Often True, or True of Me	
1. I delay tasks beyond what is reasonable.	1	2	3	4	5	
2. I do everything when I believe it needs to be done.	1	2	3	4	5	(R)
3. I often regret not getting to tasks sooner.	1	2	3	4	5	
4. There are aspects of my life that I put off, though I know I shouldn't.	1	2	3	4	5	
5. If there is something I should do, I get to it before attending to lesser tasks.	1	2	3	4	5	(R)
6. I put things off so long that my well-being or efficiency unnecessarily suffers.	1	2	3	4	5	
7. At the end of the day, I know I could have spent the time better.	1	2	3	4	5	
8. I spend my time wisely.	1	2	3	4	5	(R)
9. When I should be doing one thing, I will do another.	1	2	3	4	5	

Total Score:

Score Compared to Everyone Else:

19 or less You are in the bottom 10% Your mantra is “first-things-first”

20–23 You are in the bottom 10–25%

24–31 You are in the middle 50% Average procrastinator

32–36 You are in the top 10–25%

37 or more You are in the top 10% “Tomorrow” is your middle name

Reversals are indicated with (R). Add the score from each question together to work out the total score. The higher the score the more the individual tends to procrastinate.

## Appendix C- Debrief Sheet

Thank you for taking the time to complete this survey. The current study is being conducted to examine how the relationship between the Dark Triad personality traits and impulsivity effects procrastination behaviour in college students. The scales used were a short version of the Barratt Impulsiveness Scale Version 11 (Patton, Stanford, & Barratt, 1995) created by Spinella (2007), The Dark Triad of Personality (D3-Short) measurement (Jones & Paulhus, 2014), and the Irrational procrastination scale (Steel, 2010).

The Dark Triad is made up of 3 personality traits; psychopathy, machiavellianism, and narcissism. Psychopathy is commonly associated with a lack of empathy or remorse, machiavellianism is associated with manipulateness, and narcissism is associated with a sense of superiority. The Dark Triad also share certain qualities like disagreeableness, so the current study seeks to find out if they share impulsiveness, and if in a college setting, this could lead to procrastination.

If you have been affected by any of the topics addressed in the current study, here are some support services:

Samaritans: email- [jo@samaritans.ie](mailto:jo@samaritans.ie) or call- 116 123

Aware: email- [supportmail@aware.ie](mailto:supportmail@aware.ie) or call- 01 661 7211

Spun Out: Website- [SpunOut.ie](http://SpunOut.ie)

Should you require any further information about the research, please contact

Rachel Sargent, xxxxxxxxx

My supervisor can be contacted at xxxxxxxxx