The Dark Triad as predictors of selfie behaviour:

The role of Narcissism, Machiavellianism and Psychopathy

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Abstract

A non-probability convenience design was used to examine whether Dark Triad personalities such as Machiavellianism, narcissism and psychopathy predicted selfie-sharing behaviour. The aim of the study was to understand the underpinnings of the darker traits of personality and their relation to selfies. In total, 142 participants (age 18-67), non-native and native English speakers, took part of an online study completed in Google Forms. Multiple Regressions, a linear regression, Pearson’s correlations, a one-way ANOVA and T-tests were used to examine relationships and correlations between age, sex, Dark Triad, selfie-sharing, negative attitudes and self-enhancement. Results yielded that there was no significant relationship between Dark Triad and selfie-sharing. However, narcissism predicted self-enhancement as well as several variables were found to correlate with negative attitudes toward selfies.

Key words: Subclinical, Dark Triad, Machiavellianism, Narcissism, Psychopathy, Selfies, Negative attitudes, Self-enhancement
The Dark Triad as predictors of selfie behaviour: The role of Narcissism, Machiavellianism and Psychopathy

1. Introduction

The popular word ‘selfie’ was in 2013 selected “word of the year” by Oxford Dictionaries (Paris & Pietschnig, 2015). Oxford English Dictionary defined the term selfie as ‘a photograph that one has taken of oneself, typically one taken with a smartphone or webcam and uploaded to a social media website’ (Selfie, 2013).

A selfie has also been characterized as a practice—a gesture that can send (and is often intended to send) different messages to different individuals, communities and audiences (Senft & Baym, 2015).

Our current understanding of the word 'selfie' is relatively recent. The word itself, however, is known to first have appeared in 2002 in an online post from Australia (“Selfie: Australian slang term named international word of the year”, 2013). Despite it being a new term, selfies are not new concepts. The first reference to the notion of selfies emerged centuries ago (Rettberg, 2014), when monks copied manuscripts, they drew small pictures of themselves in their texts. Later, in the eighteenth century, self-portraits became fashionable collectors’ items. More specifically, the year 1920s were the birth of the photo booth. The invention allowed individuals to take a photograph by being able to pre-set their camera and allow themselves 5 to 10 seconds to get into a shot. Thus, the photo booth is an early antecedent of today's selfie (Saltz, 2014). Today, self-portraits are not solely shown in galleries, as in the twentieth century. Unremarkably, they are shared with friends and followers on social media. Today, a selfie can be considered a channel for communication and self-expression in the lives of
many (Fox & Rooney, 2014). The social network site (SNS) Facebook had one billion users worldwide in 2014 (Facebook, 2014) with 700 million of these accessing the site daily. Furthermore, Instagram hosts over 1 billion photographs posted by their 200 million users, one-third of whom use the site multiple times a day (Instagram, 2014; Pew Internet, 2013).

As a concept the selfie is hundreds of years old (Rettberg, 2014), however it has become a high interest to society today especially so since 2013 (Brown, 2013; Nelson, 2013). Consequently, it is important to investigate this concept, and the predictive role of personality in understanding the variables that underpin selfie attitudes and behaviours. The current limited view of selfies lacks critical depth and awareness of the complexity of the phenomenon. The research questions that will be explored in the current research will examine the darker trait personalities in relation to selfie taking and sharing behaviour, that is, which traits are more related to take and share selfies than others. Furthermore, it will examine the role of attitudes towards selfie sharing and their associated behaviour.

1.1 The Dark Triad; Machiavellianism, Narcissism and Psychopathy

The Dark Triad of personalities includes subclinical (i.e., within a normal range of functioning) Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002). The three traits share common threads of deceitfulness, self-promotion, coldness, disagreeableness, exploitation and aggression (Furnham, Richards & Paulhus, 2013; Jonason & Webster, 2010). The three constructs are conceptually distinct but empirically overlapping personality variables. Clinical personalities refers to those currently under supervision either clinically or forensically (Hyland, McGuckin, & Lewis, 2014). Whereas subclinical samples refer to continuous distributions in broader community samples (Ray & Ray, 1982). It is important to note that the current paper
takes an exclusive accord to the subclinical personalities amongst the wider community.

Narcissism is marked by a belief that you are smarter, more attractive and better than others are, but with some underlying insecurity (Gabriell, Critelli & Ee, 1994; Raskin & Terry, 1988). Psychopathy involves a lack of empathy and regard for others and a tendency toward impulsive behaviour (Fox & Rooney, 2015). Whereas, the third element of the Dark Triad, Machiavellianism, can be explained as ‘manipulativeness without regards for others’ (Seidman, 2015).

The recent development of non-clinical measures of all three constructs has permitted the evaluation of empirical associations in normal populations (Fox & Rooney, 2014). On that basis, the current study seek to investigate if there is a relationship between Dark Triad personalities and selfies.

1.1.1 Machiavellianism

In the 16th century, writings of Nicollo Machiavelli derived the concept of Machiavellianism. His book ‘The Prince’ includes his own attitudes, tactics and strategies to gain power and to keep it efficient (Robbins & Coulter, 2012). Machiavellianism is one prominent personality trait that is offensive but non-pathological which expresses manipulative tendencies (Paulhus & Williams, 2002; Sinha, 2008) and is based on the acquisition of power (Daft, 2008). High Machs are “darker” than others, having an agenda of reaching to the end via whatever actions necessary (Cikar & Seviyesinin, 2014).

Montag et. al. (2015) described Machiavellianism tendencies to behave amoral and distrusting with the aim of heightening one’s own status and maximizing personal benefit. Machs are strategic and cynical. They seek to satisfy their own needs with little
regard for morals, often by manipulating others (Christie & Geis, 1970). Jones and Paulhus (2009) also drew attention to a neglected predecessor, namely, the first-century military strategist, Sun Tzu (Shibing & Duyvendak, 1998). Along with themes similar to Machiavelli’s, Sun Tzu added planning, coalition formation, and reputation building. Hence, Jones and Paulhus (2014) stated that the key elements of Machiavellianism appear to be (a) manipulativeness, (b) callous affect, and (c) a strategic-calculating orientation. This last element is often overlooked by researchers (Jones & Paulhus, 2014).

‘Theory of Mind’ refers to the cognitive capacity to attribute mental states to self and others (Goldman, Margolis, Samuels & Stich, 2012). The ability to attribute independent mental states and processes to others plays an important role in our social life for at least two reasons (Repacholi, Slaughter, Pritchard, & Gibbs, 2003). Firstly, it facilitates social cooperation. Secondly, it enable us to manipulate others in order to reach out our own goals (Repacholi et al., 2003).

In a study looking at the theory of mind and social competence, using different age groups and measures, it was found that Machiavellian children, who are characterised as skilful social manipulators, were neither impaired nor more advanced in their theory of mind development relative to their peers. Although Machiavellian children appear to possess a well-functioning theory of mind, by late childhood, their mental state attributions are prone to a negative social-cognitive bias. Hence, it appears to be the quality or content of older children's theory of mind that is crucial to their social functioning. In other words, the lens through which an individual views a social situation may be more important in predicting interpersonal behaviour than simply whether the person can or cannot accurately read another person's mind. It remains to be determined whether this is also the case for the adult Machiavellian. Evidence has
also presented that, at least during the preschool years, Machiavellian tendencies are related to controversial peer status (Repacholi, et. al., 2003).

### 1.1.2 Narcissism

The word narcissism was brought into psychoanalysis to designate self-love, in reference to the Greek myth of Narcissus. Narcissus fell in love with what he thought was another person, though turned out to be his own image reflected in a pool of water (Quinodoz, 2005).

Psychoanalysts have traditionally diverged into two main trends regards to the work of narcissism. Freudians, such as Mahler, Balint, Grunberger and Kohut, concede that there is an objectless phase at the beginning of life (Grunberger, 1979; Mahler, 1969; Mahler, Pine & Bergman, 2008; Quinodoz, 2005). Contrarily, psychoanalysts such as Melaine Klein, and post-Kleinian psychoanalysts such as Rosenfeld and Segal, Green and Kernberg hold the notion that the object is perceived from the very beginning of life (Quinodoz, 2005).

Narcissism is an intermediate stage in the child’s psychosexual development, between autoeroticism and an object-love stage. Freud noted the term “primary narcissism” as a phase where infants take themselves as their love-object and feel that the whole world resolves around them. This phase occurs, argued Freud, for all infants in the beginning of life. Later, the child turns its libido towards an object (Freud, 1923). In loving some other person, the individual can in turn love him- or herself: it is this turning-around of cathexis on to the self that Freud calls “secondary narcissism” (Freud, 1914).

According to Kohut (as cited in Quinodoz, 2005), narcissism can develop in either a healthy or an unhealthy direction, depending on the particular intersubjective
circumstances of the child’s early surroundings. Consequently, if the child’s caregiver is appropriately responsive to the child’s developmental needs and aspirations, narcissism will be fostered (Horton, Bleau, Drwecki, 2006). The primary narcissism will be transformed from its infantile variant into its mature one.

Those psychoanalysts that hold that the object is perceived from the very beginning of life consider narcissistic phenomena to be the expression of aggressive or libidinal drives and of defences which are set up as soon as the object is perceived as separate and different from the self (Quinodoz, 1991).

A narcissistic person is self-centred, self-invested and inconsiderate of others, whereas to be object directed meant to be altruistic, unselfish, dedicated and invested in others. Once the infant direct his libido to the maternal figure, a relationship starts to develop and an attachment is formed. However, if a disturbance occurs in this relationship, the child becomes enraged at the object, withdraws his affection from the primary object and cathects himself. The cathexis is then manifested in feelings of grandiosity and megalomania reference (Freud, 1914).

Psychologists have similarly looked at the relationship between mother and infant as a crucial base of personality development. John Bowlby and Mary Ainsworth hold disturbances in the child/caregiver environment responsible for inducing damage in the human psyche (Berger, 2011). Bowlby suggests that an insecurely attached child develops a belief of self-worthlessness and incompetency. In contrast, a securely attached child perceive themselves as more or less worthy and capable, while viewing others as relatively reliable and non-threatening. Bowlby indicated that self-confidence and competence in reading to oneself and others emotionally and cognitively are deficient in insecurely attached individuals and Ainsworth’s avoidant children, while
these capacities tend to be present in securely attached individuals (van Rosmalen, van der Horst & van der Veer, 2016)

### 1.1.3 Psychopathy

Hare (1993) termed psychopathy as a pattern or remorseless manipulation of others. Psychopaths lack empathy and often engage in impulsive and thrill seeking behaviours regardless of the cost to others (Jonason & Krause, 2013)

Researchers (Cleckley, 1976; Hare, 1970; Lykken, 1995) have pointed to two key elements of psychopathy; deficits in affect, such as hardness, insensitivity and unfeelingness, and self-control, such as impulsivity. The self-control deficit has remained central to criminal (Hare & Neumann, 2008; Hicks et al., 2007) as well as noncriminal conceptions of psychopathy (Hall & Benning, 2006; Lebreton, Binning, & Adorno, 2006). Whereas some observers, such as McHoskey, Worzel and Syzarto (1998), have suggested that the three variables of the Dark Triad are interchangeable in normal samples, Hare and Neumann (2008) stated that psychopaths differ from Machs and narcissists in the way of acting impulsive and pay little attention to their reputations.

Similar to narcissism, theories have suggested that psychopathy derive from early relationships. The internal working models of insecurely attached children are carried over into the psychotic life of the insecurely attached adults where they operate, often unconsciously, to protect psyche from the perceived strangers (Van Rosmalen et al., 2016; Verschueren, Marcoen & Schoefs, 1996).

### 1.1.4 Nature vs. nurture

Researchers have sought to understand the evolutionary development of antisocial traits (Fox & Rooney, 2014; Figuerdo et al., 2005; Ferguson, 2010; Granic & Patterson,
2006) such as Machiavellianism, narcissism and psychopathy. According to life history research, it may be to help maximises the likelihood that offspring will survive and reproduce (Figueredo et al., 2005). Each Dark Triad trait has a function that makes it evolutionary advantageous. Researchers have suggested that all three have substantial genetic components (Petrides, Vernon, Schertmer & Veselka, 2011; Vernon & Villani, Vickers & Harris, 2008). The notion of life history strategy seem to be central in understanding the individual differences in Dark Triad (Figuerdo, 2007; Rushton, 1985). Within that framework, individuals differ along a continuum of reproductive strategies. Those emphasising mating are said to have a fast life strategy; those emphasising parenting are said to have a slow reproductive strategy. Researchers argue that individuals with Dark Triad traits have a fast life history strategy (Jonason, Valentine, Li & Harbeson, 2009; Brumbach, Figuerdo & Ellis, 2009). However, Jones and Paulhus (2011) stated that Machiavellianism is the most likely of the three to be modified by experience.

1.2 SNS behaviours and the Dark Triad

Managing and revising one’s online profile content is a vital aspect of an adolescent’s online identity and “e-personality” (Aboujaoude, 2011). As a way to manage the content on one’s online profile, “59% have deleted or edited something that they posted in the past, 53% have deleted comments from others on their profile or account and 45% have removed their name from photos that have been tagged to identify them” (Madden et. al., 2013, p. 103). Teens who expressed interest in sites, such as Twitter and Instagram, stated that they felt they could better express their social identity on these platforms because they did not feel the pressure of upholding the same social expectations that Facebook generates (Beasley & Haney, 2012).
Mehdizadeh (2010) indicated that individuals higher in narcissism and lower in self-esteem were related to greater online activity as well as some self-promotional content. Gender differences were found to influence the type of self-promotional content presented by individual Facebook users. (Mehdizadeh, 2010).

We can argue that the concept “selfie” was historically born as art (Rettberg, 2014). Psychoanalyst Heinz Kohut suggested that art allows patients to express undeniable urges of grandiose self and exhibitionistic desires without shame, thereby releasing tensions and nurturing creativity for future outlets (Lachman-Chapin, 1979). Thus, art therapy can be considered a means of restoring cohesion of the self. Narcissistic individuals are often lacking cohesion of self (Lachman-Chapin, 1979). Consequently, we could presume that selfie taking release tensions and nurture creativity for future outlets in individuals (Lachman-Chapin, 1979).

It has been argued that creating and sharing a selfie is a form of self-reflection and self-creation (Rettberg, 2014). Aboujaoude (2011) proposed that managing and revising one’s online profile content is a vital aspect of an adolescent’s online identity and “e-personality”. In addition, Duggan and Smith (2013) found that nearly 52% of adolescents online express they have had an experience through a social networking site that boosted their confidence (Duggan & Smith, 2013). Co-authors of the study on ‘Facebook and Envy’ states that a person gets more explicit and implicit cues of being happy, rich, and successful from a photo than from a status update (Krasnova, Wenninger, Widjaja & Buxmann 2013). They also suggest that a photo can very powerfully provoke immediate social comparison, and that can trigger feelings of inferiority. Fox and Rooney (2015) found that men who posted more online photos of themselves than others scored higher on measures of narcissism and psychopathy. In their study, self-objectification and narcissism predicted time spent on social
networking sites (SNSs). Moreover, narcissism and psychopathy predicted the number of selfies posted, whereas narcissism and self-objectification predicted editing photographs of oneself posted to SNSs. In the late nineteen hundreds and the early twentieth century, Psychoanalysts such as Sigmund Freud and Josef Breuer contributed a great deal of work on the mystery of hysteria, which can be described as the pathology of the time (Goldstein, 1982). Similarly, Post-Traumatic Stress Disorder was highly prevalent after World War Two (Solomon, Neria, Ohry, Waysman & Ginzburg, 1994). Tyler (2007) argues that narcissism is the pathology of our time and that the personality is prevalent in the form of cultural narcissism and media narcissism. Similarly, other researchers have addressed a growing narcissism epidemic in today’s society (Twenge, 2014; Twenge, 2009; Donnellan, Trzesniewski & Robins, 2009; Trzesniewski & Donnellan, 2010).

Wickel (2015) found that 55% of participants in a study on ‘Narcissism and Social Networking sites’ agreed that posting of selfies to different social networking platforms encouraged their narcissism and selfish behaviours. Firestone (2012) stated that millennials, aged from 18 to 33, are hyper-connected, but typically exhibit little awareness of or concern for others except as an audience. San Diego State University professors, Twenge and Foster, proved that narcissism levels have risen steadily during the past few decades, making the Millennial Generation, also known as “Generation Me,” more selfish and self-absorbed than any other previous generation (Firestone, 2012; Stein, 2013; Twenge, 2014). Taking selfies and sharing photos on popular social media platforms like Facebook and Twitter are considered one of the biggest contributors to the rise in narcissistic behaviour among Millennials (Wickel, 2015).
1.3 Rationale for the proposed research

The purpose of this study is to explore the emergence of darker traits of personality, by first examining selfie behaviour, attitudes toward selfies and sharing behaviours, second it will investigate the relationship between Dark Triad personalities of Narcissism, Machiavellianism and Psychopathy. The current study seeks to investigate selfie behaviour as well as selfie attitudes.

Existing research has investigated The Big five traits (Amichai-Hamburger & Vinitzky, 2010; Hughes et al., 2012; Ross et al., 2009; Seidman, 2013), narcissism (Carpenter, 2012; Panek, Nardis & Konrath, 2012; Ryan & Xenos, 2011) and shyness and loneliness (Baker & Oswald, 2010; Ryan & Xenos, 2011). However, there is a gap in the literature with regard to the other traits such as the Dark Triad, which would be considered relevant to the interaction to SNSs, particularly selfie-sharing behaviour.

Many studies have found a correlation between narcissism and social media (Leung, 2013; Davenport, Bergman, Bergman, & Fearrington, 2014; Ryan & Xenos, 2011). This study aims to examine how social media can affect our developmental and behavioural personalities, and how social media, specifically the act of taking and posting selfies, is an important factor in the rise in Dark Triad behaviours in recent generations (Tyler, 2007). Additionally, this study explores how the current generation thinks about the act of taking and posting these self-portraits to social networking sites.

1.4 Hypotheses

Research hypotheses were:

H1 – That the Dark Triad personalities were predictors of selfie behaviour.

H2 - That the correlation between aforementioned variables would be significantly higher in females then males.
H3 – That younger adult take and share more selfies on SNSs and portray higher levels of the Dark Triad than older adults portray.

H4 – That the Dark Triad were predictors of levels of self-enhancement. That is, those high on Dark Triad traits were expected to manipulate their physical appearance to achieve social gains. These individuals would be most likely to take a posted selfie down if they did not receive as much positive feedback as they had expected.

H5 – That negative attitudes towards selfies correlate with selfie sharing behaviour

H6 – That the Dark Triad predicted negative attitudes towards selfies.
2. Methodology

2.1 Participants
Males (n=34) and females (n=108) obtained through Facebook completed an online questionnaire in December 2015 and January 2016. Participants range between the ages of 18 to 67, with an overall mean age of 28.7 (SD=11.2). Both native English speakers (19.7 %) and non-native speakers (80.3 %) took part. Thus, participants were presumed to be spread over a great demographic area, without any known similarities. None of the 142 participants taking part (M= 1.24, SD=.42) were compensated in any way for their participation nor was there any risk involved in taking part.

2.2 Design
Participants were selected in form of a non-probability convenience design. The survey was originally shared from the researcher’s own Facebook account. However, the population of the researcher’s Facebook network were encouraged to share the questionnaire again through their own page. The design can remind a bit of a snowball sampling effect.

Several Multiple regressions were ran to determine several relationships; 1) the relationship between the Dark Triad (predictor) and selfie sharing behaviour (criterion);
2) the Dark Triad (predictor) and Self-enhancement (criterion); 3) the Dark Triad (predictor) and Negative attitudes toward selfies (criterion). A Linear regression was ran to see whether age (IV) had an effect on the Dark Triad (DV). In addition, several Pearson’s were ran to examine the correlation between 1) age (predictor) and selfie sharing behaviour (criterion); 2) the correlation of Dark Triad (predictor) and selfie-sharing (criterion) in terms of gender differences; 3) the correlation between selfie-sharing and negative attitudes.

Lastly, a few t-tests was ran to address sex differences in selfie sharing, Dark Triad and attitudes towards selfies.

2.3 Material

Participants participated by filling out an online questionnaire created in Google Forms. In total, 53 quantitative questions had to be answered.

2.3.1 Measures

Participants had to indicate age and sex. In addition, they had to state whether they were non-native or native English speakers.

2.3.1.1 SNSs

An open-ended item allowed participants to indicate how many times per day they visit SNSs such as Facebook, Twitter, Instagram and Snapchat. Subsequently, participants had to indicate how much time they spent per visit on the same social mediums. Incidents where participants would indicate two numbers (e.g. 10-15 times, or 5-7 minutes) the average was calculated and used in the analysis.

2.3.1.2 Selfie behaviour

In terms of measuring selfie knowledge and behaviour, participants responded to the following item: “Do you know what a selfie is?” Those who indicated “No” (0.7%),
were branched to an item providing a formal definition of a selfie (see appendix). Aforementioned participants were subsequently induced to answer questions examining selfie attitudes. The participants who knew what a selfie was and indicated “yes” (99.3%), were branched to a question asking if they had ever shared a selfie on a photo sharing or social networking sites such as Facebook, Twitter, Instagram and/or Snapchat.

Those who answered “no” (8.5%) were branched to the subsequent section of the survey; those who indicated “yes” (91.5%) were branched to next item asking “how often would you say that you share selfies on photo sharing or social networking sites?” Participants had to indicate their behaviour by ticking one of the following options; “Less than once a year”, “Once a year”, “Several times per year, but less than once a month”, “Once a week”, “A few times per week”, “Once a day” and “More than once a day”.

2.3.1.3 Techniques

Subsequently, participants had to indicate if they used one or more of the following techniques to make them look better in pictures they post on social network sites; 1) Cropping or cutting parts of yourself out of pictures; 2) Use of photographic filters; 3) Use of Photoshop or other picture editing software.

2.3.1.4 Negative attitudes towards selfies

Participants self-reported attitudes toward taking selfies ($M = 36.07$, $SD = 6.23$, $\alpha = 6.94$). The attitudes toward selfies were rated on a 5-point Likert-typed scale (1= strongly disagree, 5= strongly agree). The Negative Attitudes scale was adapted from an orthogonal principal component analysis with 54 items using varimax rotation that
resulted in seven extracted factors with Eigenvalue > 1. The factor of Negative Attitudes consisted of thirteen questions. Question 7 and 8 had reverse scoring.

2.3.1.5 Self-Enhancement

Four stand-alone items from Wickel (2015) asked participants to indicate their behaviour on the following questions: 1) do you determine a person’s social standing and popularity based on how many likes or comments they receive on a photo or status update? 2) Will you take a photo off the social networking platform if you do not receive the amount of likes you had hoped on the photo? 3) Does the potential for positive feedback and number of likes you could receive on a picture encourage you to post your selfie to a social networking platform? 4) Have you ever altered a photo of yourself as a way of making yourself seem more attractive or desirable?

The four questions were totalled up and the new variable was named ‘Self-enhancement’ (M=6.54, SD=1.17, α=.50).

2.3.1.6 Dark Triad

Levels of Dark Triad personalities were scored according to the D3-Short (D3-Short, Paulhus, 2013). Participants were required to indicate their agreement with 27, nine of each element, statements on a 5-point Likert-typed scale (1= strongly disagree, 5= strongly agree). Question 2, 6 and 8 of the narcissism measure had reversed coding. Likewise, question 2 and 7 in the psychopathy measure were recoded. Contrary from previous Mach measures, the short D3 includes planning, coalition formation and reputation building items in addition to the popular Mach-IV items, which include cynical worldview, lack of morality, and manipulativeness (Jones & Paulhus, 2014). See table 1. For mean, standard deviation and reliability of the three elements.

Table 1.
### Mean, Standard Deviation and Reliability of the Three Elements

<table>
<thead>
<tr>
<th>Dark Triad</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machiavellianism</td>
<td>26.39</td>
<td>5.32</td>
<td>.724</td>
</tr>
<tr>
<td>Narcissism</td>
<td>28.44</td>
<td>3.67</td>
<td>.492</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>22.34</td>
<td>3.72</td>
<td>.540</td>
</tr>
</tbody>
</table>

#### 2.4 Procedure

The Research Proposal received ethical approval from the Ethical Committee of the department of Psychology in Dublin Business School. Data was collected through an online Google form. Participants were first presented to an information page that included a consent to participate in the study. The information page gave a brief description of the study, it stated that the researcher was looking at the relationship between selfies and personalities. It further, explained participants that they as online users were desired subjects. The Dark Triad was not mentioned here because researcher feared it could be a determine factor in terms of results. Moreover, participants were assured full confidentiality and informed of their right to withdraw from the study at any point of time. In order to start the questionnaire, participants had to give their consent that they had read the information above and agreed to take part in the study. From the original sharing, participants were told that the survey was in English. With the basic understanding of English that would have been required to attain the questionnaire, participants should have spent under 10 minutes completing the survey. Upon completion, participants were thanked for their assistance. They were also encouraged to ask for a summary of the finished project. The full name and email of the researcher were present, so that participants could make further contact if they had any
queries regarding the project. Furthermore, numbers to helplines such as Samartins, Aware and LGBT Helpline were provided on condition that the survey may have caused any distress to participants.

3. Results

Results were calculated by using SPSS version 22. Research questions were examined through a one-way ANOVA, a Liner regression and through a series of Pearson’s correlations, Multiple Regressions and independent Ttests.

3.1 Descriptives

3.1.1 Selfies

Of the 142 people taking part of the study, 99.7% of participants knew what a selfie was. Out of this percent, 82.2% have once shared a selfie on SNSs such as Facebook, Instagram, Snapchat or Twitter. The pie chart below displays participants’ frequency of selfie sharing “Less than once a year”, “Once a year”, “Several times per year, but less than once a month”, “Once a week” “A few times per week” “Once a day” “More than once a day”. See table 1 for pie chart representing percentage breakdown of the answers per response alternative.
Figure 1. Percentage breakdown of selfie sharing frequencies.

Photo editing behaviour was also analysed. Table 2 displays the frequency and percentage of each photo editing technique used amongst participants. Overall, only 29% of participants stated that they did not use any of the editing techniques on their photos before posting them on SNSs.
Table 2.

*Overview of Participants’ Photo Editing Behaviour*

<table>
<thead>
<tr>
<th>Techniques</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cropping or cutting parts of yourself out of pictures</td>
<td>14</td>
<td>9.9</td>
</tr>
<tr>
<td>2. Use photographic filters</td>
<td>47</td>
<td>33.1</td>
</tr>
<tr>
<td>3. Use Photoshop or other picture editing software</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>4. Cropping or cutting parts of yourself out of pictures and Use photographic filters</td>
<td>24</td>
<td>16.9</td>
</tr>
<tr>
<td>5. Cropping or cutting parts of yourself out of pictures and Use Photoshop or other picture editing software</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>6. Use photographic filters and Use Photoshop or other picture editing software</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>7. Cropping or cutting, Use photographic filters and Use Photoshop or other picture editing software</td>
<td>9</td>
<td>6.3</td>
</tr>
</tbody>
</table>

### 3.1.3 SNSs behaviour

In terms of frequency of times entering SNSs, participants’ answers varied greatly - from one time a day to one hundred times a day with a mean ($M=15.12$, $SD =16.74$). The spread of numbers indicated on time spent per were also varied, demonstrating a mean of 18.04 ($SD= 34.04$). Examination of the distributions for each variable revealed that the amount of time using SNSs exhibited substantial positive skew; hence, this variable was subjected to a logarithmic transformation.
Table 3.

Frequencies of Time Spent on Social Networking Sites

<table>
<thead>
<tr>
<th>Time spent on social networking sites</th>
<th>M</th>
<th>SD</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits per day</td>
<td>15.12</td>
<td>16.74</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Time spent per visit</td>
<td>18.04</td>
<td>34.08</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Frequencies for median and mode of time spent per visit are displayed in minutes.

3.2 Inferentials

3.2.1 H1 – Dark Triad and Selfie Sharing

It was believed to find a positive relationship between Dark Triad personalities and selfie sharing behaviour. Assumptions of a multiple regression were checked, and a test was ran to explore whether Machiavellianism, narcissism and psychopathy were predictors of participants’ selfie sharing behaviour. The results of the regression indicated that three predictors explained 0.3% of the variance ($R^2 = .78$, $F(3, 124) = 1.10$, $p= .348$). Machiavellianism did not significantly predict selfie sharing ($\beta = -.18$, $p = .100$, 95% CI = -.107 - -.010), neither did Narcissism ($\beta = .06$, $p = .556$, 95% CI = -.052 - .097) or Psychopathy ($\beta = .13$, $p = .206$, 95% CI = -.031 - .143).

* $\beta = \text{beta}$

3.2.2 H2 – Dark Triad and Selfie Sharing (gender differences)

It was hypothesised that a relationship between Dark Triad and Selfie Sharing would be more prevalent in females than males. A Pearson correlation coefficient found that there was no significant relationship between Machiavellianism ($M= 27.64$, $SD = 6.28$) ($r (29)=.08$, $p=656$), Narcissism ($M=29.17$, $SD = 3.06$) ($r (31) .04$, $p = .826$) nor Psychopathy ($M= 23.79$, $SD =3.43$) ($r (29) -.13$, $p = .486$) and selfie sharing in males.
Similarly, a Pearson correlation coefficient found that nor was there any significant relationship between Machiavellianism ($M = 26, SD = 4.94$) ($r (95) = -.11, p = .264$), Narcissism ($M = 28.20, SD = 3.83$) ($r (95) = .03, p = .744$) or Psychopathy ($M = 21.88, SD = 3.70$) ($r (95) = .10, p = .349$) and selfie sharing in females.

Both null hypotheses was accepted. There was no significant relationship between Dark Triad and selfie sharing in females nor males.

**3.2.3 H3 – Selfie sharing and age**

Hypothesis three was tested in this section. The relationship between Selfie sharing and age was examined. A Pearson correlation coefficient found that there was a significant relationship between Selfie Sharing ($M = 3.37, SD = 1.50$) and Age ($M = 28.70, SD = 11.20$) ($r (126) = -.23, p = .008$). Therefore, the null hypothesis is rejected. This relationship can account for -46% of variation of scores.

Once found a significant correlation, the scale variable age was made in to an ordinal variable with 3 groups; 1) age 18-28; 2) age 29-39; 3) age 40 +. A One-way ANOVA was conducted showed that selfie sharing behaviour differed significantly between the three age groups ($F (2, 125) = 4.32, p < .015$). More specifically Tukey HSD post hoc analyses highlighted that the youngest age group ($M = 3.56, SD = 1.53$) took significantly more selfies than the participants in the oldest age group ($M = 2.83, SD = 1.44, p = .034$). However, the youngest age group did not take significantly more selfies than the age group of 29-39 ($M = 2.70 , SD = .48, p = .153$). Thus highlighting that age significantly predict the number of selfies shared on SNSs. See table 4 for correlation values.

Moreover, it was also hypothesised that age would affect the levels of Machiavellianism, narcissism and psychopathy. Using simple regression, it was found
that Age did not significantly predicted levels of Machiavellianism ($F(1,140) = .30, p = .580$, $R^2 = -.005$) (age beta = -.057, $p = .580$, CI (95%) -.10 -> -.06). Neither did Age significantly predict levels of Narcissism ($F(1,140) = .90, p = .344$, $R^2 = -.005$) (age beta = -.080, $p = .344$, CI (95%) -.081 -> -.028) or Psychopathy ($F(1,140) = 2.70, p = .102$, $R^2 = .012$) (age beta = -.080, $p = .344$, CI (95%) -.081 -> -.028).

The null hypothesis is accepted. See table 4 for correlation values.

### 3.2.4 H4 – Self-Enhancement and Dark Triad

Multiple regression was used to test whether dark triad personalities are predictors of levels of self-enhancement. Assumptions were checked and met before running the test.

The results of the regression indicated that three predictors explained 0.7% of the variance ($R^2 = .007$, $F(3, 138) = 1.34, p = .262$). It was found that Narcissism significantly predicted Self-enhancement ($\beta = -12, p = .049$, 95% CI = -.098 - .015). However, Machiavellianism ($\beta = -.108, p = .278$, 95% CI = -.067 -> .019) nor psychopathy ($\beta = .064, P = .518$, 95% CI = -.042 -> .082) significantly predicted self-enhancement.

* $\beta = \text{beta}$

A Pearson correlation coefficient found that there was a moderate positive significant relationship between age ($M = 28.70$, $SD = 11.20$) and self-enhancement ($M = 6.54$, $SD = 1.17$) ($r (142) = .43, p < .001$). Therefore the null hypothesis is rejected. This relationship can account for 18.49% of variation of scores.

### 3.2.5 H5 – Selfie sharing and negative attitudes

A Pearson correlation coefficient found that there was a positive significant relationship between Selfie Sharing ($M = 3.37$, $SD = 1.50$) and Negative Attitudes towards selfies
(M = 36.07, SD = 6.23) (r (125) = -.311, p < .001). Therefore the null hypothesis is rejected. This relationship can account for -62% of variation of scores.

3.2.6 H6 – Dark Triad and negative attitudes

Multiple regression was used to test whether Dark Triad personalities were predictors of attitudes towards selfies. The results of the regression indicated that three predictors explained .7% of the variance ($R^2 = .007, F(3, 137) = 4.52, p = .005$). It was found that Machiavellianism significantly predicted negative attitudes towards selfies ($\beta = .21, p = .031, 95\% CI = .022 - .471$). However, both Narcissism ($\beta = -.06, p = .486, 95\% CI = -.402 - .192$) and Psychopathy ($\beta = .15, p = .119, 95\% CI = -.066 - .574$) did not significantly predict negative selfie attitudes by themselves.

* $\beta = \text{beta}$

Table 4

Correlation Table of Selfie Sharing, Age, Machiavellianism, Narcissism, Psychopathy, Negative Attitudes and Self-enhancement.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Selfie sharing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.23</td>
</tr>
<tr>
<td>3. Machiavellianism</td>
<td></td>
<td>-.08</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Narcissism</td>
<td></td>
<td>.04</td>
<td>-.08</td>
<td>.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Psychopathy</td>
<td></td>
<td>-.13</td>
<td>-.13</td>
<td>.50</td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td>6. Negative attitudes</td>
<td></td>
<td>-.31</td>
<td>-.28</td>
<td>.27</td>
<td>.05</td>
<td>.24</td>
</tr>
<tr>
<td>7. Self-enhancement</td>
<td></td>
<td>-.17</td>
<td>.43</td>
<td>-.11</td>
<td>-.14</td>
<td>-.03</td>
</tr>
</tbody>
</table>

Note: Correlation is significant at the 0.05 level

Additional analysis were ran to look at sex differences in selfie sharing, the Dark Triad and negative attitudes towards selfies. See table 3 for an overview over mean, standard deviation, t-value, degrees of freedom and p-value.
An independent samples t-test found that there was a statistically significant difference between selfie sharing frequency of males ($M = 3.74$, $SD = 1.73$) and females ($M = 2.25$, $SD = 1.40$) ($t(126) = -1.60$, $p = .038$, CI (95%) $-1.10$ - $-.11$). Therefore, the null was rejected.

The males ($M = 27.64$, $SD = 6.28$) had a higher mean than the females ($M = 26.17$, $SD = 4.94$). When tested, an independent samples t-test found there was no significant difference on Machiavellianism levels ($t(140) = -1.58$, $p=2.15$, CI (95%) $-3.70$ - $.41$) between the two groups. Therefore, the null was accepted.

The males had a higher mean ($M = 29.17$, $SD = 3.06$) than the females ($M = 28.20$, $SD = 3.83$). When tested, an independent samples t-test found there was no significant difference on narcissism levels ($t(140) = -1.34$, $p=1.38$, CI (95%) $-2.39$ - $.45$) between the two groups. Therefore, the null was accepted.

The males had a higher mean ($M = 23.79$, $SD = 3.43$) than the females ($M = 21.87$, $SD = 3.70$). When tested, an independent samples t-test found there was no significant difference on psychopathy levels ($t(140) = -2.67$, $p=3.69$, CI (95%) $-3.33$ - $-.49$) between the two groups. Therefore, the null was accepted.

An independent samples t-test found that there was no statistically significant difference between males ($M = 34.88$, $SD = 6.72$) and females ($M = 36.44$, $SD = 6.05$) in negative attitudes toward selfies ($t(139) = 1.27$, $p = .339$, CI (95%) $.85$ - $3.99$). Therefore, the null was accepted.
Table 5

*Frequencies From T-tests Displaying Gender Differences in Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selfie Sharing</td>
<td>Female</td>
<td>2.25</td>
<td>1.40</td>
<td>-1.60</td>
<td>126</td>
<td>.038</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>3.74</td>
<td>1.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>Female</td>
<td>26.17</td>
<td>4.94</td>
<td>-1.58</td>
<td>140</td>
<td>2.15</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>27.64</td>
<td>6.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcissism</td>
<td>Female</td>
<td>28.20</td>
<td>3.83</td>
<td>-1.34</td>
<td>140</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>29.17</td>
<td>3.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychopathy</td>
<td>Female</td>
<td>21.87</td>
<td>3.70</td>
<td>-2.67</td>
<td>140</td>
<td>3.69</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>23.79</td>
<td>3.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Attitudes</td>
<td>Female</td>
<td>36.44</td>
<td>6.05</td>
<td>1.27</td>
<td>139</td>
<td>.339</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>34.88</td>
<td>6.72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Significant level at .05
4. Discussion

This study aimed to explore the emergence of darker traits and their relationship to selfie behaviours such as sharing frequency and attitudes toward selfies. By conducting the study in causal and correlational conditions this study yielded several significant relationships between elements of the dark triad and other variables. However, none in which all three elements correlated or predicted other variables. Thus, this study yielded that the Dark Triad did not significantly predict selfie-sharing behaviour.

Our findings suggest that the elements of the Dark Triad as a constellation did not significantly predict selfie-sharing behaviour. The variable selfie sharing was adapted from the study of Weiser (2015). A clear scoring scheme was not provided in the paper. Thus, the variable was in this study changed from an ordinal variable to a scale variable. Existing research has investigated ‘The Big Five’ traits (Amichai-Hamburger & Vinitzky, 2010; Hughes et al., 2012; Ross et al., 2009; Seidman, 2013), narcissism (Carpenter, 2012; Panek, Nardis & Konrath, 2012; Ryan & Xenos, 2011; Wickel, 2015) and shyness and loneliness (Baker & Oswald, 2010; Ryan & Xenos, 2011) as trait predictors of SNS behaviours. However, there is still a gap in the literature with regard to other traits, such as the Dark Triad. The brief proxy measure assessing the elements of the Dark Triad are, as well as the relationship between the Dark Triad and social networking behaviour – such as selfie sharing, a novel field in research. The short Dark Triad (SD3) was only validated as a measure in 2014 (Jones & Paulhus, 2014). It was developed of the basis that the widely used measure of Psychopathy, Self-Report Psychopathy (SRPIII) scale, requires 64 items (Jones &
Paulhus, 2014; Mahmut, Menictas, Stevenson, & Homewood, 2011; Williams, Paulhus, & Hare, 2007). Even longer is the Psychopathic Personality Inventory, which has more than 100 items (Lilienfeld & Andrews, 1996). Abbreviated versions of these two measures have been shortened down to 29 and 56 items, respectively—just to measure psychopathy. The standard measure of Machiavellianism (Mach-IV; Christie & Geis, 1970) has 20 items and the most popular measure of narcissism, the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) has 40 items. Also available is a validated short version, the NPI-16 (Ames, Rose, & Anderson, 2006). Given the length of these instruments, it is understandable why some researchers may be reluctant to include all three traits in a single study (Jones & Paulhus, 2014). Even with the shortest versions of each construct, the total number of items is 65.

A forerunner to the recently validated short Dark Triad measure is the ‘Dirty Dozen’. Studies have yielded significant findings between the Dark Triad, by using Dirty Dozen, and SNS behaviours (Fox & Rooney, 2014). This was the preceding factor that lead the researcher of current study to believe the SD3 would yield similar findings, and henceforth laid the basis of the hypothesis in this study.

Pursuing the null being accepted in the first hypothesis, the second hypothesis concerning gender differences in the relationship between Dark Triad and selfie-sharing likewise accepted the null. The findings of current research contrast those of previous research. For instance, Mehdizadeh (2010) had found that gender differences were found to influence the type of self-promotional content presented by individual Facebook users. Moreover, other researcher (Meier & Gray, 2013; Vandenbosch & Eggermont, 2012) yielded that self-objectification is associated with the time adolescent girls use Facebook (Fox & Rooney, 2014). A bigger sample combined with
a more even number of males and females may have influenced the results in a different direction than the one in the present study.

Positive associations of age and selfie sharing behaviour were consistent with expectations as previous research indicated positive relations between adolescence and online behaviour (Aboujaoude, 2011; Duggan & Smith, 2013; Meier & Gray, 2013; Vandenbosch & Eggermont, 2012). Future research might sought to follow up today’s adolescence in a longitudinal study to see whether these individuals continue to share selfies at later stages of life as well, or whether selfie taking is just a phase of adolescence, similar to risk-taking behaviours and other behaviours prevalent during adolescence (Gaines, Barry, & Cautilli, 2008). In the current study, the youngest participants were eighteen years of age whereas the oldest participant was sixty-seven. Both age groups stated that they knew what a selfie was and that they had once shared a selfie on SNSs. The Pearson’s correlation stated a positive correlation between age and selfie sharing. This lead researcher to develop an ordinal variable of age groups to compare age different groups. As expected from previous research, participants in the age group of 18-28 took significantly more selfies than older adults in the age group of 40+. No significant findings were found regarding the medium group of participants in the age group of 29-39. This may be due to the small number of participants (n=10) who fell within this category.

Contrary to findings of previous research (Fox & Rooney, 2014; Paris & Pietching, 2015) age did not predict levels of Machiavellianism, narcissism or psychopathy. Previous research had proven that people higher in narcissism and lower in self-esteem were related to greater online activity as well as some self-promotional content (Weiser, 2015). The hypothesis was based on readings of the current generation which has repeatedly been referred to as the “me” generation (Twenge, 2009; Twenge,
Stein (2013) suggested that the incidence of narcissistic personality disorder is nearly three times as high for people in their 20s as for the generation that is now 65 or older, according to the National Institutes of Health. Thus, the fact that this research did not find a significant relationship with the narcissistic element was quite surprising.

Our finding that narcissism predicted levels of self-enhancement, replicates the findings of various research that has indicated a relationship between narcissism and self-enhancement (Panek, Nardis & Konrath, 2013; Weiser, 2015, Wickel, 2015). Weiser (2015) suggested that posting selfies, as with other self-promoting SNS behaviours, represents an avenue through which narcissistic needs are expressed through social media. Furthermore, he expressed that narcissistic individuals consider themselves physically attractive (Bleske-Rechek, Remiker & Baker, 2008). Hence, these individuals may consider selfie-posting as a conduit through which they can use their looks to cumulate both attention and admiration. It can be argued that this behaviour is strongly linked to self-promotion, which is a central Machiavellian trait (Furnham, Richards & Paulhus, 2013; Jonason & Webster, 2010; Mehdizadeh, 2010). Thus, it was expected to find a correlation of self-enhancement with several, if not all, of the Dark Triad traits. However, the current study found that self-enhancement was predicted significantly only by narcissism, and not by Machiavellianism or psychopathy.

As predicted, there was a relationship between selfie sharing and negative attitudes towards selfies. Moreover, Machiavellianism, contrary to narcissism and psychopathy, predicted negative attitudes toward selfies.

Similar to previous research (Paris and Pietschnig, 2015), results of analysis met the expectations of finding a positive relationship between selfie sharing and negative attitudes towards selfies. The negative attitude scale have previously been tested by
Paris and Pietschnig (2015) which found that more emotional and extraverted individuals appear to have more positive attitudes toward taking selfies. Based on the knowledge that psychopaths often present emotional deficiency and withdrawal from environment (Guilford & Guilford, 1934; Herpertz & Sass, 2000), it was expected that also psychopathy would correlate with negative attitudes toward selfies.

Upon analysis of data, the researcher encountered several problems with the study. First of all, the survey was developed in the way that all questions, except one, had to be answered in order to allow participants move to the next question. In theory, there should be no missing data. However, some data were missing. Consequently, data for analysis was less than expected. Moreover, some participants contacted the researcher after completion and reported that the survey did not work well on mobile phones and pads with small screens. Some participants said that not all questions were shown on these devices. This may be connected to the missing data.

In addition, the researcher confronted some challenges in regards to the scoring of data. Firstly, the negative attitudes toward selfies scale did not report any reverse items that needed to be recoded upon analysis. However, in researcher’s opinion there were two questions, (question 7 and question 8), that should be recoded. In this present study, these questions were recoded as Cronbach alpha reported higher reliability after recoding. (α=.668 before recoding, α=.697 after recoding).

To the author’s knowledge, the present study is one of the first to investigate the three elements of the Dark Triad (with the short D3 measure) in relation to the selfie phenomenon. Although several studies have delved into trait predictors of SNS use, there are no consistent shortcomings. First, most use college samples (e.g., Amichai-Hamburger & Vinitzky, 2010; Ross et al, 2009; Seidman, 2013) or non-representative
samples collected via online posts, often from college snowball samples (e.g., Carpenter, 2012; Hughes, Rowe, Batey & Lee, 2012; Ryan & Xenos, 2011), thus the present study is, even with unfavourable results, a nice building stone for future research to expand on. There is a need for generalizability of previous findings. This study failed to this possibly due to a number of limitations:

Due to the novelty within the field of research, researcher did not find any validated measures for selfies that would fit the research question. In the current study, stand-alone items were used to evaluate participant’s selfie behaviour. Even the ‘negative attitudes toward selfies’ scale was an extracted factor from an orthogonal component analysis that had used varimax rotation. The results may have been different if researcher had used a validated developed measure of the recent phenomenon. Furthermore, a larger sample size, including a more balanced number of participants in terms of both sex and age groups, might have produced results that were more favourable.

In hindsight, the questionnaire ought to have included some control questions when assessing selfie-sharing behaviour. For instance, instead of just asking how frequent the participants posted photos of themselves, a question could have assessed how often they share photos of others or photos in general. This way, researcher would have gotten a better indication of the participants sharing behaviour overall. Furthermore, the study might have yielded differences in regards of those who only share photos of themselves to those who share photos of themselves but also of others in regards to personality traits.

Lastly, Facebook is a forum with a wide audience. Teens who expressed interest in sites, such as Twitter and Instagram, stated that they felt they could better express
their social identity on these platforms because they did not feel the pressure of
upholding the same social expectations that Facebook generates (Beasley & Haney,
2012). The results of this study implicate that future research ought to tailor the span of
social media to one single SNSs, such as for example Instagram, in order to be able to
report significant results.

4.1 Conclusion
Selfies have become a common word and act of our everyday lives. This research
provided a quantitative understanding of the relationship between three overlapping, yet
distinct – constructs: Machiavellianism, narcissism and psychopathy. To varying
degrees, they all entail a socially malevolent character with behaviour tendencies
toward self-promotion, emotional coldness, duplicity, and aggressiveness (Paulhus &
Williams, 2002). The study had aimed to look at the darker underpins of personality
and its relation to selfie taking and sharing behaviours. The Dark Triad was looked at in
relation to variables such as selfie-sharing, age, sex, self-enhancement and attitudes
toward selfie taking. In addition, an overview of SNSs use today amongst a wide range
of age groups was provided in this study.

This study demonstrated that certain personalities such as narcissism affect SNSs
behaviours in youth, as well as self-enhancement in the general population. Thus, future
research might sought to investigate an idea of ‘a narcissistic phase of life’. Is the
relationship we found an association linked to adolescence or is it an association that
will be growing in coming generations? Research has suggested the latter. However,
despite the insignificant findings, this present study implicates that more knowledge,
validated measures and investigation ought to take place in this novel field of research.
5. References


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Walther, J. First, Let Me Take a Selfie.


6. Appendix

6.1 Research questionnaire

RESEARCH FOR UNDERGRADUATE THESIS

Dear participant,

My name is Una and I am a BA Psychology student at Dublin Business School. You have been invited to take part of my undergraduate research project, which is examining the correlation between personality and selfies.

Selfies are commonly shared across social network sites, thus as users, your opinions are very valuable for this project.

The following questionnaire will require approximately 10 minutes of your time. There is no compensation for responding nor is there any known risk.

This project has been approved by the Department of Psychology in Dublin Business School. You will be assured of complete confidentiality. The questionnaires will be destroyed once the data has been collected and analysed.

If you choose to take part of this project, please answer all questions as honestly as possible and return the completed questionnaires promptly. However, you can choose to withdraw from the study at any time up until the submission.

Thank you for taking the time to assist me in my educational endeavours.
I have read and understood the above information, and I hereby agree to participate in this study. *

- Yes, I agree to take part in this study.

**SEX**

- Male
- Female

**AGE:**

__________________________

- Native English Speaker
- Non-native English speaker

How many times per day do you visit a social network site?

________________________________________________

How much time do you spend on social networking sites per visit?

________________________________________________

Do you know what a selfie is?
Have you ever shared a selfie on a photo sharing or social networking sites such as Facebook, Twitter, Instagram and Snapchat?

- Yes
- No

How often would you say that you share selfies on photo sharing or social networking sites?

- Less than once a year
- Once a year
- Several times per year, but less than once a month
- Once a week
- A few times per week
- Once a day
- More than once a day

Do you use any of the following techniques to make you look better in pictures you post on social network sites?

You can click several options

- Cropping or cutting parts of yourself out of pictures
- Use photographic filters
- Use Photoshop or other picture editing software
Selfie Definition

A selfie is a photograph that one has taken of oneself, typically one taken with smartphone or webcam and shared via social media (Oxford English Dictionary, 2013)

Do you determine a person’s social standing and popularity based off how many likes or comments they receive on a photo or status update?

   o Yes
   o No

If you do not receive the amount of likes you had hoped on a photo, will you take it off the social networking platform?

   o Yes
   o No

Does the potential for positive feedback and number of likes you could receive on a picture encourage you to post your selfie to a social networking platform?

   o Yes
   o No
Have you ever altered a photo of yourself as a way of making yourself seem more attractive or desirable?

- Yes
- No

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking selfies is not cool</td>
<td>O</td>
<td>O</td>
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<td>O</td>
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</tr>
<tr>
<td>Taking selfies is pointless</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Taking selfies is weird</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Only people seeking attention take selfies</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Selfies are embarrassing</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Selfies are annoying</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Selfies are good for capturing memorable experiences</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Selfies are a good way to stay in contact with friends</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Only people with high self-esteem take selfies</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Selfies are antisocial</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>People take selfies to show that they have a social life</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Shy people do not take selfies</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>People take selfies because everyone else does</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It's not wise to tell your secrets.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Generally speaking, people won’t work hard unless they have to.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Whatever it takes, you must get the important people on your side.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Avoid direct conflict with others because they may be useful in the future.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>It is wise to keep track of information that you can use against people later.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>You should wait for the right time to get back at people.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>There are Things you should hide</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
from other people because they don’t need to know
Make sure your plans benefit you, not others.
Most people can be manipulated

<table>
<thead>
<tr>
<th>People see me as a natural leader.</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I hate being the centre of attention</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Many group activities tend to be dull without me</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I know that I am special because everyone keeps telling me so</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I like to get acquainted with important people</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I have been compared to famous people</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I am an average person</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I insist on getting the respect I deserve</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I feel embarrassed if someone compliments me</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I like to get revenge on authorities</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I avoid dangerous situations</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Payback needs to be quick and nasty</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>People often say I’m out of control</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>It's true that I can be mean to others.</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>People who mess with me always regret it</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I have never gotten into trouble with the law</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I like to pick on losers</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
I’ll say anything to get what I want