

DARK TRIAD, LOCUS OF CONTROL AND AFFECTIVE STATUS AMONG INDIVIDUALS WITH AN ENTREPRENEURIAL INTENT

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ABSTRACT

Aim

The purpose of the present study was to assess personality factors such as the Dark Triad, i.e. psychopathy, narcissism and Machiavellianism, internal locus of control, and positive and negative affect among applicants, presenting entrepreneurial intention, at the Chalmers School of Entrepreneurship in comparison with a reference group of psychology students from the University of Gothenburg, taking into account gender effects.

Method

A multivariate analysis of variance was performed to derive group x gender effects.

Results

The school of entrepreneurship applicants scored significantly lower compared to the reference group with regard to Machiavellianism and Positive Affect, but higher on Internal Locus of Control and Negative Affect. Male participants scored higher on Internal Locus of Control with an interaction effect of academic back-ground and gender for external locus of control.

Discussion

The unexpected findings that the students of psychology were more Machiavellian than the students of entrepreneurship are striking. It also discussed if the lack of Machiavellianism and psychopathy among the students of entrepreneurship render them more or less successful or more or less prone to adopt social and corporate responsibility in their future careers.

Keywords: Dark Triad, Entrepreneurship, Gender Effects.

INTRODUCTION

The characteristics and motivations of entrepreneurs have interested students of behaviour, management and technology during many decades (Kets de Vries, 1985; Brandstätter, 2011); consequently, it is natural that what constitutes successful entrepreneurship is an ever-growing research field (Zhao, Seibert & Lumpkin, 2010). The development of new products and technology, job creation and a positive economic growth is based on individuals' personal

ambition and motivation to initiate and consolidate private businesses (Begley & Boyd, 1987; Brandstätter, 2011). Studies contributing not only for the understanding of the entrepreneurs' personality and driving force and how this influences their success increase the understanding of individual differences and social agency, but also for society as a whole.

Entrepreneurs' important position in society led to the growth of schools of entrepreneurship and these benefit from access to insights concerning how their didactics should be designed in order to foster personal growth and social and corporate responsibility for their future entrepreneurship (Brandstätter, 2011). Previous studies on the entrepreneurial personality focused on factors such as Internal Locus of Control (Mueller & Thomas, 2001; Landström, 2008) and Positive Affect (Baron, 2008) as predictors of success. Some studies analysed also how the entrepreneur's personality in some cases may impair their chances to be successful (Kets de Vries, 2010). Dark personality traits need to be recognizable to allow identification and coping (Garcia, MacDonald & Rapp-Ricciardi, 2017).

Paulhus & Williams (2002) defined a construct known as the dark triad, which consists of three sub-constructs (narcissism, psychopathy and Machiavellianism) which are associated with malevolence. It is assumed that these characteristics influence interpersonal relationships negatively (O'Boyle, Forsyth, Banks & McDaniel, 2012; Book, Visser & Volk, 2015). The Dark Triad has been researched to a great extent during the last decade (Furnham, Richards & Paulhus, 2013; O'Boyle et al., 2012; Jonason, Luévano & Adams, 2012; Jonason Luévano, 2013; Jonason & Webster, 2013; Jonason, Luévano & Schmitt, 2009). To what extent the construct may be observed among entrepreneurs or students of entrepreneurship has not yet been explored since of the Dark Triad conducted in organizational contexts are rare (O'Boyle et al., 2012).

The present study presents the findings from a project based on collaboration between the department of Psychology at the University of Gothenburg and at Chalmers School of Entrepreneurship, Gothenburg, Sweden. The aim of the study was to ascertain to what extent the characteristics of the Dark Triad, Internal and External Locus of Control and Affective Profiles may be expressed among applicants at the School of Entrepreneurship. Since there is no gender constraint among modern entrepreneurs (Bengtsson, Sanandaji & Johannesson, 2012), an ancillary aim was to examine eventual differences between male and female participants.

Who is the Entrepreneur?

The word "entrepreneur" was coined by Jean-Baptiste Say who described the entrepreneur as a person with an extraordinary capability of identifying resources which resulted in the creation of innovative products and services that could satisfy people's needs. In research contexts, the definition normally describes individuals who initiate and run or have the notion of starting a small and/or middle-sized company (Brandstätter, 1997; Brandstätter, 2011). In general, what is defined as "the entrepreneurial intention" is separated from entrepreneurship (Zhao et al., 2010). What characterizes and motivates entrepreneurs has been a subject of intense research (Brandstätter, 1997). The psychological dimensions Locus of Control, Need for Achievement, Need of Autonomy and Tolerance of uncertainties are considered important in order to generate successful enterprises (Landström et al., 2008; Brandstätter, 1997). The BIG 5 instrument (Extraversion, Conscientiousness, Neuroticism, Openness and Agreeableness) has also been used in entrepreneurial research (Costa & McCrae, 1992; Zhao & Selbert, 2006).

Some of this research has been subject for criticism since it is difficult to separate what has been learned and what was part of the original entrepreneurial intention. Thus, the utility of examining individuals with an entrepreneurial intention, but are not yet entrepreneurs

(Brandstätter, 1997; Hansemark, 1998) offers a lucrative avenue to achieve that purpose. In this study, the entrepreneurial subjects consist of applicants at the School of Entrepreneurship, Chalmers University of Technology and Gothenburg, Sweden.

Entrepreneurship and Personality

Kets de Vries (2010); Stenger & Burak (2005) provide an overview of motivations underlying entrepreneurial intention. The value in identifying concrete personality characteristics with instruments such as the “BIG 5” has also been discussed in several studies and meta-analyses (Kibeom & Ashton, 2005; Zhao et al., 2010; Zhao & Seibert, 2006). Zhao et al. (2010) found that conscientiousness, openness, stability and extraversion correlated positively with a) the intention to start a company and b) with entrepreneurial success. No correlation between agreeableness could be found with the entrepreneurial intention or with success. On the contrary, it was found (Zhao et al., 2010; Zhao & Seibert, 2006) that entrepreneurs were less agreeable than non-entrepreneurs. Jonason, Wee, Li & Jackson (2014) claimed that individuals with a high degree of extraversion present an interest for social and enterprising jobs. They also found that individuals with a low degree of agreeableness avoid socially-oriented jobs, which contradicts the idea of extrovert and non-agreeable entrepreneurs. The issue of behavioural traits may be a central issue since entrepreneurs tend to form their environment according to their personal preferences and ambitions (Brandstätter, 2011) with personal profiles influencing upon organization creation. Nevertheless, this perspective is not uncontroversial since it has been indicated that personality explains only a limited part of the variance of the entrepreneurial intention and entrepreneurial success (Zhao et al., 2010) with other attributes, e.g. social skills, of greater weight.

Locus of Control

It has shown that Locus of Control (LoC) presents an essential trait in entrepreneurship by determining the extent to which individuals attribute control over events to themselves (internal) or to other non-controllable factors (external) (Landström et al., 2008). It was shown that entrepreneurs tend to score higher on internal Locus of Control compared to their counterparts (Ahmed, 1985). Boone, De Brabander & Van Witteloostuun (1996) found that managing directors, who scored high on internal LoC, in small businesses were more successful than those scoring high on external LoC, This was explained by their ability to overcome setbacks and superior skills in implementing successful strategies compared to those who scored high on external LoC. Pandey & Tewary (1979) argued that a high degree of internal LoC also promotes better environmental adaptation. Nevertheless, Luca, Casan & Tomulesco (2012), in a study of students at schools of Entrepreneurship, observed that high internal LoC correlated negatively with the participation in courses and education programs related to start-up companies thereby raising the possibility of a disparity between students of entrepreneurship and professional entrepreneurs.

Considering the importance of LoC in entrepreneurial success Hansemark (1998) studied, if a structured entrepreneurial education could increase the students internal LoC, which actually was the case. (Gasse, 1982; Nieuwenhuizen & Machado, 2004) claimed that having too much of the internal LoC could represent a risk since it could contribute to overconfidence and overestimation of the personal capability to influence the events of life. Bengtsson, Sanandaji & Johannesson (2012) showed significant differences between men and women regarding LoC

among entrepreneurs but did not specify what these differences consisted in. Sherman, Higgs & Williams (1997) claimed that one could expect a higher external LoC among women and this could explain why traditionally men tends to be entrepreneurs (Bengtsson et al., 2012).

Positive and Negative Affect

Assessment of entrepreneurs' emotional expressions may provide insights regarding their motivations. According to Baron (2008) emotions are likely to be influenced by the entrepreneurial lifestyle that is highly unpredictable, full of changes and obstacles. Affective status impacts upon decision-making which escalates in unstable environments. It influences the capability of developing and sustaining positive relationships, as well as creativity, credibility and potency (often associated with self-esteem) (Baron, 2008). Creativity is a fundamental characteristic in entrepreneurship (Baron & Tang, 2011). Affective status may be either negative or positive. Individuals characterized by positive affect (PA) perceive events more positively and tend to be more benevolent than those with neutral or Negative Affect (NA) (Rapp-Ricciardi, Åkerman, Eerikäinen, Ambjörnsson, Andersson Arntén, Mihailovic, Archer & Garcia, 2014). In organizational contexts and situations (when networking, communicating, etc.), type of affect also is critical even in situations where self-confidence and courage is needed (Baron, 2008). PA may contribute also to alertness and on coping with stress, which influences well-being and health (Rapp-Ricciardi, Garcia & Archer, 2017; Baron, 2008). Affective status may modulate a key-role in the entrepreneurial process, which consists of detecting business opportunities and reacting on a dynamic environment with the process of obtaining resources (Baron, 2008). It may regulate also the information-gathering aspect of decision-making. PA increases the probability of making investments that are not immediately needed, but may be beneficial for the long-term organizations' stability and growth (Foo, Uy & Baron, 2009). PA may contribute to proactive measures whereas NA signals problematic issues thereby inducing over-cautiousness and defensiveness (Foo et al., 2009). It has been claimed that affective experiences are "genderless" (Watson & Clark, 1994).

The Dark Triad

In view of the Kets de Vries' (1996) description of the controlling, grandiose and authoritarian entrepreneur, it is not far-fetched to relate these characteristics to the Dark Triad, which is a construct capturing the three dark personality types, subclinical narcissism and subclinical psychopathy and a behavioural pattern known as Machiavellianism. This triadic construct captures a malevolent mentality and behaviours focused on personal gain, aggressiveness, grandiosity, callousness and a cold calculating mind (Jones & Paulhus, 2010; McDonald, Donnellan & Navarrete, 2012; Rauthmann, 2012).

Narcissism

Narcissism is expressed among certain individuals and among employees in organizations (Jonason, Slomski & Partyka, 2012; Jonason, Wee & Jackson, 2014; O'Boyle, 2012). It is characterized by affectations of superiority and grandiosity (Rauthmann & Kolar, 2013; Paulhus & Williams, 2002), but also an underlying sense of denied inferiority and emotional vulnerability (Jones & Paulhus, 2014), subdivision may be defined as grandiose or vulnerable narcissism (Smiths & Webster, 2018). Grandiose narcissism is highlighted in the

Dark Triad (Jones & Paulhus, 2014). Grandiosity provokes a constant striving for confirmation and admiration. The subclinical narcissist can react in a defensive way become hostile and aggressive when being criticized, lacking empathy, which makes it easier for them to abuse others for personal gain. This is achieved through the belittlement of others with concomitant bragging about their own, personal capabilities. To maintain their self-esteem, self-grandeur and feelings of superiority they will seek confirmation (O'Reilly, Doerr, Caldwell & Chatman, 2013). Narcissists may act impulsively which may result in short term rewards, but the long-term costs are high particularly regarding social relations. His/her reward occurs when the self-image is strengthened, a characteristic distinguishing them from the subclinical psychopaths and Machiavellians who primarily strive to gain material advantages when using others (Jones & Paulhus, 2014).

Narcissists are extrovert and open, compared to psychopaths and Machiavellians (Paulhus & Williams, 2002) and involved in social activities, which helps them to make a positive impression among their peers (Holtzman, Vasiri & Mehi, 2010). They also tend to be objectively intelligent but at the same time, they overrate their intelligence (Paulhus & Williams, 2002). Many characteristics of the narcissist overlap with those of an entrepreneur. They share the high inner Locus of Control and the feelings of total control and grandiosity (Mathieu & St-Jean, 2013). Consequently, Mathieu & St-Jean (2013) studied the presence of narcissism among students of entrepreneurship, comparing them with other students. As predicted, the former students scored significantly higher on narcissism than the latter.

Machiavellianism

The term Machiavellianism derives from Niccolò Machiavelli, the Italian politician, diplomat and author, involved in Florentine and Italian politics during the 16th century. Many consider his book, "The Prince" to be the first and most read handbooks of leadership (Graham, 1996). It provides pragmatic and sometimes cynical advice on how to gain and maintain power. Machiavellian leadership is based on mercilessness, manipulateness, lack of morality and deception and the notion that the 'ends justify the means' (Nelson & Gilbertson, 1991). Machiavellian leaders show strategic ability when making decisions and they have long-term goals. Any unethical actions necessary will not bother them (Jones & Paulhus, 2014; Rauthmann & Will, 2011; Swain, 2002). Machiavellians are rhetorically skilled; they are adaptable and able to hide their true values, opinions and intentions as well as their prejudices about others if it will help them to strengthen their position (Nelson & Gilbertson, 1991). Jones & Paulhus (2014) summarizes them as being manipulative, heartless and strategic.

Psychopathy

Subclinical psychopathy refers to the incapability to sense, understand or deal with emotions due to the lack of emotional intelligence and empathy (Visser, 2011). Psychopaths are callous and emotionally glib which in some sense makes them similar to the Machiavellians (Crysel, Crosier & Webster, 2012). What differs between them is impulsivity? While Machiavellians are very strategic and capable of working on long-term goals and are very careful in their choice of the person they try to manipulate, the psychopaths are more impulsive which leads to negative consequences for them and their families within their professional as well as private life (Jones & Paulhus, 2014). Their shallow emotional life and their evident difficulties in experiencing emotions, drives them to an extreme level of sensation-seeking behaviour, exposing

them to risks and lacking fear/trepidation in the performance of 'risky' behaviour. Psychopaths are overrepresented among criminals and conmen (Visser, 2011).

The Dark Triad Career Choice

According to Holland (1997) Career Choice Theory, individuals orient themselves towards careers in whatever profession they think will fulfil their individual needs. There seems to be a clear association between the dark triad and the entrepreneur's career choices. Jonason et al. (2014) postulates that narcissists tend to seek professions where they may be appreciated and create social bonds and where they may attain social dominance. Psychopaths prefer isolated positions and avoid pro-social working places. They also seem to prefer positions where they can avoid being monitored (Jonason et al., 2013). Machiavellians, on the other hand, strive for positions where they can reach a high social status. All these conditions could of course be available to any person who chooses to start up a company since they will themselves create them.

Hmieleski & Lerner (2013) found that the Dark Triad was overrepresented among entrepreneurs. Individuals with dark triad characteristics are more prone to start up a business activity compared to those who lack these attributes. They underline that this could lead to negative social and financial consequences for individuals and the company's profitability. The issue of destructive forms of entrepreneurship is one that should be discussed (Hmieleski & Lerner, 2013).

The Dark Triad at the Workplace

Entrepreneurship often offers the dual role of both employer and employee, which raises the question of the consequences of the dark triad at the work place and in those roles. Behaviours derived from the Dark Triad are manifestations of social strategies taken to reach personal goals (O'Boyle et al., 2012). Dark Triad characters do not use the work environment to gain and maintain positive relationships for the purpose of a reciprocal giving and taking, but rather to abuse the organization and its members for their own personal gain.

The research regarding the Dark Triad and the work place is fraught with contradictions (O'Boyle et al., 2012). A Machiavellian person could build strong social networks and be skilled in manipulating others in a desired direction. Conversely, their lack of willingness to create valuable relationships and follow social norms could result in cooperation problems. A narcissists' grandiose self-image may lead to a quick promotion and a swift career due to the self-promoting capabilities. Nevertheless, it could also lead to an overestimation of one's own capability and that they will not be able to deliver what was promised. Psychopaths' limited emotional capability may on the one hand be advantageous in positions where they need to be unemotional and callous (O'Boyle et al., 2012) but on the other hand if the position requires collaborative behaviours, respect to others and to the rules such as following the deadlines, then it is less probable that they will deliver. The limited emotional intelligence and the tendency to control the personal and others emotions also predicts that it will hardly be possible to develop a positive transformational leadership (Palmer, Walls, Burgess & Stough, 2001) which is focused on making other people grow and flourish (Rapp-Ricciardi, Schaller, Garcia & Archer, 2015).

In a meta-analysis, O'Boyle et al. (2012) found that all three constructs were significantly associated with an increase of counterproductive behaviours such as disloyalty, bullying and stealing at the workplace. How much the Dark Triad characteristics influence the organization, is

determined by the position this individual holds in the organization. Accordingly, O'Boyle et al. (2012) found that the higher the narcissism the lower the quality of their work. Narcissists are overrepresented in leadership positions due to their capability of being domineering, their grandiose self-perception and the fact that people in general tend to accept narcissists as leaders as they find narcissistic qualities (charisma, masculinity and strength) are the qualities a leader should have (O'Reilly et al., 2014). This overrepresentation exerts both negative and positive consequences. The paradox is that they are inspiring, creative but at the same time, they contribute to a dysfunctional work environment and their employees feel more miserable. A narcissistic leadership may contribute to the success of the company in the short run, but will prevent the financial progress of the company in the end. This, due to the narcissistic leader's tendency to overestimate his personal capability, his impulse driven decisions combined with his lack of consideration of the employees (O'Reilly et al., 2014). In the context of utilitarian attitude in moral dilemmas among high scorers of the dark triad, Djeriouat & Trémolière (2014) and Bartels & Pizzaro (2011) both observe that they are prepared whatever they consider necessary in order reach success, even if it could lead to negative consequences for other as well as for themselves.

Purpose

The purpose of the present study was to formulate personality attributes of the applicants of an entrepreneurship program (individuals with an entrepreneurial intent). The Dark Triad, LoC and PA and NA were assessed and it was examined how these dimensions related to each other. Further, the study was concerned with whether or not the applicants at the school of entrepreneurship differed from other students in a reference group regarding the Dark Triad, LoC and PA and NA. Eventual gender differences were assessed also.

Hypothesis

- H₁: The applicants to the school of entrepreneurship are expected score higher than the reference group, which consists of psychology students, on PA and LoC.*
- H₂: The applicants to the school of entrepreneurship are expected to score higher on the dark triad compared to the reference group.*
- H₃: Narcissism is expected to be correlated positively with PA among the applicants.*
- H₄: Male participants are expected score higher on the Dark Triad and Internal LoC compared to the female participants and vice versa for external LoC.*

METHOD

Participants

The participants in the study consisted in applicants at Chalmers School of Entrepreneurship, Gothenburg, Sweden. None of the applicants had received a confirmation of being accepted to the program during the data collection. The sample included 66 individuals (women, N=24, men N=42). The average age was 26 years (min 20, max 42). The reference group consisted of 85 psychology students from different classes and five different terms (women N=54, men N=31). The average age was 27 years (min 20, max 47). The applicants to

the students at the school of entrepreneurship will hereby be defined as entrepreneurship students even though they were not yet been formally accepted as such.

Non-Response-Analysis

In the data from the entrepreneurship students, there was a quite large internal loss. This could be attributed to the fact that they were asked to fill in a web-based questionnaire, which allowed them to interrupt their participation in the study or chose not to answer some of them at any point. The questionnaires that were not completed were excluded before the analysis was initiated. This reduced the number of participants from 127 to 166. The reference group was given traditional questionnaires in paper, which were coded manually. No internal loss was found among these. Only two individuals who were asked to fill in the questionnaire declined to do so. All the students of psychology in the reference group finalized the questionnaire and the answers were complete.

Instruments

The Positive Affect and Negative Affect Schedule (PANAS)

(Watson, Clark & Tellegen, 1988). PANAS measures positive and negative affect and consists of 20 items that in turn describes a feeling such as "proud", "irritated" or "enthusiastic". The respondent was asked to describe to what extent he had felt the described feeling during the last two weeks, on a five graded Likert scale ranging from 1=not at all, to 5=to a very high extent. Cronbach's Alfa for Positive Affect was 0.84 and for Negative Affect 0.72.

Dark Triad Dirty Dozen (DTDD)

(Jonason & Webster, 2010). The occurrence of the Dark Triad was measured with the Swedish version of the Dark Triad Dirty Dozen, DTDD (Garcia, MacDonald & Rapp-Ricciardi, 2017). DTDD consists of 12 statements, 4 for each construct in the Dark Triad and on a seven graded Likert-scale containing claims such as "I tend to manipulate others to get my way" (Machiavellianism), "I tend to be unconcerned with the morality of my actions." (Psychopathy) and "I tend to want others to admire me." (Narcissism). The grading starts at 1=strongly disagree to 7=strongly agree. Cronbach's Alpha regarding the construct Machiavellianism was 0.76, psychopathy 0.62, narcissism 0.84 and for the Dark Triad Composite 0.83.

Locus of Control

(Andersson, 1976) consists of eight statements (Locus of Control Scale) with five alternatives; the answers were graded from 1-5, where 1=Agree completely and 5=Disagree completely. Examples of statements "I do not think there are such thing as luck or bad luck which influences my life". Cronbach's $\alpha=0.70$. Regarding internal Locus of Control and 0.55. Regarding external Locus of Control.

Procedure

Data was collected through a web-based questionnaire, which was sent by a link to all the applicants at the school of entrepreneurship in conjunction with their application to the school of

entrepreneurship. The questionnaire was available either in Swedish or English. The respondents were informed about the purpose of the research project and that they were assured full anonymity.

Data from the reference group was collected at the department of Psychology at the University of Gothenburg. Psychology students from five different cohorts answered the questionnaire and they also received information about the purpose of the study.

Statistical Analysis

Assumption about Normal Distribution Control

In order to certify that the data could withstand parametric testing was made through graphical analysis, analysing histograms and qq-plots. All variables showed a normal distribution except the construct psychopathy (skewness=1.21). The calculation of skewness showed significance ($p < 0.05$) and according to Cramer & Howitt (2004) it would be treated as a non-parametric variable. However multivariate analysis of variance, which was used to analyse the differences between the groups, is relatively robust regarding normality as long as the group size is more than $N=20$ and the non-normality is not due to outliers (Pallant, 2010). Since both conditions were fulfilled, multivariate analysis was used.

Analyses

In order to examine the associations of the dependent variable and contemporarily control the expected gender differences a partial correlation was made (Pearson's) with gender as control variable. In order to examine differences between educational background, gender and possible interaction effects, a two way multivariate analysis was made (MANOVA). The variable educational background (student of psychology or student of entrepreneurship) and gender (man or woman) as clustering factors and negative and positive affect, psychopathy, Machiavellianism and narcissism and internal and external Locus of control as dependent variables. Alpha 0.05 was used in order to distinguish significant correlations and differences.

RESULTS

Main Results

The entrepreneurship students scored higher on Internal LoC, but the psychology students scored higher on Machiavellianism and PA. Regarding narcissism and psychopathy, no significant differences were obtained.

Narcissism correlated positively with PA but also with NA among psychology students (reference group) only Female participants did not score higher on External LoC but an interaction effect of gender and educational background was obtained for this variable. The male respondents scored higher on Internal LoC and psychopathy but not the Dark Triad Composite. A detailed description of the results follows.

The Association of the Variables

In Table 1, data from the partial correlation from each one of the groups, with gender as a control variable is presented. Mean, standard deviation and Cronbach's Alfa for the indexes and correlation between the variables as well as the level of significance are presented.

The partial correlations differed in many aspects between the groups. As expected, we found positive correlations between the three constructs in the Dark Triad and with the composite of the Dark Triad and each one of the constructs, in both groups. These correlations were significant ($p < 0.001$, Table 1). The only variables that did not correlate significantly in the construct of the Dark Triad was narcissism and psychopathy among the psychology students ($r(83) = 0.11$, $p = 0.30$). Among the students of entrepreneurship such a correlation was found ($r(64) = 0.42$, $p < 0.001$).

Machiavellianism correlated positively with PA among both the entrepreneurship students ($r(64) = 0.26$, $p < 0.01$) and the psychology students ($r(83) = 0.27$, $p < 0.05$). Narcissism was associated with PA and NA, but these significant correlations could be found only among the students of psychology (PA $r(83) = 0.22$, $p < 0.05$, NA $r(83) = 0.28$, $p = 0.01$).

The Dark Triad was associated positively with NA among the psychology students ($r(83) = 0.31$, $p < 0.01$), but not among the students of entrepreneurship. The Dark Triad correlated negatively with Internal LoC among the students of entrepreneurship ($r(64) = -0.24$, $p = 0.05$). Internal LoC was however not significantly correlated to any of the partial constructs in either of the groups even if the p-value regarding the association between Internal LoC and psychopathy among the students of entrepreneurship was approached significance ($r(64) = -0.24$, $p = 0.056$). External LoC correlated positively with NA among the psychology students ($r(83) = 0.25$, $p < 0.01$), which was not found among the students of entrepreneurship.

A positive correlation was also found between External LoC and Machiavellianism among the students of entrepreneurship ($r(64) = 0.33$, $p < 0.01$) but not among the psychology students.

Finally, a negative correlation between external LoC and internal LoC was found but only among the students of psychology ($r(83) = -0.30$, $p < 0.001$).

Table 1 PARTIAL CORRELATION MATRIX, STUDENTS OF ENTREPRENEURSHIP (N=66) AND STUDENTS OF PSYCHOLOGY (N=85)									
Variable Education	M (sd)		1	2	3	4	5	6	7
Positive affect									
E-stud	3.1 (0.74)	0.84	-						
P-stud	3.55 (0.72)	0.89	-						
Negative Affect									
E-stud	2.85 (0.62)	0.75	0.05	-					
P-stud	2.39 (0.55)	0.77	-0.17	-					
Machiavellianism									
E-stud	2.65 (1.27)	0.82	0.26**	-0.06	-				
P-stud	3.22 (1.04)	0.70	0.27*	0.2	-				
Psychopathy									
E-stud	2.06 (1.02)	0.72	0.03	-0.13	0.68***	-			
P-stud	1.93 (.66)	0.51	-0.15	0.21	0.24*	-			
Narcissism									
E-stud	3.66 (1.56)	0.89	-0.01	-0.08	0.44***	0.42***	-		
P-stud	3.87 (1.10)	0.78	0.22*	0.28**	0.48**	0.11	-		
The Dark Triad									
E-stud	2.78 (1.05)	0.88	0.11	-0.10	0.84***	0.81***	0.81***	-	
P-stud	3.01 (0.69)	0.76	0.20	0.31**	0.83***	0.50***	0.80***	-	
Internal LoC									
E-stud	2.47 (0.68)	0.61	-0.09	-0.02	-0.22	-0.24(*)	-0.16	-0.24*	-
P-stud	2.33 (0.59)	0.71	0.02	-0.08	0.11	0.10	-0.07	0.05	-
External LoC									
E-stud	3.28 (0.72)	0.56	0.18	0.07	0.33**	0.18	0.07	-0.22	-0.19
P-stud	2.88 (0.68)	0.57	-0.20	0.25**	-0.07	0.02	0.05	-0.01	-0.30***

Note: M: Mean, SD: Standard Deviation. * sig, $p < 0.05$, ** sig, $p < 0.01$, *** sig, $p < 0.001$, (*) = $p = 0.056$

Differences between the educational backgrounds. In Table 2, above the results of a two-way multivariate analysis of variance is described (MANOVA) which showed significant differences between the psychology students and the entrepreneurship students $F(7.141) = 8.16$, $p < 0.001$, Willk's $\Lambda = 0.72$, $\eta^2 = 0.29$. The differences regarded the dependent variables positive affectivity (E-stud $M = 3.1$, $SD = 0.74$, P-stud $M = 3.55$, $SD = 0.72$, $F(7.141) = 13.33$, $p =$

<0.001, $\eta^2=0.08$) negative affect (E-stud M=2.85, P-stud M=2.39, $F(7.141)=21.97$, $p<0.001$, $\eta^2=0.13$), Machiavellianism (E-stud M=2.65, P-stud M=3.22, $F(7.141)=8.37$, $p=0.004$, $\eta^2=0.05$) and internal LoC (E-stud M=3.28, P-stud M=2.87, $F(7.141)=11.82$, $p=0.01$, $\eta^2=0.07$). The entrepreneurship students thus scored higher than the psychology students on NA and internal LoC. The psychology students scored higher than the entrepreneurship students on positive affectivity and Machiavellianism. It should be noted that educational background explains the variation of NA with 13% which is a very high effect according to (Cohen, 1988; Pallant, 2010). The other effects (effect size) varies from 5% to 8% are classified as medium effects.

Table 2
DIFFERENCES BETWEEN THE APPLICANTS AT THE SCHOOL OF ENTREPRENEURSHIP (N=66)
AND STUDENTS OF PSYCHOLOGY (N=85) AND BETWEEN WOMEN (N=78) AND MEN (N=73)

Variable	Education	M(sd)	Sex	M(sd)
Positive affect	E-stud	3.1 (0.74)	Woman	3.37 (0.84)
	P-stud**	3.55 (0.72)	Man	3.28 (0.66)
Negative affect	E-stud**	2.85 (0.62)	Woman	2.66 (0.62)
	P-stud	2.39 (0.55)	Man	2.59 (0.63)
Machiavellianism	E-stud	2.65 (1.27)	Woman	2.98 (1.05)
	P-stud**	3.22 (1.04)	Man	2.89 (1.30)
Psychopathy	E-stud	2.06 (1.02)	Woman	1.84 (0.73)
	P-stud	1.93 (0.66)	Man*	2.15 (0.92)
Narcissism	E-stud	3.66 (1.56)	Woman	3.93 (1.23)
	P-stud	3.87 (1.10)	Man	3.59 (1.40)
The Dark Triad	E-stud	2.78 (1.05)	Woman	2.92 (0.78)
	P-stud	3.01 (0.69)	Man	2.87 (0.96)
External Locus of Control***	E-stud	2.47 (0.68)	Woman	2.46 (0.59)
	P-stud	2.33 (0.59)	Man	2.34 (0.68)
Internal Locus of Control	E-stud**	3.28 (0.72)	Woman	2.93 (0.69)
	P-stud	2.88 (0.68)	Man**	3.23 (0.74)

Note: M: mean, SD: Standard Deviation, for the factors academic background (E-stud=applicants at the school of entrepreneurship, P-stud=Students of psychology) and gender. * sig, $p<0.05$, ** sig, $p<0.01$. *** Interaction effect from both factors, $p<0.05$

Differences between the Sexes

The MANOVA also showed that there were significant differences between the sexes, $F(7.141)=2.48$, $p=0.02$, Willk's $\Lambda=0.89$, $\eta^2=0.11$, regarding the dependent variable psychopathy were the male respondents scored higher than the female respondents, as expected. Men M=2.15, women M=1.84 $F(7.141)=4.66$, $p=0.03$, $\eta^2=0.03$ and Internal LoC. Men M=3.23, women M=2.93, $F(7.141)=6.57$, $p=0.01$, $\eta^2=0.04$. The explained variance is less than 6% and the effect should be considered small (Cohen, 1988; Pallant, 2010).

Interaction Effects

The MANOVA also showed an interaction effect ($F(7.141)=2.48$, Willk's $\Lambda=0.94$, $\eta^2=0.06$) between gender and educational background on the dependent variable External LoC ($F(7.141)=4.41$, $p=0.04$, $\eta^2=0.03$). The female psychology students had the

lowest means ($M=2.28$) and the female entrepreneur students had the highest means ($M=2.64$). The effect size was relatively small. Only 3% of the variance in external LoC may be explained by the interaction effect.

DISCUSSION

The purpose with this study was to assess the frequency of dark personality traits (psychopathy, narcissism and Machiavellianism) among students of entrepreneurship and analyse how these traits are related to other personality traits such as LoC and affective status that are perceived as important in order to reach success as entrepreneurs. It was investigated further whether or not these variables differed between the student of entrepreneurship and the psychology students' reference group from different cohorts and between the genders. One hypothesis was that the students of entrepreneurship would score higher than the psychology students on the dark triad, LoC and PA. This hypothesis was however not completely fulfilled. The students of entrepreneurship scored higher for Internal LoC, but surprisingly the students of psychology scored higher on both Machiavellianism and PA. Regarding narcissism and psychopathy, no differences were obtained between the groups.

There were clear differences in the co-variation of the variables between the groups. However, a positive correlation between Machiavellianism and PA in both groups was found. It seems that the more Machiavellian, the individual is, the more enthusiasm, engagement and inspiration s/he experiences. Machiavellianism also correlated positively with external LoC, but only among the students of psychology. This may seem contradictory since the 'Machiavellian' acts in order to strengthen himself/herself by manipulating his/her own environment according to the personal desires and wishes. Generally, a person with a high external LoC perceives that there is a limited possibility to control one's own life. One interpretation may be that the psychology students who may feel 'out of control' are more tempted to assume unethical strategies and tactics in order to "survive".

Since this correlation was only found among the students of psychology, the question to be raised concerns what moderating factors may underlie the correlations in this group.

Narcissism correlated positively with both NA and PA among the psychology students. No such correlations were observed among the entrepreneurship students. One could pose the question whether or not Kets de Vries (1996) notion concerning reactive narcissism, which is characterized by strong affective reactions compared to the constructive and self-fulfilling narcissism, may be applicable. Since this correlation was not found among the students of entrepreneurship, this may be a promising sign that they have a potential to develop social and corporate responsible businesses.

The relationship between narcissism and psychopathy among the students of psychology also provides the indication that the narcissistic expressions may take on a different form among the students of psychology compared to the students of entrepreneurship, considering that the expected correlation between psychopathy and narcissism was practically non-existent among the students of psychology.

The unexpected findings that the students of psychology were more Machiavellian than the students of entrepreneurship was somewhat striking. Taking this result into consideration, the psychology students may tend to manipulate, misrepresent and use ingratiating tactics in order to achieve their goals. This result may offer a reason for consternation in view of their chosen profession. Nevertheless, despite psychological treatment consisting of components of manipulation in order to advance patient recovery in a certain direction, the manipulative tactics

ought to consist of worthy intentions. The possibility remains that there were indications that certain students may be lacking in morality and using manipulation for a strict personal gain. One consequence may be that the use of techniques intended to heal patients are instead misused for exploitation. The students of entrepreneurship that were expected to express these characteristics surprisingly scored significantly lower. One question to be posed is, if the lower scoring on Machiavellianism and psychopathy among the students of entrepreneurship has the positive effect of making them more socially responsible but will there be a collateral effect that they lack of the street-smartness that would be necessary to make them successful in hard core business environments? One must hope of course that benevolence leads to long-term gains.

Despite the lack of differences between the groups and genders regarding narcissism, it should be noted that this was the construct in the dark triad that both the psychologists and entrepreneurs scored the highest. It is of interest to investigate the narcissistic dimension further in other student populations to ascertain whether differences from Mathieus & St-Jean (2013) results occur. For those who are interested in the personality of psychology students it seems relevant to understand why they scored significantly higher on Machiavellianism. What motivates the study psychology in the event that students' personal profiles are characterized by Machiavellian traits? Did they have the Machiavellian traits when they started their studies or did they obtain them during the education as a collateral damage? Considering that the profession of the psychologist is relatively socially isolated and not necessarily monitored, with a high social status, could the situation may constitute preferred playground. This ought to focus attention upon how to monitor and ensure that unsuitable students are declined certain educational programs.

Contrastingly and surprisingly, students of psychology experienced more PA, such as enthusiasm, engagement and inspiration to a higher extent, compared to the students of entrepreneurship, since these characteristics are considered crucial for entrepreneurs. Baron (2008) postulated that the lack of PA may lead to over cautiousness, defensiveness and reactiveness among entrepreneurs rather than proactive positive risk-taking and there with stagnation and prosperous entrepreneurial activities.

The study also showed that the students of entrepreneurship experienced NA, with fear, hostility and anxiety to a higher extent, than the students of psychology. NA perception sends a signal of danger (Baron, 2008) leading to a more unwilling environment, thereby constructing obstacles none consciously. The presence of NA is not un-common among 'derailed' entrepreneurs (Kets de Vries, 2010).

The students of entrepreneurship expressed a higher level of Internal LoC, which may be considered positive. These students possess the belief in that they are able to influence their lives and they believe that hard work will pay off in a higher extent than do the psychology students. The Internal LoC, may in a positive and socially responsible way, compensate for their lack of Machiavellianism. Pandey & Tewary (1979) claims that entrepreneurs with a high degree of Internal LoC are more fortunate in their attempts to influence their environment in a positive way. Since internal LoC also correlates with the ability to conduct a positive transformational leadership investing in their co-workers.

Interestingly, this study contradicts Luca's et al. (2012) results regarding the negative correlation between internal LoC and the willingness to take part of entrepreneur school training, such as the one presented by Chalmers University of Technology.

The need to invest in the development of Internal LoC that Hansemark (2008) recommended does not seem to be necessary in our group of subjects, except for the females

who expressed lower internal LoC than the male subjects. Entrepreneurship programs need to, when being designed, find ways to support and strengthen the female students. This notion is supported by the finding of the interaction effect between gender and educational background related to the External LoC. As observed in the results section, the women who scored the external LoC highest were those aspiring for the Entrepreneurship program. They perceived that they were subject to faith, bad luck and uncontrollable external forces.

LIMITATIONS

Several limitations are evident: For example, the instrument DTDD (Dark Triad Dirty Dozen) used to measure the dark triad composite. The instrument consists of 12 questions which imply that only four questions per construct were used. Nevertheless, the DTDD has shown a good validity in previous studies although there may be some overlapping effects between the constructs psychopathy, narcissism and Machiavellianism. Currently, instruments that are more robust as regards self-assessment effects (Jones & Paulhus, 2014) are being used instead of the DTDD.

Self-assessment of these construct are not very reliable since they acquire a good deal of self-knowledge. Narcissism as a construct may present a problem, since they tend to perceive themselves far more positively than their environment. (Park & Colvin, 2014) and they seem to lack the self-awareness that is needed (O'Boyle et al., 2012). Carlson (2013) claimed that not only were the narcissists unaware of their behaviours and attitudes but also the negative impact it had to their environment. Conversely, they considered them positive and strived to develop them even further. As mentioned, there are different types of narcissism than the reactive and the constructive, according to Kets de Vries (1996) and it may the case that the constructive narcissism is advantageous for entrepreneurs. Another reflection may be that the psychology students may have been using their insight in psychology and psychological instruments to respond in a more conservative way on the dark triad, considering that these characteristics are very far from the code of ethics that psychologists are expected to show. One should also consider that the sample of psychology students consisted of a larger proportion of female subjects and females usually scores lower on the dark triad. If it would be the case that the psychology students answered in a more conservative way and if the population would have consisted of a larger proportion of male subjects, even darker traits than the showed ones may have appeared.

Another limitation is the rather modest sample size and the reference group. Even if the results were noteworthy it must admit that no theoretical assumptions were made regarding the reference group except the notion of Jonason et al. (2013). They postulated that individuals who score high on the dark triad attempt to avoid professions that are oriented towards providing help to others and prefer power-oriented professions and professions that are very rewarding, either providing confirmation or financial profits.

The definition of students of entrepreneurship needs clarification. As stated, it was applicants to the school of entrepreneurship that were studied and those were al-ready students. The conclusions must therefore be limited to individuals with an entrepreneurial intention. A longitudinal study, mapping the progress of the students at the program of entrepreneurship from the application phase and during the two years pro-gram and a follow-up ought to be of relevance since one could chart the predicting factors and the results of successful/unsuccessful entrepreneurs.

Entrepreneurs are welcomed by the society since they can bring benefits. Many studies have focused upon which variables and characteristics lead to successful entrepreneurship. In the present study, the purpose of defining those characteristics predictive of negative consequences was sought after. In the future, these studies may provide indications on how the selection of the individuals ought to proceed as well as the support or warnings that should be provided during the program.

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