

## Gender Differences in the Dark Triad Personality Traits and Academic Dishonesty

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### Abstract:

**Background:** Research efforts to identify and understand gender differences have been prominent in market and consumer research but limited in psychology, more so, in personality research. This study investigated gender differences in the dark triad and propensity for academic dishonesty as well as the possibility of gender acting as a moderator on the relationship between the dark triad personality traits and academic dishonesty.

**Materials and Methods:** The study employed a predictive correlational design and involved 425 undergraduate students, aged between 17 and 23 years, from seven public universities in Kenya. The participants were selected using purposive, stratified, and simple random sampling techniques.

**Results:** In the findings, males had higher mean scores in narcissism, psychopathy, and academic dishonesty, while females had higher scores in Machiavellianism. These mean differences were however not statistically significant. Further, psychopathy, and narcissism significantly predicted academic dishonesty in females, while in males only psychopathy was a significant predictor of academic dishonesty. Gender did not moderate the relationship between the dark triad and propensity for academic dishonesty.

**Conclusion:** Our study concluded that even though there were slight gender differences in the relationship between the dark triad variables and academic dishonesty, the differences were not meaningful enough to warrant differential treatment of males and females in interventions that relate to academic dishonesty.

**Key Word:** Academic dishonesty; dark triad; narcissism; Machiavellianism; psychopathy.

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Date of Submission: 01-06-2022

Date of Acceptance: 13-06-2022

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### I. Introduction

The dark triad is made up of the three personality traits of narcissism, Machiavellianism, and psychopathy, all with distinct theoretical roots. The three traits are regarded as socially aversive and though initially studied mostly among clinical populations (Christie & Geis, 1970; Hare, 1999; Raskin & Hall, 1979), the subclinical traits are observable in normal populations (Furnham et al., 2013). Paulhus and Williams (2002) came up with the term 'dark triad', to refer to the three personality traits, and argued that they are better studied together, given their common dark core. Even though they have common characteristics, including a tendency to deceive, manipulate, and self-promote they are distinct traits (Jones & Paulhus, 2014). Specifically, narcissism is characterized by a grandiose view of oneself, need for status and entitlement (Barry & Kauten, 2014) Machiavellianism is typified by a tendency to manipulate, cynicism, lack of regard for morality, and rules (Jones & Paulhus, 2017). Psychopathy is characterized by a lack of empathy, sensation seeking, remorselessness, fearlessness, superficial charm, and manipulation (Hare, 1999).

The tendency to deceive and manipulate, a common characteristic of the dark triad personality traits, makes the traits relevant to our understanding of academic dishonesty. In the literature, academic dishonesty has been operationalized as 1) self-reports of academic cheating incidences in the past (Brown et al., 2019); 2) students' attitudes towards academic cheating (Miller & Iszak, 2017); 3) tendency to engage in academic dishonesty (Wray et al., 2016); 4) a tally of actual observed cheating behaviors (Jaffé et al., 2019). Academic dishonesty includes allowing others to copy own work, copying during examination and assignments (Eriksson & McGee, 2015), and acts of plagiarism (Jereb et al., 2018). The current study conceptualized academic dishonesty as propensity for academic dishonesty which refers to the tendency to engage in or abet cheating in examinations, assignments or plagiarize the work of others, as assessed using hypothetical situations in the academic setting.

Researchers have used evolution theory to understand the link between the individual differences and aversive behavior. Mainly because evolution theory provides an explanation of how individuals have adapted their lives in response to environmental constraints (Meyers-Levy & Loken, 2015). Given the need to stand out

in a highly competitive environment, individuals high in dark triad personality traits are more likely to adopt a fast-life strategy. Such individuals may select to respond to the challenges in their environment with behaviour, such as cheating, meant to meet immediate and short term goals. These adaptations manifest differently in males and females. Specifically, the life history theory, explains how individuals select fast or slow life strategies, or allocate energy, and material resources to maximize their possibility of survival (Gadgil & Bossert, 1970). Presently, global competition is constantly shifting and unpredictable; and individual responses to the uncertain environment is consistent with the adaptive fast life strategies meant to increase the probability of survival. Analogous to this view is that of changing generation's response to challenges that relate to their survival, leading to psychological traits and attitudes meant to maximize benefits to them and minimize harm. Considering that these traits and attitudes are a response to individual experiences and challenges, it is expected that men and women respond to their individual experiences and challenges differently either due to socialization, such as in role expectations or biological make up (Lento et al., 2018).

Empirically, the debate on gender differences spans the fields of marketing, psychology, and biomedicine (Meyers –Levy & Loken, 2014). Consequently, research in different contexts has demonstrated varying responses by males and females when different resources are at stake. Some researchers argue that males are more aligned with short term strategies when compared to females (Carter et al., 2014). Moreover, cheater strategies associated with the evolution theory have been examined with the dark triad (Jonason, Foster, et al., 2017). Some researchers have found that males were more likely to engage in academic dishonesty, while others have found no gender differences in any form of academic dishonesty (Friedman et al., 2016). There is currently no consensus however, in regard to gender differences in academic dishonesty (Jurdi et al., 2011). Research has found that women were less likely than men to lie for personal gain, for small financial gain, and when someone would be hurt by their lying (Erat & Gneezy, 2015). Interestingly, in the research by Erat & Gneezy (2015), the gender differences disappeared when there was more money to be gained by lying, suggesting that when stakes are higher both males and females would lie. Also, gender has been found to moderate the relationship between resting heart rate and academic dishonesty (Portnoy et al. 2019); disinhibition and academic dishonesty (Baran & Jonason, 2020); moral attitude, subjective norms, penalty enforcement, and integrity engagement and academic dishonesty (Zhang et al., 2018). These findings suggest that gender could be an important variable in the relationship between dark triad personality traits and propensity for academic dishonesty.

In spite of this interest in the gender differences in the variables and demonstrated value of gender as a moderator, researchers have not examined gender as a moderating variable in the relationship between the dark triad traits and academic dishonesty. Memon et al. (2019) posit that testing for moderation signifies maturity in a field of inquiry. Furthermore, moderating variables enable researchers to examine whether two variables relate in the same way across groups. Muris et al. (2017) noted the importance of investigating the conditions under which transgressive behavior manifest in relation to the dark triad personality traits. Specifically, they argued that more research investigating the influence of gender on the relationship between the dark triad variables and transgressive behaviours is needed. Their arguments have been supported by those of Giluk and Postlethwaite (2015) who cited gender as a possible moderator between personality and cheating behaviour in an academic context. There is, therefore, theoretical, practical, and empirical support for a study on gender as a moderator in the relationship between dark triad personality traits and academic dishonesty.

## **II. LITERATURE REVIEW**

### ***Gender differences in the Dark Triad personality traits***

Baughman et al. (2014) found that men scored higher in Machiavellianism, and psychopathy, and were also more likely to cheat in an academic context. A meta-analytic study by Muris et al. (2017) found that there were gender differences in the dark triad traits of narcissism, Machiavellianism, and psychopathy. This difference was more pronounced in psychopathy, narcissism, and Machiavellianism in that order, with men having higher levels in each of these traits. The finding that men were more narcissistic than women was buttressed by another study by Grijalva et al. (2015) who found that this remained consistent across age groups. Specifically, the differences were more conspicuous in the exploitative/entitlement and leadership authority facets of narcissism compared to the grandiose and exhibitionism facet. This research seems to suggest that males have higher levels of narcissism, Machiavellianism, and psychopathy compared to women. This seems to be the case in studies among undergraduate students in North America (Azizli et al., 2016; Forsyth et al., in press), Europe (Dinić & Wertag, 2018), in Brazil (D'Souza & Lima, 2019). On the other hand, some studies did not find significant gender differences in the levels of dark triad traits in college students (Alsheikh Ali, 2020) and in community samples (Carter et al., 2014).

### ***Gender differences in academic dishonesty***

Transgressive behaviors have been reported to be higher in men than in women (Muris et al., 2017). Results on gender differences in academic dishonesty are not that conclusive. Moreover, studies investigating gender and academic dishonesty have mostly focused on difference in the rate of academic dishonesty between males and females (Zhang et al., 2018). Korn and Davidovitch (2016) found that more male students were involved in academic cheating when compared to their female counterparts. These findings were similar to those of Azizli et al. (2016). Similarly, Zhang et al. (2018) found that female students reported lower levels of academic dishonesty when compared to males in a study among Chinese undergraduate students.

### ***Relationship between dark triad and academic dishonesty by gender***

Literature comparing differences in the relationship between the dark triad traits and academic dishonesty by gender is lacking, with many researchers simply reporting gender differences in the aforementioned variables (Azizli et al., 2015; Friedman et al., 2016; Grijalva et al., 2015). Drawing from the results of existing studies on gender differences in the relation between dark triad and various forms of deception and misconduct, it may be expected that similar patterns will be observed in the relationship between the dark triad and propensity for academic dishonesty. A study by Jonason et al. (2014) revealed that Machiavellianism was related to deception in women and not in men. Muris et al. (2017) found that of all the three dark triad traits, psychopathy was more strongly related to deviant behaviours in men than in women.

### ***Moderating influence of gender on the relationship between dark triad and academic dishonesty***

Moreover, in the dark triad literature, researchers have begun to investigate the effect of moderators such as time of day (Roeser et al., 2016), gender, age, type of sample and measures used (Muris et al., 2017) on the relationship between dark triad traits and unethical behavior. Findings on the moderating influence of gender have been mixed. For instance, Plessen et al. (2020) in their metaanalytic study found that gender did not moderate the relationship between dark triad personality traits and academic dishonesty. These previous findings give empirical and theoretical evidence to warrant a study on the moderating influence of gender on the relationship between dark triad variables and academic dishonesty.

### ***Present study***

Using a correlational design, the aims of this study were 1) to examine the gender differences in the dark triad and propensity for academic dishonesty scores; 2) to determine the relationship between the dark triad personality traits and propensity for academic dishonesty by gender; and 3) to determine whether gender moderated the relationship between the dark triad traits and propensity for academic dishonesty. The primary hypotheses for this study were as follows:

**Hypothesis 1:** There are significant gender differences in the dark triad personality traits, and propensity for academic dishonesty

**Hypothesis 2:** The dark triad traits significantly predicts propensity for academic dishonesty for both males and females

**Hypothesis 3:** Gender moderates the relationship between the dark triad traits and propensity for academic dishonesty

## **III. Material And Methods**

### ***Participants and procedure***

Participants were 425 (202 males, 223 female), undergraduate students from seven public universities in Kenya, aged between 17 and 23 years, ( $M = 20$  years,  $SD = 1.25$ ). Participants were told that participation was voluntary and there would be no compensation for participation in the study. The research study was approved by the Ethics Board and all requisite institutions in line with ethics requirements. Participants were informed about the study and their rights to participate or withdraw from the study without any harm to them, and were given a consent form to sign. Using power analyses described by Cohen (1988), Whisman and McClelland (2005) recommended that the sample size of above 200 was sufficient to achieve power of .80 and to detect an effect size of .13 ( $\alpha = .05$ ), in an interaction in a regression analysis. The study sample size of 425 was therefore considered adequate for statistical analyses (Tabachnick & Fidel, 2019).

### ***Materials***

#### ***Dark Triad***

Dark Triad traits were measured using the 27 Dark Triad of Personality Scale (SD3) by Jones and Paulhus (2014). Each of the dark triad traits was measured using nine items on a five point Likert scale ranging from 1= *strongly disagree* to 5 = *strongly agree*. The narcissism sub scale was comprised of items such as “*people view me as a natural leader*”. Machiavellianism sub scale had items such as “*it is wise to keep track of information that you can use against people later*” while psychopathy subscale had items like “*it is true that I can be mean to others*”. The internal consistency for each of the subscales was within the acceptable range as indicated by Cronbach’s alpha values of .70, .68, and .72 for the narcissism, Machiavellianism, and psychopathy

respectively. The composite Dark Triad scale had a Cronbach’s alpha of .75. The survey has been used among undergraduate students in contexts similar to the one of this study (Onyedire et al., 2019), demonstrating consistency with theory. In scoring the scale, negatively worded items were reverse coded and the respondents’ scores on each of the items on the subscales were summed and then divided by the total number of items in each sub-scale. Higher scores represented higher levels of narcissism, Machiavellianism, and psychopathy.

***Propensity for academic dishonesty***

Propensity for academic dishonesty was measured using nine questions following three hypothetical scenarios. The questions were adapted from the Attitude toward Academic Misconduct Scale ( $\alpha=.81$ ) developed by Stone et al. (2010). Hypothetical situations were used in an attempt to create a common stimulus and a similar interpretation of academic dishonesty by participants. Hypothetical scenarios have been applied successfully on academic dishonesty research in America and Europe (Wray et al., 2019). An example of an item in the scale was “*If you were Zidi, would you accept to assist Heri do the exam?*” Participants were asked to rate their likelihood to engage in specified actions conducted by characters in the hypothetical scenarios. Responses were on a five point Likert - type scale ranging from 1 = *definitely not* to 5 = *definitely yes*. Respondents’ scores were summed up and averaged to form a composite score, with higher scores indicating high propensity for academic dishonesty. The composite score was used to conduct analyses.

***Statistical analyses***

Descriptive statistics and bivariate correlations were computed using SPSS version 26. Normality was assessed by examining the distribution values of skewness and kurtosis values, considered at below two and three (Bono et al., 2020) respectively. Reliability using Cronbach’s alpha coefficient was determined for each sub scale of the Short Dark Triad Scale, and the Attitude toward Academic Misconduct Scale. Results from previous studies were useful in determining structure validity for the dark triad measure. A MANOVA was used to test for gender differences in the dark triad and propensity for academic dishonesty variables. Hierarchical multiple regression was applied to examine the moderating influence of gender on the relationship between the dark triad personality variables and propensity for academic dishonesty.

**IV. Result**

Data were screened for entry errors, missing values, and outliers. The proportion of missing values was 3% which was considered small according to guidelines by Little and Rubin (2019). The results of a Little’s Missing Completely at Random (MCAR) test, (Papageorgiou et al., 2018) showed that data was Missing completely at Random, ( $\chi^2 = 677.719, df = 625, p = 0.075$ ) implemented using SPSS version 26. Having oversampled to cater for non-response and other data problems, listwise deletion was applied to deal with the missing data, as recommended by Curley et al. (2019). Skewness and kurtosis values signified normal distributions as is shown in Table 1. Description statistics of each of the variables are also presented on **Table 1**.

**Table 1**  
*Descriptive Statistics by Gender for Short Dark Triad Personality Traits and Propensity for Academic Dishonesty Variables*

	Male		Females		<i>S</i>	<i>K</i>	$\alpha$	No. of items
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Predictors								
Narcissism	3.36	.56	3.34	.51	.12	.00	.70	9
Machiavellianism	3.55	.63	3.56	.54	-.58	.60	.68	9
Psychopathy	2.33	.55	2.23	.59	.34	-.10	.72	9
Propensity for AD	2.54	.90	2.52	.95	.31	-.68	.82	24

*Note.* *S* = Skewness; *K* = Kurtosis; AD = Academic Dishonesty

The findings presented in **Table 1** show that males had higher mean scores in all the variables, except for Machiavellianism.

To assess the first hypothesis, a MANOVA was carried out to test whether the gender differences in the dark triad traits and propensity for academic dishonesty were significant. In the MANOVA, gender was the predictor variable and propensity for academic dishonesty, and the dark triad traits were the outcome variables. **Table 2** shows the univariate test results.

**Table 2**

*Univariate test results for narcissism, Machiavellianism, psychopathy and propensity for academic dishonesty*

Variable	F	Sig.	Partial $\eta^2$
Narcissism	.19	.66	.00
Machiavellianism	.01	.91	.00
Psychopathy	3.35	.07	.01
Propensity for academic dishonesty	.07	.79	.00

Note. Significance = .05;

As observed in **Table 2**, the multivariate effect of gender was not statistically significant, Wilks'  $\Lambda = .976$ ,  $F(5, 419) = 2.04$ ,  $p = .07$ . The effect size was small, partial  $\eta^2 = .02$ . Based on these findings, there was no evidence to support hypothesis 1, and it was thus concluded that there were no significant gender differences in the dark triad personality and propensity for academic dishonesty scores.

Prior to running multiple regression analyses to test the second hypothesis, correlations between all the variables by gender were assessed and the correlation matrix is shown on **Table 3**.

**Table 3**

*Correlations between All the Variables by Gender*

Variables	Gender	1	2	3	4
1. Narcissism		-			
2. Machiavellianism	Female	.15*	-		
	Male	.25**			
	Combined	.20**			
3. Psychopathy	Female	-.10	.04	-	
	Male	-.11	.11		
	Combined	-.10*	.07		
4. Propensity for Academic Dishonesty	Female	-.18**	-.07	.27**	-
	Male	-.17*	-.03	.31**	
	Combined	-.17**	-.05	.29**	

Overall, narcissism was significantly and positively correlated with Machiavellianism. Interestingly, a significant and inverse relationship was observed between narcissism and both psychopathy and propensity for academic dishonesty. When examined by gender, narcissism was significantly and positively correlated with Machiavellianism for both males and females. Similarly, the relationship between narcissism and propensity for academic dishonesty for both males and females was significant, although negative. Interestingly, the relationship between narcissism and psychopathy ceased to be significant when considered by gender.

There were no significant relationships between Machiavellianism with both psychopathy and propensity for academic dishonesty. Likewise, the relationship between Machiavellianism and both psychopathy and propensity for academic dishonesty was not significant for both males and female. The strongest correlation was between psychopathy and propensity for academic dishonesty, which was positive and significant, even for in both males and females. Notably, the strength of the correlations was nearly the same across gender for all the variables except for the relationship between Machiavellianism and narcissism, where there was a stronger relationship for males. Similarly, psychopathy was more strongly related to propensity for academic dishonesty for males and females. Only in the relationship between narcissism and propensity for academic dishonesty was the effect size larger for females. The direction of the relationship was consistent across gender for all the variables.

To test the second hypothesis, multiple regression analyses were performed differently for males and females, results are presented in **Table 4**.

**Table 4**

*Multiple Regression Predicting Propensity for Academic Dishonesty by Gender*

Variable	Females			Males		
	$\beta$	SE	Sig	$\beta$	SE	Sig
Narcissism	-.15	.12	.03	-.13	.11	.07
Machiavellianism	-.05	.11	.41	-.03	.10	.67
Psychopathy	.26	.10	.00	.30	.11	.00

The final model showed that narcissism, Machiavellianism, and psychopathy were better predictors of propensity for academic dishonesty for males than females. The model explained 10% of the variance in propensity for academic dishonesty for females,  $R^2 = .10$ , Adjusted  $R^2 = -.09$ ,  $F(3, 219) = 8.06$ ,  $p < .001$ ; and 12% for males  $R^2 = .12$ , Adjusted  $R^2 = -.10$ ,  $F(3, 198) = 8.68$ ,  $p < .001$ . Notably, psychopathy was a significant predictor of propensity for academic dishonesty in both males and females. Narcissism on the other hand was a

significant predictor only for females. Machiavellianism was not a significant predictor of propensity for academic dishonesty for both males and females.

To test the third hypothesis, a moderated regression was conducted to examine whether participant's gender moderated the relationship between narcissism, Machiavellianism, psychopathy, and propensity for academic dishonesty. A two stage hierarchical multiple regression was used and the interaction terms were entered in the final stage. To perform this analysis data were checked for assumptions. The gender variable was dummy coded (0 = females, 1 = males). To avoid problems with multicollinearity and to aid in the interpretation of the results, the predictor variables were mean centered (Echambadi & Hess, 2007) before conducting further analyses.

First a model including the predictor variables, narcissism, Machiavellianism, psychopathy and gender were entered into the regression as shown in equation 1.

$$\hat{Y} = a + b_1 (\text{Narcissism}) + b_2 (\text{Machiavellianism}) + b_3 (\text{Psychopathy}) + b_4 (\text{Gender}) + e \quad (1)$$

Where:  $\hat{Y}$  = predicted propensity for academic dishonesty;  $a$  = least squares estimate for the intercept;

$b_{(x)}$  = least squares intercept for the predictor variables and hypothesized predictor.

In this first step of the analysis, the four variables that were entered contributed significantly to the variance in propensity for academic dishonesty, accounting for 10% change in students' propensity for academic dishonesty,  $R^2 = .106$ , Adjusted  $R^2 = .097$ ,  $F(4,420) = 12.427$ ,  $p < .01$ .

Next, interaction terms between each of the three dark triad variables and gender were added into the model in step two. As guided by Tabachnick and Fidell (2019), moderation was determined by examining the change in the  $R^2$  in model 2 (summarized in equation 2).

$$\hat{Y} = a + b_1 (\text{Narcissism}) + b_2 (\text{Machiavellianism}) + b_3 (\text{Psychopathy}) + b_4 (\text{Gender}) + b_5 (\text{Narcissism} * \text{Gender}) + b_6 (\text{Machiavellianism} * \text{Gender}) + b_7 (\text{Psychopathy} * \text{Gender}) + e \quad (2)$$

The regression coefficient for the interaction terms were not statistically significant,  $(\text{Narcissism} * \text{Gender}) + b_5$ ,  $(\text{Machiavellianism} * \text{Gender}) + b_6$ ,  $(\text{Psychopathy} * \text{Gender}) + b_7$

Model two with the interaction terms was significant ( $F(7, 417) = 7.15$ ,  $p < .01$ ). Inclusion of the interaction terms into the equation in stage two resulted in a negligible change in students' propensity for academic dishonesty which was not significant ( $\Delta R^2 = .001$ ,  $\Delta F(3,417) = .20$ ,  $p = .89$ ). There was no evidence of moderation by gender on the relationship between each of the dark triad traits and propensity for academic dishonesty [narcissism,  $\beta = -.03$ ,  $t = -.41$ ,  $p = .68$ ; Machiavellianism,  $\beta = -.02$ ,  $t = -.35$ ,  $p = .73$ ; psychopathy,  $\beta = -.04$ ,  $t = -.51$ ,  $p = .61$ ]. The results are presented in **Table 5**. Hypothesis three was therefore not supported.

**Table 5**

*Results of moderated linear regression predicting the effect of gender on the relationship between narcissism, Machiavellianism, psychopathy and propensity for academic dishonesty*

Predictors	Step 1				Step 2			
	B (95% CI)	SE $\beta$	t	p	$\beta$ (95% CI)	SE $\beta$	t	p
Gender	-.01	.09	-1.19	.85				
Narcissism	-.14	.08	-2.87	.04	-	-	-	-
Machiavellianism	-.04	.08	-.83	.41	-	-	-	-
Psychopathy	.28	.08	5.97	.00	-	-	-	-
Gender	-	-	-	-	-.01	.09	-1.18	.86
Narcissism	-	-	-	-	-.12	.12	-1.75	.08
Machiavellianism	-	-	-	-	-.03	.10	-.41	.68
Psychopathy	-	-	-	-	.31	.11	4.32	.00
Narcissism*Gender	-	-	-	-	-.03	.17	-.41	.68
Machiavellianism*Gender	-	-	-	-	-.02	.15	-.35	.73
Psychopathy*Gender	-	-	-	-	-.04	.15	-.51	.61

## V. Discussion

The first aim of this study was to examine the gender differences in the dark triad and propensity for academic dishonesty scores. While there were observed differences in the mean scores of all the variables, where men scored higher in all the variables except for Machiavellianism, the differences were not significant. A second aim was to determine whether the dark triad traits significantly predicted propensity for academic dishonesty for males and females. There was a significant and inverse relationship between narcissism and propensity for academic dishonesty, for females and not for males. Psychopathy was a significant predictor of propensity for academic dishonesty for both males and females. Machiavellianism was not a significant predictor of propensity for academic dishonesty for both males and females. The final aim was to investigate whether gender moderated the relationship between the dark triad traits and propensity for academic dishonesty. The findings demonstrated that the relationship between the dark triad traits and propensity for academic dishonesty was not moderated by gender.

The pattern of males scoring higher than females in the dark triad and propensity for academic dishonesty was replicated in all the variables except for Machiavellianism. The findings are consistent with previous findings where males reported either higher rates or levels of academic dishonesty (Azizli et al., 2016; Korn & Davidovitch, 2016; Zhang et al., 2018). This was also true of the dark triad variables, where women had slightly lower scores in the dark triad traits (Azizli et al., 2016; Dinić & Wertag, 2018). This study therefore largely confirms the previous findings and aligns with the life history theory, which contends that males are more likely to exhibit adaptive traits such as higher aggression due to competition for resources (Jonason et al., 2012). However, these observed differences in the mean scores were not statistically significant. These findings were similar to those of Alsheikh Ali (2020) who did not find a significant difference in the dark triad traits for males and females among Jordanian youth. Similarly, Carter et al., (2014) did not find a significant difference by gender for dark triad variables. This work also adds to recent findings that have showed non-significant differences between males and females in academic dishonesty. Perhaps the recent findings by Jonason et al. (2020) asserting that gender differences in the dark triad variables were more evident in developed countries than in developing countries offers an explanation for the non-significant findings. Additionally, the student population among whom the study was undertaken may not be a true reflection of the patriarchal and communal nature of the Kenyan society. Thus, they tend to be at par in their perspectives, uncharacteristic of male-female perspectives due to gender roles the larger part of the Kenyan society.

In terms of intercorrelations by gender, narcissism was significantly and positively correlated with Machiavellianism, and inversely correlated with propensity for academic dishonesty. This pattern was similar for males and females. On the other hand, narcissism was negatively and significantly correlated with psychopathy, but the relationship was no longer significant when considered separately for males and females. The negative correlation between narcissism with both psychopathy and propensity for academic dishonesty is consistent with the findings that individuals high in the dark triad personality traits are highly sensitive to social cues (Jones & Paulhus, 2017; Kowalski et al., 2018) and therefore vulnerable to social desirable responding. Because individuals high in narcissism, are also more sensitive to ego-threatening situations from a fragile ego, as argued by Hart et al. (2018), they may be more likely than the other two traits to respond in a socially desirable manner. Hence, they are likely to minimize negative traits. On the other hand, Machiavellianism was not significantly correlated to both psychopathy and propensity for academic dishonesty for both males and female. Further psychopathy was positively and significantly related with propensity for academic dishonesty in both males and females. This reinforces the fact the impulsive and remorseless characteristic of psychopaths (Furnham et al., 2013), extends to propensity for academic dishonesty. Multiple regression analyses showed that regression weights for males and females were not significantly different from each other, results which were confirmed by moderation analysis. These findings converged with those of Jonason et al. (2014).

Psychopathy significantly predicted propensity for academic dishonesty in both males and females. Conversely, Machiavellianism was not a significant predictor of propensity for academic dishonesty for both males and females. Contrary to these findings, Forsyth et al. (in press) found that Machiavellianism was the strongest predictor of propensity to lie, followed by narcissism, while psychopathy was only a marginal predictor of propensity to lie in an academic setting. The lack of significant findings for the link between Machiavellianism and propensity for academic dishonesty may be attributed to the shared variance with psychopathy. Persson (2019) found support for high similarity between Machiavellianism and psychopathy. Additionally, research by Vernon et al. (2008) found environmental factors led to variation in Machiavellianism. It is therefore possible that environmental factors were responsible for the variations on the influence of Machiavellianism on propensity for academic dishonesty.

The study may be useful to university administrators by informing them that students, both male and females with high levels of psychopathy are also more likely to engage in academic dishonesty. Those high in narcissism may likewise engage in academic dishonesty but may be more wary of being associated with academic dishonesty. The study contributes to current knowledge on the manifestation of the dark triad variables and propensity for academic dishonesty in both males and females, and how this relates to unethical behavior in the academic setting. From the study findings, interventions for academic dishonesty related to personality at university level, need not be differentiated for males and females.

The study was not without limitations. The study relied on an undergraduate sample taking a single course of study. While this provided useful information on the expression of dark triad traits and propensity for academic dishonesty among pre-service teachers, it limits generalizability to that population. The study may have been subject to social desirability. Further, the use of the short version of the dark triad measure may have limited the expression of the various facets of the dark triad traits. The study recommends the use of the longer versions that assess different dimensions of each of the dark triad personality variables. This will be particularly useful to clarify the influence of Machiavellianism and narcissism and academic dishonesty, which was non-significant in the current study. In light of the non-significant findings, future studies should also consider use of larger samples to tease out smaller significant differences. However, this should be done with caution, given that

significant differences that are very small that, may be of no practical use. Funder and Ozer (2019) argue that an effect size of  $r = .30$  (medium) has better explanatory and practical value in personality research than smaller values. Perhaps, additional studies in other populations in Africa may enhance the understanding of gender differences in the dark triad traits and academic dishonesty in African societies.

## VI. Conclusion

All in all, the study confirmed previous study findings on men scoring higher in narcissism, psychopathy and academic dishonesty suggesting that the dark triad traits as conceptualized by the Short Dark Triad are consistent across cultures. Higher levels of Machiavellianism in women, as found by this study, may be indicative of deceptive strategies used more by women than men in Kenya. The inconsistencies in relation to Machiavellianism may point to underlying cultural differences enhancing the overlap between Machiavellianism and psychopathy. Nevertheless, the non-significant moderation signifies similarity in the relationship between the dark triad and propensity for academic dishonesty among males and females. Similar strategies to mitigate the impact of the dark triad on propensity for academic dishonesty may be used for both men and women.

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