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Cheating by university students and its relationship to Dark Personality

El engaño por parte del alumnado universitario y su relación con la personalidad oscura

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Abstract

Cheating by university students when taking academic tests has been considered an endemic problem in the university community. The objective of this study is to analyze the relationship between academic fraud and dark personality traits, moral disengagement, and antisocial behavior in university students. To this end, Gardner and Melvin's ATC scale, one of the most widely used scales for identifying cheating, was adapted for use with Spanish population. This adaptation revealed a unidimensional structure and satisfactory reliability. An incidental sample of 912 adult participants was used for the study. After applying descriptive statistical techniques, factor analysis, and linear regression analysis, the results showed that the majority of participants had engage in cheating (62% versus 38%). The cheating variable correlates significantly with the four dark personality traits and with moral disengagement, and can be predicted from two dark personality traits (positive scores in machiavellianism and negative scores in sadism), and by the moral disengagement variable. In addition, cheating behavior is not related to so-called antisocial behaviors. The results and their relationship with the education system are discussed, and future lines of research are established.

Keywords: antisocial behavior; cheating academic; dark-side personality; moral disengagement; ATC scale; scale validation.

Resumen

El engaño por parte de los estudiantes universitarios al realizar exámenes se ha venido considerado un problema endémico en la comunidad universitaria. El objetivo de este estudio es analizar la relación entre el fraude académico y los rasgos de personalidad oscura, la desconexión moral y el comportamiento antisocial en estudiantes universitarios/as. Para ello, se adaptó la escala ATC de Gardner y Melvin, una de las más utilizadas para identificar el fraude, para su uso en la población española. Esta adaptación reveló una estructura unidimensional y una fiabilidad satisfactoria. Para el estudio se utilizó una muestra incidental de 912 participantes mayores de edad. Tras aplicar técnicas estadísticas descriptivas, análisis factorial y análisis de regresión lineal, los resultados mostraron que la mayoría de los y las participantes habían cometido fraude (62 % frente a 38 %). La variable del engaño se correlaciona significativamente con los cuatro rasgos oscuros de la personalidad y con la desconexión moral, y puede predecirse a partir de dos rasgos oscuros de la personalidad (puntuaciones positivas en maquiavelismo y puntuaciones negativas en sadismo) y de la variable de desconexión moral. Además, el comportamiento engañoso no está relacionado con los llamados comportamientos antisociales. Se discuten los resultados y su relación con el sistema educativo, y se establecen líneas de investigación futuras.

Palabras clave: comportamiento antisocial; desvinculación moral; escala ATC; personalidad oscura; trampa académica; validación de escala.

Introduction

Cheating by students when taking academic tests, known among other names as academic dishonesty, has been extensively studied and is recognized as an endemic problem in the university community. Statistics show that between 40% and 90% (although there are studies that establish that this percentage drops to 3%, and others raise the figure to 99%, as will be specified later) of university students admit to having cheated on their evaluations or exams, and the dimension of the problem continues to increase as new studies are carried out (Basalan et al., 2024; Davis et al., 1992; Pulvers and Diekhoff, 1999). Moreover, these numbers have been increasing during and after the period of the COVID-19 epidemic, which meant that many assessments have had to be conducted non-face-to-face (Melo et al., 2022).

A study by McCabe, Treviño and Butterfield (2001), in which they conducted a review of studies published in the last decade, showed that academic cheating continues to be a predominant attitude and behavior among students and, moreover, that some forms of cheating have increased significantly over the last 30 years (see also McCabe and Treviño, 1993). It seems that the main cause given by students is the fear of failing (Basalan et al. 2024).

Both college and high school students often openly admit that cheating on academic assessments is widespread (Davis et al., 1992; McCabe and Trevino, 1997; Murdock and Anderman, 2006). Moreover, many of them report that such behavior is common (Hollinger and Lanza-Kaduce, 1996; McCabe and Treviño, 1997). Even more serious can be considered the fact that many of these students think that cheating is totally acceptable behavior (Cizek, 1999; Evans and Craig, 1990a, 1990b; Schab, 1991).

The percentages of academic cheating range from 3% (Karlins and Podlogar, 1988) to 98% (Gardner et al., 1988). Sideridis et al. (2016) provides information from seven studies, which demonstrate how there is a significant variety in the prevalence of the problem depending on the countries; the highest percentage was obtained in a study conducted in New Zealand, with 91% (De Lambert et al., 2006), and the lowest in Saudi Arabia with 22% (Hosny and Fatima, 2014). In Japan, a result of 55% was obtained (Diekhoff et al., 1999), while in most countries the percentages were between 60% and 70% (Taiwan 62% - Lin and Wen, 2007-; Spain 57% - Puga, 2014-; Spain and Portugal 69% - Teixeira and Rocha, 2008-; United States 64% to 95% - McCabe et al., 2001 -).

Academic dishonesty or cheating is known to reduce the integrity of higher education institutions and produce highly incompetent human resources. For these reasons, many institutions have established mechanisms to control this practice. Sideridis et al. (2016) cite two reasons why addressing this issue is important for the whole society. First,

because cheating threatens the mission of developing leaders and good citizens along with ethical professionals; and second, because cheating is a serious threat to the efficiency of a country's educational system, as it distorts honest competition among students and jeopardizes our faith in the authenticity and meaning of the grades awarded by academic institutions. Fortunately, when students feel that their life and studies are aligned with their future aspirations, many of these circumstances tend to dissipate.

Scientific work on academic cheating has been carried out for years, perhaps one of the first being that of Hartshorne and May (1928), as well as, somewhat later, that of Campbell (1931). In 1994 a review of the literature was carried out by Ford and Richardson (1994). Four years later, this review was updated by Crown and Spiller (1998). It is also important to note the meta-analysis by Whitley (1998).

One of the main questions raised by this topic is whether cheating on university tests is an isolated behavior that does not imply antisocial behavior in other contexts of the individual's life, or whether it is a behavior that can be generalized to other environments, such as the workplace, or the commission of criminal actions in general. In any case, there is no doubt that it is an antisocial behavior, and that most of the work comes from the area of business ethics (Ford and Richardson, 1994), and specifically from business schools. Some researchers have tried to verify the relationship between academic cheating and antisocial behavior in general. Thus, for example, Beck and Ajzen (1991) demonstrated how cheating in the university context is significantly related to lying and shoplifting. Another author (Sims, 1993) has tested the relationship between performing unethical activities at work and cheating in studies.

This fact has led some university institutions to use automatic methods of deception detection. However, these systems are not always effective. For example, the work of Filighera et al. (2023) showed how to design ways to deceive such computer systems, and how to lower their prediction of deception by between 10 and 22 percentage points, which is a very considerable amount.

Furthermore, as Smith et al. (2022) point out, cheating behavior has increased in recent years due to rapid advances in technology, easy access to information, competitive pressures, and the proliferation of websites that provide students with access to information that allows them to circumvent the learning process.

The most common method of cheating in many countries is Contract Cheating, a procedure by which students contract the performance of tasks (e.g., jobs) with companies or individuals who perform them for them, later presenting them as their own (Rundle et al., 2023). It is estimated, according to Rundle et al. (2023), that approximately 3% to 11% of students in Higher Education cheat through this procedure. In any case, it should be remembered that, according to this figure, 90% of students do not use this cheating

procedure, and these authors point to individual student factors as the explanatory factors as to why this type of cheating is or is not used. Some authors (Curtis et al., 2021) have studied students' motivations for contract cheating, analyzing them according to the Theory of Reasoned Action. However, these authors show that it is necessary to consider as explanatory variables those of the so-called Dark Personality, as well as the psychosocial emotions of guilt and shame. All this leads them to conclude that programs should be created to modify students' attitudes.

Other studies relate students' ability to cheat on their exams or evaluations with personal characteristics associated with dishonesty, and other personality characteristics such as self-efficacy or moral development (Murdock and Anderman, 2006). Some research has studied the psychological effects of having signed cheating contracts, and thus, for example, Ferguson et al. (2023) have verified that those students who participate in commercial contract fraud and in cheating behaviors in general, experience significantly higher levels of stress.

A methodological element that complicates these works is the difficulty in defining deception accurately, separating it from the consequences (severity of the act, justification), so that it is still unclear how teachers and students view and define academic dishonesty (Schmelkin et al., 2008).

Although most research has focused on dishonesty, other studies have focused on the other view of the subject, the importance of honesty for students. Thus, for example, Xu et al. (2023) make a compilation of papers that highlight several beneficial aspects that derive from being authentic, such as achieving greater subjective well-being, having more harmonious interpersonal relationships, and better performance in the workplace or study. These authors emphasize the role of the motivational model of academic cheating, and the self-determination theory.

There is a factor that seems to be very important when it comes to cheating or cheating in academic activities, and that is the honor code, since it seems that in institutions that lack honor codes, the tendency to cheat is more common than in those where it exists (McCabe and Trevino, 1993), so that the perception of the behavior of peers who cheat after having signed the code, influences the decisions of other students.

From a theoretical point of view, Hirschi's (1969) Control Theory seems to be the most adequate to describe this deviance phenomenon. Social Control Theory attempts to identify the links that bind individuals to society and, therefore, control their behavior and attitudes. For Hirschi, the human being presents by nature a propensity towards deviance, and it is the different links with society that can inhibit this disposition.

Gottfredson and Hirschi (1990) proposed the General Theory of Crime, also known as the Self-Control Theory, which refers both to criminal acts and to those that deviate from the

norm, such as accidents, absenteeism at work or school, academic cheating and deception, substance abuse, family problems, etc. In general, it is established that individuals with low self-control do not feel inhibition, so they do not consider the consequences of their actions. As a consequence, these individuals have little self-regulation, which, together with a low level of self-control, would be a predictor of the commission of criminal acts and, likewise, of dishonest academic acts at the moment of opportunity (Arneklev et al., 1993; Britt and Gottfredson, 2003; Cochran et al., 1998; De Lisi, 2005; Williams and Williams, 2012; Ward et al., 2015).

These academic misbehaviors are related to Dark Personality traits and moral disengagement. Dark personality identifies four main components: Machiavellianism, subclinical psychopathy, subclinical narcissism, and everyday sadism (Paulhus and Williams, 2002). Individuals with high levels of these traits are associated with committing acts such as manipulation and lying, which is at the same time related to academic dishonesty (Esteves et al., 2021). But in order for a person to engage in dishonest actions, a process of moral disengagement must take place. It was Bandura who proposed the concept of moral disengagement (Bandura et al., 1996; Murdock et al., 2004). This is a psychological scheme by which moral authorizations can be disconnected from those behaviors that would be harmful, turning harmful acts into acceptable ones, and allowing immoral and antisocial behaviors to be carried out (Caprara et al., 2014). Moral disengagement mechanisms explain how people, despite being morally committed to their ethical principles, may engage in behaviors that violate those standards, avoiding any feelings of shame, conflict, or remorse (Farnese et al., 2011).

Several studies have shown a positive relationship between cheating and the neutralization of these acts (Stephens, 2017). According to socio-cognitive theory, the moral self-regulatory system, in addition to moral disengagement, is also influenced by self-efficacy; those subjects who score higher in self-efficacy perform less dishonest behaviors in their exams and tests. Moreover, those who are able to morally self-regulate their behavior, even in tempting situations or after being pressured by their peers, cheat less. It is the mechanisms of moral disengagement that allow students, from the earliest educational stages, to normalize dishonest academic behaviors (Fida et al., 2018).

Treviño (1986) created a model in which he states that cheating is related to the degree of moral development of each person. In fact, Crown and Spiller's (1998) review cites psychological variables such as locus of control, moral obligation, the pattern of type A behaviors, social desirability, anxiety, degree of neuroticism and extraversion, and achievement motivation. The most widely used personality questionnaire has been the Big Five Personality Inventory, and, for example, Amponsah et al. (2021), using a sample of Ghanaian students, demonstrated how three of the factors it measures (conscientiousness,

agreeableness, and neuroticism) are related to cheating, as well as two other variables, mastery and religiosity.

Another important factor detected is peer pressure. McCabe and Treviño (1993) assert that academic dishonesty is learned by observing peer behavior, and furthermore peer behavior provides normative support for cheating. The fact that others cheat may suggest that the non-cheater feels disadvantaged.

As opposed to Dark Personality, the concept of "Light Personality" has been established (Kaufman et al., 2019). This classification establishes the existence of three positive personality traits: Kantianism (treating people as ends unto themselves), Humanism (valuing the dignity and worth of each individual), and Faith in Humanity (believing in the fundamental goodness of humans). With respect to academic cheating behavior, Curtis (2023) administered both personality questionnaires (Light and Dark) to college students, along with a scale of feelings of entitlement in an educational setting. Levels of subclinical psychopathy and Machiavellianism were good predictors of involvement in cheating, albeit mediated by feelings of entitlement. Of the Light Triad traits, kantism predicted lower involvement in academic misconduct.

But, in any case, most of the research conducted from the field of Psychology focuses on the use of Dark Personality traits. Individuals with high levels of dark traits are associated with manipulative and lying behavior, suggesting associations with academic fraud (Lima-Esteves et al., 2021). However, cheating behavior is sometimes related to other personality systems. Thus, Greitemeyer and Kastenmuller (2023) investigated whether traits of the HEXACO personality system and the Dark Triad were related to cheating. The results showed how the traits Honesty-Humility, Conscientiousness, Openness to Experience (all negative), Machiavellianism, narcissism, and psychopathy (all positive) were good predictor variables of cheating behavior. Honesty-Humility was the variable that most predicted the use of Chat-GPT software as a cheating system. These authors, therefore, recommend the creation of psychological intervention programs with students that promote Honesty-Humility. In general, the intention of students who cheat is to avoid the work of studying, obtaining a grade as if they had made an effort; the work of He et al. (2023) approaches the problem in such a way, and demonstrates how subclinical psychopathy and Machiavellianism are directly related to cheating, while narcissism possesses a mediating value.

But we will delve more deeply below into the work focused on Dark Personality. Williams et al. (2010) concluded how individuals who report tendencies that match the dark personality triad (Machiavellianism, narcissism, and psychopathy) are more likely to plagiarize. Subsequent research, also including the trait of everyday sadism, verifies these findings (Rassin et al., 2024). Some studies, however, have only detected a relationship between cheating and one of the four traits, Machiavellianism, albeit finding a

modulating variable, moral disengagement (Lingán-Huamán, 2024). Other researchers have not emphasized this trait.

Unbridled achievement mediates these associations. Consequently, some personality traits evoke an absolute obsession with achievement, often to the detriment of authenticity in relationships, fostering an inclination to plagiarize. Consequently, personality traits more oriented towards moral virtues decrease the incidence of plagiarism. Thus, people who prioritize moral considerations (Lau et al., 2013), strive to observe their moral principles (Lewis and Bu, 2011) and demonstrate advanced moral reasoning (Szabo and Underwood, 2004), are much less inclined to plagiarize. The same is true for those who are more concerned with fairness (Kuntz and Butler, 2014), and who believe that everyone should strictly observe social norms (Feather, 1996).

All dark personality traits are related to carrying out bad acts in academic activities, but quite a few investigations consider that it is the level of subclinical psychopathy the most prominent, and at the same time a relationship with antisocial behavior in general can be observed (Lima-Esteves et al., 2021; Ternes et al., 2019). But not always the predominant "dark" variable is subclinical psychopathy. Verissimo et al. (2022) found in their research that students with higher Machiavellianism scores, as well as those who scored higher in psychological well-being, perceived greater peer cheating, and expressed little importance to cheating, were the ones who reported cheating more often. However, the variables sex and age were not significant predictors.

These results with respect to the sex variable coincide with those of Lingan-Huaman et al. (2024), who also express that only Machiavellianism has a significant and consistent influence on all dimensions of academic dishonesty in both males and females. In this study, the results indicate that subclinical psychopathy also does not differ between males and females, but falsification was only manifested in males. Machiavellianism, in turn, relates to the ability to manipulate others with the intention that they will cheat on their exams and achieve some personal gain (Turnipseed and Landay, 2018). Gender is a determinant of cheating, with males being significantly more likely to engage in dishonest behavior (Amponsah, 2021).

Scoring high on dark personality traits is not only related to a greater likelihood of cheating on academic tests, but also to showing more tolerant attitudes towards these acts (Muñoz and García, 2017). On the other hand, there is a relationship between dark personality traits and feelings of entitlement (Curtis et al., 2022). Academic entitlement is composed of two facets, entitled expectations and externalized responsibilities, and it is the latter that have the strongest relationship with dark personality traits, becoming mediating variables. This has led the authors to suggest that academic misconduct can be reduced by modifying students' beliefs about academic entitlement.

In turn, dark personality traits are also related to moral disengagement mechanisms, and in turn to antisocial behavior, and these are also related to dishonest academic behaviors. Lingan-Huaman et al. (2024) demonstrated how moral disengagement affects forgery in both males and females, but cheating on exams occurred only in the male group, and plagiarism only in the female group. Finally, the mediating role of moral disengagement between the Dark Triad effect and manifestations of academic dishonesty was not demonstrated.

How to measure academic cheating? In order to determine attitudes towards cheating in academic and school examinations and assessment tests, Gardner and Melvin (1988) created a unidimensional scale that can be considered the most widely used in this regard, the ATC (Attitude toward cheating) scale of Gardner and Melvin (1988), which consists of a list of 34 statements written as tolerance and intolerance on various events and issues of academic dishonesty. Kam et al. (2020) showed that the scale is not unidimensional, although most authors continue to use a single factor. The factors noted by these authors were: conservativeness in the cheating accusation, justification of cheating, and perceived immorality of cheating students.

The problem of this research is multiple:

- In accordance with the theoretical approach outlined above, the aim is to apply to the Spanish population the most widely used scale for determining cheating, such as that of Gardner and Melvin, and to determine whether it is unidimensional, or how many factors compose it.
- It is also intended to verify whether there is a relationship between dark personality variables (Machiavellianism, subclinical narcissism, subclinical psychopathy and everyday sadism) and the degree of moral disconnection, and cheating.
- We aimed to determine whether dark personality and moral disconnection variables are predictors of cheating behavior.
- Finally, the aim is to determine whether cheating behavior can be considered similar to antisocial behaviors that affect daily life.

It is hypothesized that:

- H1: The majority of the students in the sample positively accept cheating, with a percentage of approximately 60%.
- H2: It is possible to adapt the cheating scale to the Spanish population, and that it will meet the relevant academic requirements.

- H3: There will be a relationship between cheating and the four factors of dark personality and moral disconnection, and the strongest relationship will be with the Machiavellianism variable.
- H4: The dark personality variables Machiavellianism, subclinical psychopathy, subclinical narcissism, and everyday sadism, as well as the variable moral disengagement, are all predictors of cheating behavior.
- H5: Cheating behavior will have a high relationship with antisocial behavior.

Method

Participants

Participants were selected incidentally. University students participated in the study, seeking individuals in exchange for a small non-monetary academic bonus. The requirements to participate in the study were to have completed secondary education and to be of legal age (18 years old). The sample consisted of 912 subjects, 38% of whom were male and 62% female, between 18 and 65 years old (*mean* 36.89, *sd* = 16.89). All participants filled out an informed consent form, which explained the purpose of the research, as well as how to revoke this consent at any time they wished. All agreed to participate in the study.

Instruments

Subjects who agreed to participate signed an informed consent and completed a virtual questionnaire. The questionnaire included, firstly, questions about sociodemographic variables such as age, sex, gender, and university studies (completed or not). In addition, the following tests were included:

Scale for measuring attitude toward cheating (Gardner and Melvin Scale, 1988)

It is a Likert-type scale with 5 response alternatives, from strongly disagree to strongly agree. It comprises 34 items. Example, first item of the scale: "If, during an exam, a student is looking at another student's answer sheet, the teacher should not say anything until the class is over, to avoid embarrassing the student". The reliability and validity results are those that have been determined as a way of creating the scale that is the object of this research, so they are listed in the "Results" section. Brodowsky et al. (2020) reported an acceptable Cronbach's alpha value of 0.74. Other studies obtained a Cronbach's alpha of 0.64 (Amponsah et al., 2021; Pallant, 2013).

Short Dark Tetrad Questionnaire (SD4) (Paulhus et al., 2020)

It is a Likert-type scale of 28 items and five response alternatives, from 1 (strongly disagree) to 5 (strongly agree): it measures the dark traits that compose the dark tetrad:

Machiavellianism (manipulative and calculating attitudes to achieve personal goals at the expense of others), Subclinical Narcissism (feeling superior to others, as well as dominant behaviors and seeking admiration from others), Subclinical Psychopathy (lack of empathy towards others and impulsivity) and Everyday Sadism (enjoying provoking or seeing harm in other people). Each subscale has seven items. An example item of the questionnaire is: "It's not wise to let people know your secrets" (Item 1, Machiavellianism subscale). Reliability scores for the four scales in this study were acceptable (Machiavellianism: α = .82, subclinical narcissism: α = .90, subclinical psychopathy: α = .88 and everyday sadism: α = .84).

PMD scale of abbreviated moral disengagement (Moore et al., 2012)

This is also a Likert-type scale, in this case composed of 8 items, one for each of the dimensions of moral disconnection (Moral Justification, Euphemistic Labeling, Advantageous Comparison, Displacement of Responsibility, Diffusion of Responsibility, Distortion of Consequences, Dehumanization, and Attribution of Blame), with seven response alternatives, from 1 (strongly disagree) to 7 (strongly agree). An example item is: "It is okay to spread rumors to defend those you care about." (Item 1, Moral Justification subscale). Given that a single score is obtained by adding the eight items, it is not possible to calculate reliability in our work, so we refer to the reliability found by the creators of the scale and to subsequent studies.

Determination of whether the respondent has cheated on academic tests

To determine this, a question was included: “I have never cheated in exams.” It is specified that the response is collected in a five-point Likert format and dichotomized (always and affirmative responses allow for the calculation of those who have cheated, as opposed to the rest).

Procedure

A questionnaire was created that encompassed all of the above tests. A time period was specified for collecting the information, from September to December 2023, both months included.

The data were analyzed using the IBM Microsoft SPSS statistical package, version 26. Descriptive statistics were calculated for all variables, including Pearson correlations. A Factor Analysis was performed, with principal component factorization method and Varimax rotation, to check whether the Cheating scale was uni or multidimensional. The reliability of the Cheating scale was tested using Cronbach's alpha index. Pearson correlations were also calculated between the factors of the proposed scale, the dark personality factors and a global index of moral disconnection. An antisocial behavior scale was created, composed of 19 items. It was also checked whether it was uni- or multi-dimensional (by means of

an EFA -Exploratory Factor Analysis-), and its reliability (Cronbah's Alpha) was also checked accordingly. Finally, the correlation between the Cheating and Antisocial Behavior measures was verified.

Before starting the questionnaire, participants were presented with a brief description of the study and asked to give their consent. They were informed that they could choose not to click the "send" tab at the end of the questionnaire, and that they could withdraw their consent at any time by sending an email to the address provided.

Prior to conducting the research, permission was sought from the Ethics Committee of the University of the Universidade da Coruña (December 18, 2023, 167/23). The research complies with the ethical criteria of the Helsinki protocol and the American Psychological Association.

Data are availableat: https://osf.io/8uwz5/?view_only=65208fdc918448b889d9a6be6e00d327

Results

Descriptive statistics were calculated for all the variables analyzed. Although it will be verified later, descriptive statistics were also calculated for the Cheating variable under the assumption of unidimensionality, and also for antisocial behavior. These results are shown in Table 1.

Table 1

Descriptive statistics (N = 912)

	Minimum	Maximum	*M*	*SD*
Machiavellianism	7,00	35.00	20.77	5.07
Subclinical narcissism	7,00	35.00	18.35	5.60
Subclinical psychopathy	7,00	35.00	12.41	5.33
Everyday sadism	7,00	35.00	14.09	5.80
LDC	9,00	59.00	23.07	8.20
Cheating	34,00	170.00	90.63	15.60

First, we tried to determine the degree of acceptance of cheating behavior among the people in the sample. The text they were asked was: "I have never cheated in exams", and the response alternatives were, on a Likert-type scale, from 1 (strongly disagree) to 5 (strongly agree), with the response alternative being 3 (neither agree nor disagree). Subjects who answered 1 or 2 were considered to be in favor of cheating, and those who answered 4 or 5 were considered to be against it. To calculate the percentages, the percentage of

the intermediate response was eliminated. The results were as follows: 62.26% of the participants answered in favor of cheating, while 37.74% were against.

Next, an attempt was made to verify whether the cheating scale is uni or multidimensional. The EFA results confirm that there is only one factor in this scale.

The Kaiser-Meyer-Olkin measure of .856, showing that the sample was adequate. Bartlett's test of sphericity was statistically significant (χ^2 (595) = 6950.607, p < .001). The results confirmed unidimensionality.

An attempt was also made to determine whether it was possible to create an index of antisocial behavior based on the 35 items that were developed for this purpose. The Kaiser-Meyer-Olkin measure of .832, showing that the sample was adequate. Bartlett's test of sphericity was statistically significant (χ^2 (595) = 6251.394, p < .001).

The Pearson correlations between the four Dark Personality variables, the Moral Disengagement index, the Antisocial Behavior index and the Cheating index were then determined. These results are shown in Table 2.

Table 2

Pearson correlations and significance of correlations

	Machiavellianism	Subclinical narcissism	Subclinical psychopathy	Everyday sadism	Moral Disengagement
Subclinical narcissism	.49**				
Subclinical psychopathy	.30**	.50**			
Everyday sadism	.41**	.48**	.66**		
Moral Disengagement	.30**	.25**	.30**	.39**	
Cheating	.25**	.17**	.11**	.09**	.28**

As can be seen in Table 2, there are multiple significant correlations. All the Dark Personality variables and the Moral Disengagement variable correlate significantly with both Cheting and Antisocial Behavior. However, the variable cheating does not correlate significantly with Antisocial Behavior. Furthermore, we would like to highlight that although the correlations between all dark personality and moral disengagement variables and the "cheating" variable are highly significant, some are more significant than others, and the correlation with "everyday sadism" is the lowest. Given that there was no significant correlation between the cheating variable and the antisocial behavior index, the introduction of antisocial behavior in the following analyses was discarded.

A linear regression was then calculated taking cheating behavior as the dependent variable and the other variables as criteria (Table 3). The linear regression analysis revealed a statistically significant model (T (29,64) = 47.57, $p < .001$), with an adjusted R^2 of 0.12. The regression coefficient for Machiavellianism was found to be 0.621, with a standard error of 0.115; for everyday sadism was found to be -0.407, with a standard error of 0.121, and for Moral Disengagement was found to be 0.479, with a standard error of 0.065. The results of the linear regression can be seen in Table 3.

Table 3

Linear regression used as dependent variable Cheating

Model	Unstandardized coefficients		Typified coefficients	*t*
	B	*EE*	β	
Constant	67.73	2.28		29.64**
Machiavellianism	.62	.11	.20	5.40**
Subclinical narcissism	.15	.11	.05	1.40
Subclinical psychopathy	.14	.12	.05	1.14
Everyday sadism	-.40	.12	-.15	-3.37**
Moral Disengagement	.47	.06	.25	7.33**

** $p < .001$

Table 3 shows that there are three significant predictor variables of cheating behavior (Machiavellianism, Everyday Sadism, and Moral Disengagement), although Everyday Sadism has a negative B value. In short, of the four Dark Personality variables, cheating behavior is predicted by the presence of Machiavellianism and everyday sadism, as well as by the presence of Moral Disengagement.

Discussion

The data obtained can be summarized as follows:

- The majority of participants are in favor of cheating (62% vs. 38%). Therefore, H1 is fulfilled.
- It is possible to adapt the Gardner and Melvin (1988) cheating scale to the Spanish population. This scale is unidimensional, and its reliability is adequate. Therefore, H2 is fulfilled.

- The cheating variable correlates significantly with the four dark personality traits and with moral disengagemet. It has also been verified that the highest correlation occurs with Machiavellianism. Therefore, H3 is fulfilled.
- The cheating variable can be predicted from two Dark Personality traits: positive scores in Machiavellianism, and negative scores in sadism; and from the Moral Disengagement variable. Therefore, hypothesis 4 is only partially fulfilled.
- Cheating behavior is not related to the so-called antisocial behaviors in terms of its explanatory mechanisms. Therefore, H5 is not met.

The percentage of people who positively accept cheating is worrying (62%) but coincides with the two previous investigations that have been carried out so far (Puga, 2014; Teixeira and Rocha, 2008), and this percentage is very similar to that of countries such as Taiwan or the United States (Lin and Wen, 2007; McCabe et al., 2001). This shows that we are facing a global and generalized problem, and it is urgent to find solutions to it. In any case, more of the population is in favor of considering positive cheating, which undermines the educational system and the achievement of good professionals in the future (Sideridis et al., 2016). Moreover, it is a behavior that is not hidden from others or society, becoming normal and normalized (Davis et al., 1992; McCabe and Trevino, 1997; Murdock and Anderman, 2006). It is perhaps for this reason that people do not consider it as antisocial behavior, and that is why they do not perceive it as affecting society as a whole, not even other people who are examined at the same time; these results are opposed to works such as those of Beck and Ajzen (1991), or Sims (1993).

This research agrees with many others that Dark Personality traits are highly related to cheating behavior. However, this relationship is not found, as predicted by Williams et al. (2010) or Rassin et al. (2024), with all Dark Personality traits, but primarily with Machiavellianism (as highlighted by Verissimo et al., 2022), and especially with Moral Disengagement (Lewis and Bu, 2011; Lingán-Huamán, 2024; Szabo and Underwood, 2004).

Although in our case we started from the idea that cheating behavior could be framed within antisocial behavior, the results have not supported this thesis, contrary to what has been verified by Lima-Esteves et al. (2021), or Ternes et al (2019). Only by examining the number of people who are in favor of cheating tactics, it is necessary to affirm that cheating is a normalized behavior in society, and therefore it is not possible to consider it a social deviation.

We believe that one of the strengths of this work is to have adapted the scale of Gardner and Melvin (1988) to the Spanish population. Although this scale has been elaborated quite some time ago, it retains its predictive value, and all its items are suitable

for the measurement of academic cheating. Contrary to Kam et al. (2020), we have not verified that the scale is multidimensional, but that it measures a single dimension.

This research has a number of limitations. The first is the fact that the sample is incidental; future research should undoubtedly focus on collecting samples drawn by random procedures. Contrary to what the title of this article might suggest, the sample used in this research comprises not only university students, but also adults who were asked whether they had ever cheated in an academic test. This suggests that there may be an issue with their memory of past cheating, and the accuracy of that memory. We believe that future research should take this possible bias into account.

It should also be noted that answering questions about cheating on academic tests raises issues of social desirability. We recommend that future research takes this issue into account by incorporating a social desirability test into the instruments.

On the other hand, we believe that future research should verify the relationship between cheating and traits of the so-called "bright personality"; a more complete perspective will undoubtedly lead to a better understanding of the phenomenon. In any case, we believe that the results of this work provide important scientific advances in this topic.

Although this type of deception cannot be characterized as antisocial behavior, we want to emphasize that it is not ethically or morally acceptable. Furthermore, its growth and persistence suggests a significant problem for academic institutions and society as a whole.

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