Cheating Motivation Scale: Evidence Of Validity And Reliability

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Abstract
This study aimed to adapt the Motivation to Cheat Scale (MCS) to the Brazilian student context, gathering evidence of validity based on its internal structure. Two studies were carried out. In Study 1, the 20 items of the MCS were translated into Portuguese and evaluated semantically by ten students, who consider them sufficiently understandable. Subsequently, seeking to know the internal structure of the measure, there was the participation of 212 high school students (M = 16.10 years; SD = 1.02). An exploratory factor analysis indicated the existence of two factors *(search for success* and *moral initiation*), which were saturated 18 items. O Study 2 aimed to verify this factorial structure. Logo, the 18 items answered by 229 high school students (M = 16.20 years; SD = 1.23). A confirmatory factorial analysis confirmed bifactorial adjustment. MCS has evidence of validity based on internal structure, which can be used in research outside of Brazil.
Keywords: students; fraud; antisocial behavior; measure; psychometry.

Escala de Motivação para Trapacear: Evidências de Validade e Confiabilidade

Resumo
Objetivou-se adaptar a *Escala de Motivação para Trapacear* (*EMT*) para o contexto estudantil brasileiro, reunindo evidências de validade baseadas em sua estrutura interna. Realizaram-se dois estudos. No Estudo 1, os 20 itens da EMT foram traduzidos para o português e submetidos à avaliação semântica de dez estudantes, que os consideraram suficientemente compreensíveis. Posteriormente, buscando-se conhecer a estrutura interna da medida, contou-se com a participação de 212 estudantes do Ensino Médio (M = 16,10 anos; DP = 1,02). Uma análise fatorial exploratória indicou a existência de dois fatores (*busca de realização* e *inibição moral*), nos quais saturaram 18 itens. O Estudo 2 visou comprovar essa estrutura fatorial. Logo, os 18 itens foram respondidos por 229 estudantes do Ensino Médio (M = 16,20 anos; DP = 1,23). Uma análise fatorial confirmatória comprovou o ajuste bifatorial. A EMT apresentou evidências de validade baseadas na estrutura interna, podendo ser utilizada em pesquisas no Brasil.
Palavras-chave: estudantes; fraude; comportamento antissocial; medida; psicometria.

Escala de Motivación para Engañar: Evidencias de Validez y Fiabilidad

Resumen
Este estudio tuvo como objetivo adecuar la Escala de Motivación para Engañar (EME) al contexto estudiantil brasileño, recogiendo evidencias de validez a partir de su estructura interna. Se realizaron dos estudios. En el Estudio 1, los 20 ítems de la EME fueron traducidos al portugués y sometidos a la evaluación semántica por parte de diez estudiantes, quienes los consideraron suficientemente comprensibles. Posteriormente, buscando comprender la estructura interna de la medida, participaron 212 estudiantes de la Educación Secundaria (M = 16,10 años; DS = 1,02). Un análisis factorial exploratorio indicó la existencia de dos factores (búsqueda de realización e inhibición moral), en los que se saturaron 18 ítems. El Estudio 2 tuvo como objetivo verificar esta estructura factorial. Por lo que, los 18 ítems fueron respondidos por 229 estudiantes de Secundaria (M = 16,20 años; DS = 1,23). Un análisis factorial confirmatorio demostró la adecuación bifactorial. La EME ha revelado evidencias de validez basadas en la estructura interna, pudiendo ser utilizada en investigaciones brasileñas.
Palabras clave: estudiantes; fraude; comportamiento antisocial; la medida; psicometría.

Introduction

School performance is an important mechanism for achieving success, prestige, and pride, and commonly happiness (Fonsêca, 2008). In the search for greater insertion, higher levels of satisfaction, academic notoriety, and even for monetary rewards, students may engage in alternative strategies to achieve their desires, including cheating (Alem, Eggert, Kocher & Ruhinduka, 2018; Anderman & Murdock, 2011; Klein, Thielmann,

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Hilbig & Zettler, 2017). The practice, even though it brings negative implications, and compromises the teaching-learning process, is relatively frequent in the academia (Jonason, Foster, Kavanagh, Gouveia & Birkas, 2018; Pimenta & Pimenta, 2015), and is observed from basic education to graduate studies (Barbaranelli et al., 2018; Klein, Levenburg, McKendall & Mothersell, 2007).

In fact, for many reasons, cheating is considered a problem with notable impacts in various spheres (personal, social, labor, and educational) (Arnold, 2016; Thielmann & Hilbug, 2018). In the context of school, academic cheating is considered by the literature as a set of inappropriate behaviors practiced by school going individuals (Lewellyn & Rodriguez, 2015). The behaviors are influenced by aspects such as: the probability of being discovered, the potential level of punishment (Hochman, Glöckner, Fiedler & Ayal, 2015; Mazar, Amir & Ariely, 2008), the internalization (or not) of the social norm for not cheating (Pruckner & Sausgruber, 2013), and intrapersonal aspects (e.g. values; Gouveia, 2013; Soares et al., 2016).

This type of unethical conduct (cheating) covers various types of fraudulent acts including: (1) use of unauthorized materials in academic activities - exams and assignments; (2) falsification of information, bibliographic sources and/or results; (3) copying ideas without attribution of authorship (plagiarism); and (4) assisting others in acts of academic dishonesty, such as collaboration in activities designed to be developed individually or sharing of responses ("copying") in tests (Avelino & Lima, 2014). In addition, the consequences of cheating may not be limited to the immediate context of when it occurs for the first time. There is evidence that the act of cheating in the academic context can predict future dishonest acts, as well as promote recurring fraudulent behavior in later opportunities, such as in professional life (LaDuke, 2013).

With the increase in students and school system demands, concern over the high rate of cheating behavior grows. According to a survey of 40,000 American students by the Josephson Institute of Ethics, more than half of school-age youths admitted to having cheated in some way in tests in the previous year (Novotney, 2011). This scenario, however, does not seem to be exclusive to the US. Similar results, even more worrying, have been observed in the Brazilian context, in which 71.9% of the students interviewed in a survey admitted having already acted dishonestly in an academic environment (Unicarioca, 2015).

In view of what has been observed in the context of today's schools, various studies aimed at understanding cheating behavior during exams and other academic activities have been performed (Giluk & Postlethwaite, 2015). The results have been consistent in many countries, such as the United States (Anderman & Won, 2017), Hungary (Orosz et al., 2015), Colombia (González-Arango, Lópes-Ardila & Corredor, 2020), and Brazil (Pimenta & Pimenta, 2015). Specifically, it has been observed that a significant portion of the students not only claimed to have already committed acts of academic cheating, but also defended it (on certain occasions) as an admissible and legitimate practice.

The students' conception of cheating likely guides their behavior (LaDuke, 2013). The motivations for cheating are diverse and some may recur more often, such as academic achievement, not recognizing moral codes, and little concern with punishments or consequences (Miller, Shoptaugh & Wooldridge, 2011). In this sense, knowing the reasons why individuals become motivated to cheat is an important factor in understanding their conduct, and may help support intervention proposals to prevent and restrain (Anderman & Murdock, 2011; Anderman & Won, 2017). The initial step to achieve this goal is to develop and/or validate psychological measures aimed at assessing the phenomenon in the student context.

In the international scenario, measurement of academic cheating is performed mainly through psychometric measures, such as the *Attitudes towards Academic Cheating Scale* (Gardner & Melvin, 1988), the *Cheating in the Academic Context Scale* (Anderman, Griesinger & Westerfield, 1998), and the *Cheating Motivation Scale* (Paulhus, Williams & Nathanson, 2004). In the national context, for the most part, investigations concerning this construct are performed using questionnaires with open questions (Pimenta & Pimenta, 2015), closed questions (Avelino & Lima, 2017) or both open and closed questions (Guedes & Gomes Filho, 2015).

It should be noted that the *Cheating Motivation Scale* (CMS; Paulhus et al., 2004) has received attention in the international literature (Johnson, 2015). For example, Williams, Nathanson, and Paulhus (2010) used it to test the hypothesis that the relationship between psychopathy and academic dishonesty is mediated by the motivation to cheat. In the context of personality studies, Johnson (2015) also used it to understand the relationship between traits, motivation for cheating, and externalization problems (e.g., aggressive behavior, alcohol, and drug use, and academic misconduct).

Despite the existence of an instrument already validated for the Brazilian context, i.e. the *Self-Reporting Cheating Scale - Admission* (Gouveia et al., 2018), validation of the CMS is needed since it provides a better causal understanding of this socially deviant behavior. In a student context, it would favor the proposition of future intervention measures aimed at preventing these fraudulent practices (Fida et al., 2016). In addition, the CMS is a quick and low cost measure, which for research purposes makes it a promising instrument.

Although in some countries, the CMS scale has been used as a psychometrically appropriate instrument to assess motivations for cheating, no study has been found in Brazil in which it has been used. In view of this, our study aims to translate and verify the psychometric indicators of CMS in the Brazilian academic context, gathering evidence of validity based on its internal structure. To this end, two empirical studies were carried out with participation of school-age youth enrolled in public and private high schools. The main hypothesis is that the set of CMS items should present adequate psychometric properties, such that the measure can be used in Brazilian studies on academic cheating.

Study 1. Adapting the *Cheating Motivation Scale* (CMS)

This study sought to translate the CMS into the Brazilian context, and to seek validity indicators based on its internal structure. Specifically, four steps were taken, namely: 1) an English-Portuguese translation by a bilingual specialist; 2) a reverse translation (Portuguese-English); 3) a pilot study to semantically validate the measure; and 4) application of the instrument to a sample of students.

Method

Participants

Different sampling modes were used to develop this study. Two bilingual Brazilian psychologists, with proven fluency in the English language, participated in the translation. In the pilot study, in turn, in order to ensure the understanding of the semantics of the measure by individuals at an intermediate level of education, ten students from the 9th grade in an elementary public High school in the city of João Pessoa (PB) participated. After the initial process of translation and semantic adaptation was completed, the instrument was applied to 212 high school students, almost equally distributed according to sex (51.5% women) and type of school (50.9% students from private schools), and with ages varying from 14 to 20 years (M = 16.10; SD = 1.02), being mostly single (90.8%), Catholic (45.4%), and socioeconomically middle class (57.1 %). As a convenience sample it involved those present in the classroom who agreed to complete the instrument.

Instruments

The CMS is an instrument developed by Paulhus et al. (2004) to evaluate a set of motivations for practicing dishonest acts in a student context. In summary, the scale originally proposed by the authors brought together 20 items, to be answered based on a five-point Likert scale (1 = *Strongly disagree* to 5 = *Strongly agree*). The items were presumed and grouped into three motivating factors for cheating or not: *moral inhibition* (α = 0.54; *eigenvalue* = 1.44; e.g., *Being honest and morally correct is my highest priority*), *fear of punishment* (α = 0. 51; *eigenvalue* = 1.91; e.g., *I know how to hide my cheating*), and *search for success* (α = 0.71; *eigenvalue* = 5.32; e.g., *I cheated to help a friend pass a discipline*). These factors together explained 43.3% of the total variance in the original study. In view of the three-factor structure observed in the study by Paulhus et al. (2004), the internal consistency indexes for the present sample were: *moral inhibition* (α = 0.69); *fear of punishment* (α = 0.57); *search for success* (α = 0.67).

Procedures

The project was submitted for evaluation by a Research Ethics Committee at a public university, complying with recommendations of the National Health Council (Resolution nº 510/16; CAAE: 50367115.3.0000.5188). The methodological procedures for translation and cross-cultural adaptation of the instrument for the Brazilian context were performed in accordance with the recommendations of Borsa, Damásio, and Bandeira (2012). The first stage included the translation of the CMS into the target language, in this case, Brazilian Portuguese. This process was carried out by a Brazilian translator with proven proficiency in English. At this stage, the translator, who is also a psychologist, worked towards Brazilian Portuguese adequacy, and considered the linguistic and cultural specifics of the student population of this country.

Completing this initial step, and seeking to provide additional quality to the measure, a reverse translation into the original language (back translation) was carried out in collaboration with another Brazilian translator, also with proven proficiency in English. The objective of this step was to assess the extent to which the

already translated version reflected the original version in terms of content (Borsa et al., 2012). The authors of this article compared this version in English with the original version of the CMS, demonstrating its syntactic and semantic equivalence. Thus defined, this experimental version in Portuguese was subjected to semantic validation in a pilot study.

The pilot study involved ten youths, students from the 9th grade in a public school, and was the last stage for the CMS's cross-cultural adaptation. The objective of this stage was to ratify whether the language would be appropriate for the target audience, in this case, young people of high school age. We used a sample of elementary school students to ensure that the content was satisfactorily clear to students at an intermediate school level.

For the pilot study, the researchers contacted a public school in the city of João Pessoa (PB) requesting permission to apply the instrument to students in an elementary school class. After authorization from the school board, the voluntary participation of young people in the classroom was requested. Those who agreed to collaborate signed an Informed Consent Form and were given access to the questionnaire, which contained the CMS. The researchers asked students to read each of the CMS items and evaluate them semantically. Specifically, using a Likert scale ranging from 1 (*Not very understandable*) to 4 (*Very understandable*), the students responded as to the clarity of the language used for each item.

They were instructed to signal any doubts or difficulties in understanding or interpreting the statements, and further, could communicate individually to the researcher at the time of returning the questionnaire. In the classroom, no student related problems in understanding the content of the sentences, and the degree of clarity of the measure was attested to by the average score (M = 3.04; SD = 0.61). Thus, no changes were made and the final version is available upon request.

Finally, for data collection, the researchers contacted public and private schools in the city of João Pessoa (PB) requesting permission to conduct the study. The directors were informed about the research objectives, the instrument, and the data collection procedure. After school board authorization with the signature of a term of responsibility for each principal, the researchers requested the voluntary collaboration of the students in the classroom. On the occasion, the students were informed about the research, the confidentiality of their responses, and that they would not suffer any penalty if they refused to participate.

In compliance with the recommendations of the National Health Council (Resolution No. 510/16), those who expressed an interest in collaborating received a Free and Informed Consent Form to be signed by their parents and/or guardians for authorization. The students were informed that they should bring the signed form on the day after, and at which point the research would start. Only those who had been formally authorized by their parents, and had signed the Informed Consent Form in the classroom were given access to the questionnaire. On average, the time needed to complete the questionnaire was 20 minutes.

Data analyses

The data were analyzed using the SPSS program (Statistical Package for the Social Science; version 20). In addition to descriptive statistics (central tendency, dispersion, and frequency distribution), the discriminative power of the items was analyzed (Student's t test), with exploratory factor analysis, and calculation of Cronbach's alpha coefficients and homogeneity ($r_{i.i.}$ = average inter-item correlation).

Results

First, it was decided to check the discriminative power of the items, considering internal criteria-groups (lower and upper) as defined from the empirical median (Md = 2.55) of the total score of the CMS respondents (Pasquali, 2003). Using the Student t test, it was found that the set of items in this scale discriminated satisfactorily between the two groups. Thus, all of the items were kept.

The factorability of the inter-item correlation matrix was then checked, and shown to be adequate [*KMO* = 0.83; *Bartlett's Sphericity Test* χ^2 (190) = 1,195.07, p <0.001]. An exploratory factor analysis (main axis factoring) was performed without fixing the number of factors or the type of rotation. Traditional criteria were employed to define the number of factors to retain: Kaiser (1960; eigenvalue equal to or greater than 1), Cattell (1966; graphic distribution of eigenvalues, defining the number from the inflection point of the curve), and Horn (1965; parallel analysis, simulation of eigenvalues and comparison with empirical ones).

The Kaiser criterion (1960) pointed to the existence of up to six factors (eigenvalues: 5.33; 2.14; 1.34; 1.21; 1.12; 1.06). The Cattell criterion (1966) suggested the extraction of two or three factors. The results thus suggested the possibility of extracting

from two to six factors. To resolve any doubts, it was decided to perform parallel analysis (Horn's criterion, 1965). The same parameters as the empirical database were accepted, that is, 212 participants and 20 items, realizing-performing 1,000 simulations. Comparing the six eigenvalues previously listed with those simulated by Horn's criterion (1965) (with the simulated values: 1.58; 1.47; 1.39; 1.32; 1.25; 1.20), it was noticed that the third simulated eigenvalue was higher than that of the empirical database. This criterion suggested retention of two factors.

Based on this, an exploratory factor analysis was performed fixing the extraction at two factors, adopting *oblimin* rotation, and considering a minimum saturation of | 0.40 | to retain the item in the factor. As can be seen in Table 1, two of the items were not saturated by any factor: 3 (*I did not study for a test*) and 4 (*I cheated to get [or keep] a school grant*), and did not meet the minimum saturation required. The remaining 18 items were distributed into the two factors, which together explained 31.0% of the total variance; being defined as follows:

Factor I. This factor was called *search for success*, bringing together 13 items whose saturations ranged from 0.42 (Item 10. *I feel pressured by my family and other people to get good results*) to 0.64 (Item 12. *I cheat to get high marks*). Its eigenvalue was 5.33, explaining 23.6% of the total variance, with a Cronbach's alpha of 0.84 and homogeneity of ($r_{i.i}$) of 0.49.

Table 1.
Factor loadings on motivation for cheating scale

Items	Factors	
	I	II
12. I cheated to get a high grade	**0,64**	-0,29
07. I cheated to make sure I got a passing grade in a course.	**0,60**	-0,29
16. I cheated by helping a friend get a better grade	**0,59**	-0,06
09. The test-writing surroundings make it easy for me to cheat (e.g., the seats are too close to each other).	**0,54**	0,14
05. Everyone else does it.	**0,53**	-0,02
13. Professors usually make the exams too difficult.	**0,52**	0,15
06. I'm not concerned about the punishments for cheating (suspension, expulsion).	**0,52**	-0,05
02. I know how to hide my cheating	**0,51**	-0,28
15. It was spontaneous cheating (i.e., did it without planning on it ahead of time).	**0,50**	-0,10
14. The punishments that universities use to warn students are just empty threats.	**0,47**	0,09
11. I don't think my cheating will be detected.	**0,47**	-0,15
01. I cheated because of the competitive atmosphere at my school/university.	**0,44**	-0,07
10. I felt pressured to achieve by my family or other people.	**0,42**	0,11
17. I didn't cheat because I pride myself in being a good and trustworthy person.	-0,19	**0,70**
20. I am not the kind of person who cheats at school/university.	-0,17	**0,65**
19. I didn't cheat because I might get caught.	0,11	**0,51**
08. Being honest and moral is a high priority for me.	-0,04	**0,48**
18. You don't have to cheat to be a winner.	0,07	**0,44**
Number of items	13	5
Eigenvalues	5,33	2,14
% Explained variance	23,6	7,3
Cronbach's alpha	0,84	0,70
Mean score	2,60	3,55
Amplitude	4,00	3,60

Factor II. It seemed pertinent to define this factor as *moral inhibition*, having gathered five items with saturations ranging from 0.44 (Item 18. *You don't have to cheat to be a winner*) to 0.70 (Item 17. *I don't cheat, because I value being a good and reliable person*). With its proper eigenvalue of 2.14, this factor explained 7.3% of the total variance, with a Cronbach's alpha of 0.70 and homogeneity at 0.47.

In summary, the version of the CMS adapted to the Brazilian context proved to be parsimonious, bringing together 18 items distributed in two factors, which presented satisfactory reliability indicators (i.e., $\alpha > 0.70$; $r_{i.t} > 0.40$). However, it remained to be seen whether this factorial structure was the most appropriate when comparing it to alternative models, such as a general cheating motivation factor model, and a three factor model – (Paulhus et al., 2004). This motivated the study described below.

Study 2. Verifying the CMS's Factorial Structure

This study aimed to demonstrate the factorial structure of the measure. In addition, we sought to check the adequacy of its internal consistency coefficients in an independent sample.

Method

Participants

229 high school students participated, aged between 14 and 25 years old ($M = 16.20$; $SD = 1.23$), the majority were female (64.2%), single (81.3%), Protestant (43.4%), socioeconomic middle class (59.4%), and public school students (55.5%). It was a convenience sample (non-probabilistic), with the participation of those who agreed to do so voluntarily.

Instruments

The final version of the CMS from Study 1 was used. Specifically, Study 2 participants answered the 18-item version of the instrument.

Procedures

The procedures used in Study 2 were similar to those in Study 1 starting with contact with public and private school principals in the city of João Pessoa (PB), requesting their authorization to perform the study. Students completed their surveys in approximately 20 minutes.

Data analysis

Two statistical programs were used: SPSS and AMOS (*Analysis of Moment Structures*), both in version 20.0. Descriptive statistics (mean, standard deviation, frequency), and reliability indicators (Cronbach's α and $r_{i.t}$) were calculated in SPSS. AMOS was used to perform confirmatory factor analysis, and in this case, the covariance matrix was considered with the ML estimator (*Maximum Likelihood*; see Sullivan & Artino Júnior, 2013). The following adjustment indicators (Hair, Black, Babin, Anderson & Tatham, 2009) were observed: χ^2/gl (recommended between 2 and 3, with < 5 being acceptable), *Goodness-of-Fit Index* (GFI), *Adjusted Goodness- of-Fit Index* (AGFI), *Comparative Fit Index* (CFI), and *Tucker Lewis Index* (TLI), whose acceptable values must be equal to or greater than 0.90. We also used the *Root Mean Square Error Approximation* (RMSEA; with ≤ 0.05 recommended, and ≤ 0.08 being acceptable).

Results

The model observed in Study 1 was tested first, with two factors: *search for success* and *moral inhibition*. Subsequently, the model observed by Paulhus et al. (2004), with three factors (*moral inhibition*, *fear of punishment,* and *search for success*) was also tested, and finally an alternative model was tested with a general factor that saturates all 18 items of this measure, which can be called *motivation to cheat*. Table 2 shows the adjustment indicators for these models.

As can be seen in this table, the model observed in the first study was the most adjusted. It is noteworthy that all items of the instrument presented saturation (factorial weights, λ) statistically different from zero ($\lambda \neq 0$; $z > 1.96$; $p < 0.05$). This model is statistically superior to that presenting three $\Delta\chi^2$ (2) = 86.29, $p < 0.001$] and, principally, with one factor [$\Delta\chi^2$ (1) = 99.00, $p < 0.001$]; the three-factor model was also somewhat superior to the single-factor model [$\Delta\chi^2$ (3) = 12.71, $p < 0.01$]. The corresponding structure can be seen in Figure 1. Finally, after verifying the fit of the two-factor CMS model, we sought the internal consistency (Cronbach's alpha, α) of its factors. As in Study 1, the corresponding coefficients were considered meritorious (Hair et al., 2009): *search for success* ($\alpha = 0.60$) and *moral inhibition* ($\alpha = 0.68$).

Discussion

Many students end up engaging in cheating behaviors to obtain recognition and rewards, (Anderman &

Table 2.
Adjustment indicators of tested models

Model	χ^2 (*df*)	GFI	AGFI	CFI	TLI	RMSEA (IC 90%)	$\Delta\chi^2$ (*gl*)
Two-factorial	214,73 (134)	0,90	0,87	0,91	0,90	0,05 (0,04 – 0,06)	–
Three- factorial	301,02 (132)	0,83	0,80	0,83	0,80	0,07 (0,08 – 0,06)	86,29 (2)*
Single-factorial	313,73 (135)	0,84	0,80	0,82	0,79	0,07 (0,08 – 0,06)	99,00 (1)*

Note: N (229); χ^2 = chi-square; df = Degrees of freedom; GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; RMSEA = Root-Mean-Square Error Aproximation, IC90% = Confidence Interval 90%; $\Delta\chi^2$ (*gl*) = comparison of models; *p< 0,001.

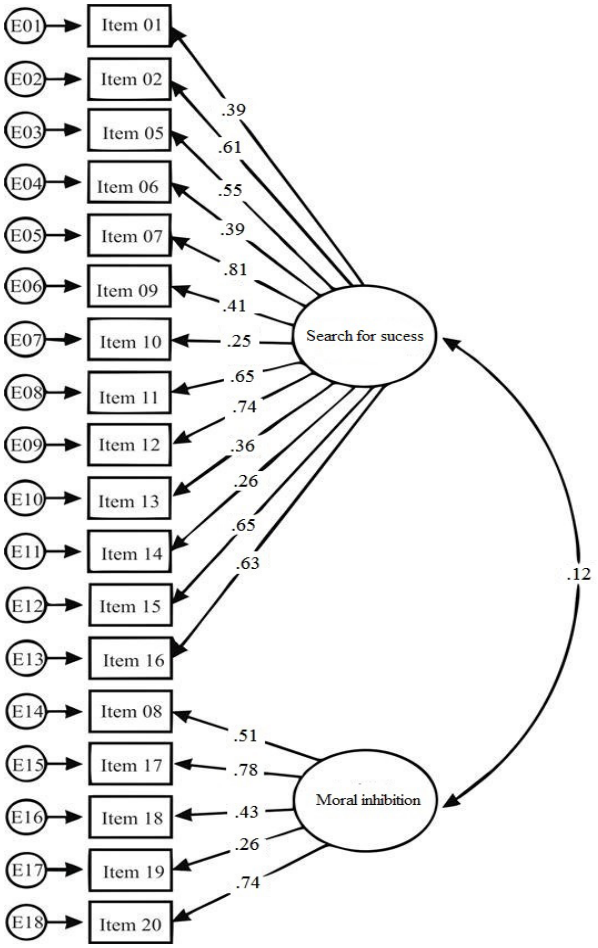

Figure 1. Factorial structure of Motivation for Cheating Scale

Murdock, 2011; Fonsêca, 2008). Thus, if on the one hand there is a certain trivialization of such conduct, especially in the Brazilian context (Avelino & Lima, 2017), there is also a growing refinement of methods used in unethical acts (Pimenta & Pimenta). Investigating this construct is important considering that its implications are not limited to the immediate present (Arnold, 2016; Guedes & Gomes Filho, 2015). The conduct is a predictor of cheating behavior in later life, such as in professional opportunities (Gouveia et al., 2018; LaDuke, 2013; Novotney, 2011).

In view of this, our research sought to translate the CMS into the Brazilian context, and also provide evidence of its validity based on its internal structure. It is hoped that this objective has been achieved. In Study 1, a two factor (*search for success* and *moral inhibition*) structure was observed. Although this is a different structure from what was initially proposed, it preserved theoretical similarity with the dimensions that emerged in the study developed by Paulhus et al. (2004). In order to resolve doubts regarding the most appropriate factor distribution, it was decided to check whether the two-factor structure would present the best fit with a general motivating factor for cheating in relation to alternative models, such as the three-factor model, as observed in the English version of the instrument, and the one-dimensional model.

Thus, an independent sample was considered (Study 2), performing confirmatory factor analyses with the set of 18 CMS items to confirm the findings in Study 1. The adjustment indicators of the two-factor model were much better than those of the uni and three-factor models, despite presenting higher coefficients than those recommended in the literature (Hair et al., 2009). Cronbach's alphas (internal consistency) of the two factors, although not ideal, were equal to or greater than 0.60, and similar to of those in Study 1, making this measure suitable for research purposes (Pasquali, 2012).

Given the previously described findings, certain considerations must be also made. Contrary to what was verified in the original research (Paulhus et al., 2004), in the Brazilian population, a specific factor for *fear of*

punishment was not identified. The difference in the factorial structure found in the scale validated for Brazil, in comparison with the scale developed by Paulhus et al. (2004), may have been influenced by the cultural context. In the Brazilian scenario, due to the absence and/or rarity of sanctions, the fear of punishment can be minimized (Alem et al., 2018; Miller et al., 2011, Unicarioca, 2015) levels of punishment can be considered insignificant to the point that the advantages of engaging in cheating behavior outweigh the risks (Thielmann & Hilbug, 2018). Thus, in the Brazilian context, this factor per se does not present itself as relevant to understanding cheating behaviors, this is in contrast to the *search for success* and *moral inhibition*. Nevertheless, the version now presented, is both more parsimonious, and seems to encompass the content originally proposed by Paulhus et al. (2004).

With regard to the *search for success* component, this dimension can be better understood in general, as people tending to make their decisions by taking into account choices that maximize their gains (Mazar et al., 2008). Therefore, bearing in mind the positive results that academic cheating can bring (e.g., higher grades, internships or job opportunities, and remuneration), some individuals end up behaving dishonestly (Lewellyn & Rodriguez, 2015). As for *moral inhibition*, it is emphasized that morality serves as a prism for the individual to evaluate their own behavior, so that when individuals act against their moral values, their self-perception can act in a self-punitive way (Fida et al., 2016; Mazar et al., 2008). It is estimated that this factor has a relevant role in understanding the individual's choice to not cheat academically, since morality can help maintain honest behaviors (Alem et al., 2018), being more effective than remembering norms and/or laws (Pruckner & Sausgruber, 2013).

Despite the difference between the number of factors and items in the English versions and being adapted from a measure of motivation for cheating, there was no compromise in internal consistency. In fact, the two identified factors presented Cronbach's alpha coefficients higher than those observed in the study in which the scale was proposed (Paulhus et al., 2004) and did not differ substantially from other measures in use to assess similar constructs, such as the Attitudes Scale towards Academic Cheating (Gardner & Melvin, 1988) and the Cheating Scale in the Academic Context (Anderman et al., 1998). In addition, the observed values comply with the cohort point suggested in the literature for instruments used for research purposes (Pasquali, 2012). Therefore, preliminary evidence supports the internal validity of this measure, suggesting that the CMS covers two factors that express people's motivations for cheating.

In short, the Brazilian version of the CMS comprises a quick measure, consisting of 18 items, covering two factors (*obtaining success and moral inhibition*) and presents an acceptable internal consistency. It is certainly an adequate instrument for use in future research to discover the antecedents and consequences of cheating, especially when time is scarce or when multiple instruments are used.

Despite our findings, we must consider certain limitations in the studies presented. For example, although they were considered high school students, it cannot be assumed that they were representative of this universe. However, to generalize the findings was not our intention, but rather to test the measure's parameters. The number of participants was sufficient for this purpose (Pasquali, 2003), though it will be necessary to expand the sample for future studies, and include students from elementary school, since cheating occurs in all educational stages (Barbaranelli et al., 2018; Klein et al., 2007).

It is hoped that the use of the CMS will contribute to knowledge concerning the motivations for cheating and consequently support interventional activities in the academic/student context aimed at reducing and/or preventing unethical behavior, while addressing the peculiarities of each stage of development. It is noteworthy that such measures are particularly important in contexts where there is an incentive or lack of sanctions on the part of peers in relation to cheating (González-Arango et al., 2020).

It must also be said that the procedures performed here do not eliminate the need to investigate additional validity parameters. The development and validation of coherent psychometric measures must involve varied evidences of validity, including convergent/discriminant and criteria (AERA, APA, & NCME, 2014). Thus, for the purpose of future studies, it may be interesting (1) to further investigate the correlates and predictors of cheating in academic and work contexts, (2) to conduct longitudinal research to understand the psychological motivations that lead individuals to manifest cheating behaviors in different stages of life, (3) to further test the CMS on an experimental basis, checking whether the scale is indeed useful in studies of this nature, and (4) to experimentally test whether manipulation of specific situations in the student context would either activate or suppress cheating behavior.

In the same sense, it is important to assess relationships between the motivations to cheat and constructs such as human values, which might explain both academic performance (Gouveia, 2013), and the dark personality/personality traits, which influence the conducting antisocial and criminal behaviors (Avelino & Lima, 2014; Giluk & Postlethwaite, 2015; Johnson, 2015; Jonason et al., 2018; Williams et al., 2010). In any case, evidence of the CMS 's discriminating validity in relation to social desirability, which refers to the tendency of individuals to try to mask their real attitudes and/or behavior in order to publicly show a socially adjusted or acceptable image must be evaluated (Soares et al., 2016). It is possible that desirability is a variable capable of affecting scores in socially deviant constructs, such as cheating (Hochman et al., 2015; Klein et al., 2017). In view of the above, it is hoped that the present work opens paths for researchers interested in investigating aspects that interfere with ethical conduct in student contexts, as well as in analyzing constructs that may impact the teaching-learning process.

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