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Influence of Subject Area and Level of Academic Achievement on University Students' Propensity for Academic Dishonesty

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Abstract
Academic dishonesty is a persistent problem in higher education and it threatens the integrity and legitimacy of university education. This study examined the influence of undergraduate students' subject area and level of academic achievement on propensity for academic dishonesty. It also examined the interaction effect between subject specialization and level of academic achievement on academic dishonesty while controlling for age. Participants were 425 Bachelor of Education students from seven public universities in Kenya. Students taking a Bachelor of Education Science had a significantly higher academic dishonesty mean score compared to students taking a Bachelor of Education Arts. There were no significant differences in participants' academic dishonesty mean scores by level of academic achievement. There were also no significant interactions between subject area and level of academic achievement on academic dishonesty, whilst controlling for age. The study concluded that students taking a Bachelor of Education Science course were more likely to engage in academic dishonesty compared to students taking a Bachelor of Education Arts. Implications for the findings are discussed in depth.
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1. Introduction

Past research shows that academic dishonesty among university students is not only widespread but also a persistent problem for colleges and universities globally (Cuadrado et al., 2019; Hendy et al., 2021; Miller et al., 2015). Academic dishonesty can be termed as the intentional use of unauthorized material or help before, during or after an academic examination (Pavlin-Bernardi´c et al., 2017). It generally includes cheating during examinations, plagiarism, fabrication, and unauthorized collaboration on assignments (Chirumamilla et al., 2020). However, debates still abound on what exact behaviors constitute academic dishonesty. Moreover, the phenomenon has been conceptualized differently in the literature and its definition in academic institutions also differs from one academic institution to another (McKibban & Burdsal, 2013). Unfortunately, this ambiguity in definition extends to students and faculty in higher education, illustrating the need for continuous education and research on academic dishonesty. From a research perspective, scholars have assessed actual cheating behaviors to measure academic dishonesty (Maeda, 2019); others have used past cheating behavior as a measure of academic dishonesty (Dyer et al., 2020); yet others have measured the likelihood of cheating (Brodowsky et al., 2019), and attitudes towards cheating (Mensah et al., 2016). In this study academic dishonesty was conceptualized as the propensity or predisposition to engage in academic dishonesty. Thus actual cheating behaviors were not measured. All though not resolved in the current study, researchers have decried the lack of a standard measure of academic dishonesty, which has contributed to conflicting findings with different predictors as well as difficulty in comparing and generalizing results of various studies.

Furthermore, negative effects of academic dishonesty are not limited to the future. Academic dishonesty may also undermine the legitimacy, and integrity of the institutions of learning. It may also hinder the correct assessment, through examinations, of student mastery of knowledge and skills, as intended by the learning process. A university degree is meant to represent acquisition of knowledge and skills. Academic dishonesty jeopardizes the credibility of awarded grades and ultimately, degrees and diplomas (Mensah et al., 2016). Students who cheat in examinations may be inaccurately grouped as high achieving students, which may impact institutions in a number of ways. Firstly, it hinders the ability of institutions to institute corrective action where learning is not taking place, whilst also passing through the system, and into employment graduates who are not adequately skilled. Secondly, the credibility of the institutions may be questioned and the degrees devalued (Fendler et al., 2018).

Aside from prevalence, scholars have examined various correlates of academic dishonesty. Some of these have included; individual characteristics, situational factors, personal beliefs, attitudes, and contextual factors (Desalegn & Berhan, 2014; Ives et al., 2017; Kuntz & Butler, 2014; Yu et al., 2017). One of the most studied demographic characteristic aside from gender and age, is academic achievement in relation to academic dishonesty. A seemingly consistent finding in studies in Western countries is that there is a link between low academic achievement and higher levels of cheating among university students (Hensley et al., 2013), however the effect size has been very small (Whitley, 1998) bringing into questions the practical implications of such a

small effect size. The findings of the studies on age and academic dishonesty are however conflicting, with some finding younger students to be more likely to cheat (Ahmadi, 2014), while others contend that older students are more likely to cheat (Josien & Broderick, 2013). The results of these studies demonstrate that age may be important in predicting academic dishonesty, hence its inclusion in this study as a covariate.

Moreover, the prevalence of academic dishonesty has been shown to vary across academic disciplines (Miller & Izsak, 2017). While these studies have been carried out in America (Wollack & Cizek, 2017), Australia (Newton, 2018), and European countries (Baran & Jonason 2020; Cuadrado et al., 2019), the difference in socio- historical contexts makes it difficult to generalize findings of such studies to Africa, and specifically Kenya. Given the increased focus on academic dishonesty in national examinations in Kenya, it makes sense to carry out a study on academic dishonesty among pre-service teachers. This is especially so, given that previous studies have shown that individuals who engage in academic dishonesty in college, are likely to be more tolerant of unethical behaviors at the work place (Brodowsky et al., 2020). As such, they are more likely to engage in unethical behaviors either at the workplace or in the society (Teixeira & Rocha, 2010). This has serious implications for pre-service teachers who are the future practitioners and models in education. The present study adds onto existing knowledge on academic dishonesty in a number of ways. Firstly, it adds onto our knowledge of academic dishonesty among pre-service teachers in Kenya by examining subject area and academic achievement as correlates of academic dishonesty. Moreover, given that previous research has found cultural differences in the manifestation of academic dishonesty (Hendy et al., 2021), carrying out a study in Kenya will give additional perspectives on academic dishonesty in an African context. Thirdly, it seeks to clarify the influence of subject area and level of academic achievement on academic dishonesty by accounting for the influence of age.

2. Literature Review

2.1 Academic Dishonesty and Subject Area

Students have in the past cited difficulty in the subject or course of study as a motivation for engaging in academic dishonesty (Teixeira & Rocha, 2010). Additionally, some courses or areas of study have been perceived to be high value by students. As a result, researchers have been interested in the perceptions and prevalence of academic dishonesty among students undertaking different courses and disciplines. For instance, accounting (Winardi & Anggraeni, 2017) and health sciences (Birks et al., 2018) and engineering (Peculea & Peculea, 2020). Correspondingly, higher rates of academic dishonesty have been reported for such areas of study (Krou et al., 2019). A few scholars have however focused on the influence of the field or course of study on either prevalence or attitudes toward academic dishonesty. For example, a study by Ahmadi (2014) found differences in academic dishonesty due to the field of study, where Bachelor of Arts and literature students were reported to plagiarize more than students taking a Master of Arts. The study however compared field of study in undergraduate and postgraduate levels of study, a factor that may have introduced confounders such as, level of study and age. These two confounders were not controlled for in the study. Nonetheless, Ives and Giukin (2019) found that the mean scores on academic dishonesty for students taking health related courses were less than the mean scores for academic dishonesty for students taking humanities. Their findings were corroborated by those of Hensley et al. (2013) who also found that students taking arts subjects, more than those taking sciences, had a higher self-report rate of academic dishonesty. Conversely, Anderman and Won (2017) found that students taking math and science classes tolerated cheating more than students taking other subjects. The results from the reviewed studies show an inconsistency in the rate of cheating among science and art courses. Furthermore, none of these studies compared academic dishonesty among students taking arts and science courses. This study will specifically examine the differences in academic dishonesty mean scores due to art or science subject areas.

2.2 Academic Dishonesty and Academic Achievement

The influence of academic achievement on academic dishonesty is well documented in the literature, but only in certain sections of the world. In a study in the USA among 292 undergraduates from a large public university, Hensley et al. (2013) found that students scoring lower grades reported higher levels of academic dishonesty. Olafson et al. (2013), also found that students with higher grades were less likely to cheat, when compared with students with low grades. A variety of reasons have been suggested as explanations for this link between student achievement and academic dishonesty. Research suggests that there are contextual factors and personal characteristics that lead low performing students to resort to academic dishonesty. Some scholars have argued that students with low grades cheat in order to avoid losing financial aid (Pearson, 2019). Others posit that by cheating, students avoid earning a poor grade (Owunwanne et al., 2010) which is often frowned upon by parents, or guardians, and even the institution of learning. Another notion is that students compete for good grades in order to secure limited opportunities for scholarships or jobs, after completing school (Geddes, 2011). These findings seem to support the presence of interaction effects between different predictors of academic dishonesty, lending credence to the current study. The present study explored not only the direct influence of academic

achievement and subject area on academic dishonesty, but also their interaction effect.

2.3 Academic Dishonesty and Age

While the link between age and academic dishonesty still seems contentious (Brown et al., 2019; Saana et al., 2016; Theart & Smit, 2012), the results of most studies documented in the literature seem to suggest that age is an important factor that may account for variation in academic dishonesty. For instance, Ahmadi (2014) carried out a study on plagiarism among 132 Iranian university students. The study found that age was negatively correlated to plagiarism. Thus, older students were less likely to engage in plagiarism, which is a form of academic dishonesty, while younger students were more likely to engage in academic dishonesty. Similar results were reported by Hart and Morgan (2010) in their study among undergraduate nursing students. Similarly, Tambaya et al. (2020) found that younger students in the College of Education in Nigeria, were more likely to engage in academic dishonesty. On the contrary, Josien and Broderick (2013) found that older students in their third and fourth year classes were more likely to cheat in examinations, when compared to their younger counterparts in the first and second years of study. These results were validated by Soroya et al., (2016), who in their research among undergraduate students from Pakistan, found that older students tended to engage in academic dishonesty, more than their younger peers. This body of evidence finding a relationship between academic dishonesty supports the inclusion of age as a covariate in this study.

2.4 Present Study

The objectives of this study were: 1) to determine whether propensity for academic dishonesty mean scores differed by subject area; 2) to determine whether propensity for academic dishonesty mean scores differed by level of academic achievement; and 3) to examine the interaction of level of academic achievement and subject area on propensity for academic dishonesty, whilst controlling for age. The study therefore tested the following hypotheses:

H_{01}: There are no statistically significant differences in propensity for academic dishonesty scores by subject area.

H_{02}: There are no statistically significant differences in propensity for academic dishonesty by level of academic achievement.

H_{03}: There is no statistically significant interaction of level of academic achievement and subject area, on propensity for academic dishonesty, whilst controlling for age

3. Method

3.1. Participants and Procedure

The participants in this study were 202 males and 223 female second year students (total = 425), taking a Bachelor of Education (B. Ed) course from seven large public universities in Kenya. Participants were recruited using purposive, stratified, and simple random sampling. The researchers sought approval from the Ethics Board and from all the participating institutions as per research ethics requirements. Participation in the research was voluntary and participants were not compensated for their involvement in the study. Second year B.Ed classes were identified and permission sought from the faculty taking the classes, prior to administering the questionnaires. Participants were informed of their right to withdraw from the study without any repercussions to them, after which they signed a consent form and completed the questionnaires. Participants were aged between 17 and 23 years, (M = 20 years, SD = 1.25). Using power analyses described by Cohen (1988), the study sample size of 425 had 80% power to detect an effect size of 0.27 (Kohn & Senyak, 2021), and was therefore considered adequate for analyses (Tabachnick & Fidel, 2019).

3.2. Materials

3.2.1 Demographic Variables

Age, subject area, and level of academic achievement were the demographic variables included in this study. Participants' age was the covariate in this study and was recorded in years. Subject area was conceptualized to have two categories, sciences and arts. Academic achievement had four categories, '*very poor'*, '*poor'*, '*average'*, '*good'*, and '*very good'*. The participants therefore indicated in the questionnaire, their age in years, their subject area, and the level of academic achievement as at the time of the survey.

3.2.2 Propensity for Academic Dishonesty

Academic dishonesty was conceptualized as propensity for academic dishonesty, which was a composite measure from nine questions in answer to three hypothetical scenarios. Internal reliability tests yielded estimates of a Cronbach's α =.82. Participants rated their likelihood of engaging or not in similar actions to those of the characters in the hypothetical scenarios. They were expected to indicate their responses on a five point Likert - type scale, where 1 = *definitely not* and 5 = *definitely yes.* Their responses were then added together and divided by nine to create a single score, that was used for analyses, where the higher the score, the higher the propensity

for academic dishonesty.

3.2.3 Statistical Analyses

The data were sorted, and screened to check for errors, missing values, and outliers. Additionally, preliminary tests were conducted to assess for normality, linearity, and homogeneity of variance before carrying out each analysis. An independent samples t-test, one way ANOVA and a General Linear Model (GLM) were then carried out. Analyses were computed using Statistical Package for the Social Sciences (SPSS) version 26.0 (IBM Corp. Released, 2019).

4.0 Results

First we carried out descriptive analyses and the results are shown in Table 1.

Table 1. Descriptive Statistics for All the Variables

		N	*M*	*SD*	*Sk*	*Kur*
Subject specialization	Sciences	185	2.65	1.02	.23	-.86
	Arts	240	2.44	.84	.29	-.70
Academic achievement	Poor	14	2.42	.78	.02	-.83
	Average	82	2.53	.95	.50	-.58
	Good	226	2.52	.96	.31	-.71
	Very Good	103	2.58	.84	.17	-.76

The results in Table 1 show that participants taking sciences had a higher academic dishonesty mean score compared to those taking arts. Interestingly, as shown in Table1, participants with a very good level of academic achievement also had the highest mean score in propensity for academic dishonesty (M = 2.58; SD = .84). The participants at the poor level of academic achievement had the lowest propensity for academic dishonesty means score (M = 2.42; SD = .78). These findings suggest that students who were high academic achievers, were also more likely to engage in academic dishonesty.

The first hypothesis was assessed using an independent samples t-test. Prior to carrying out the test, the data were screened for normality and homogeneity of variance. The skewness and kurtosis values signified normality, (Bono et al., 2020), as shown in Table 1. Since the data did not meet the requirement for homogeneity of variance (F (423) = 11.64, p = .001), a Welch's test was used to assess differences in means. Delacre et al. (2019) recommended the use of the Welch's test in cases where the assumption of Homogeneity of variance was violated. The test revealed that there was a statistically significant difference in the propensity for academic dishonesty scores by subject specialization, with a higher mean in science, t (352.20) = 4.72, p < .05, Cohen's d = .02. Thus the null hypothesis was rejected.

To test the second hypothesis, we carried out a one way ANOVA. The assumption of Homogeneity of Variance was satisfied (F (3, 421) = 1.13, p = .34) and a one way analysis of variance (ANOVA) was conducted to determine the differences in propensity for academic dishonesty means scores by level of academic achievement. The significance level was set at 0.05. The findings showed that there were no statistically significant differences in the propensity for academic dishonesty mean score by level of academic achievement (F (3, 421) =.18 p = .91). The null hypothesis was therefore accepted.

The third objective of the study was to determine whether there was an interaction effect of subject specialization and the level of academic achievement on propensity for academic dishonesty, while controlling for age. A General Linear Model (GLM) was conducted after carrying out assumption testing. A graphical observation of residuals revealed a normal distribution. The assumption of homogeneity of variance was satisfied p > .01 and a General Linear Model analysis could be carried out.

Table 2. GLM Results Showing Interaction of Subject Area and Level of Academic Achievement with Age as Covariate

Source	*SS*	*df*	*MS*	*F*	Sig.	*η*2
Level of achievement	0.131	3	0.044	0.052	0.984	0.000
Subject area	2.864	1	2.864	3.418	0.065	0.008
Age in years (Covariate)	7.764	1	7.764	9.266	0.002	0.022
Academic achievement * Subject area	1.585	3	0.528	0.631	0.596	0.005
Error	348.577	416	0.838			

a. R Squared = .038 (Adjusted R Squared = .019)

b. Computed using alpha = .05

As observed in Table 2 there was no statistically significant interaction, (F (3,416) =.631, p = .596, partial η^2 = .005) between subject specialization and level of academic achievement on propensity for academic dishonesty, whilst controlling for age. This means that the relationship between the two variables and academic dishonesty was not dependent on their levels. The effect size of 0.5% was very small and the R^2 of 3.8% was equally small. This indicates that only a small portion of the variance in academic dishonesty was explained by

the interaction between participants' level of academic achievement and subject area. Thus, the third hypothesis was accepted.

5.0 Discussion

The study sought to determine whether propensity for academic dishonesty scores differed by subject area, and by level of academic achievement. It also examined the interaction of level of academic achievement and subject area on propensity for academic dishonesty, whilst controlling for age. Participants taking Bachelor of Education Science, had higher levels of academic dishonesty than those taking a Bachelor of Education Arts. A difference that was statistically significant, meaning that participants taking B.Ed. science were more likely to engage in academic dishonesty when compared with those taking B.Ed arts. This finding is consistent with previous results indicating that students taking science and technology related subjects reported higher levels of academic dishonesty (Croucher, 1999; Finelli et al., 2012). This could possibly be related to the age old perception that science subjects are difficult (Lambert et al., 2003). Previous studies have shown that students cheat when they fail to understand a lesson or when they find a topic or anticipate a test question to be difficult (Balbuena & Lamela, 2015). It could also relate to low self-efficacy of students in the area of sciences (Marsden, 2005). Both of these factors suggests that poor study habits may underlie students' lack of self confidence in their ability to succeed in tests and examinations in their selected subjects. University admission defines entry cut-off grades or points, which signify good performance at lower levels of study and student ability to perform well. However, self- efficacy is situation specific and as such students' self-efficacy may vary dependent on the situation (Bandura, 1997). Future studies should extend these findings by establishing the factors behind the differences in academic dishonesty in the different subject areas.

On the other hand, there was no statistically significant difference in participant's level of academic dishonesty across the levels of academic achievement. This was an unexpected finding given that previous researchers have found that academic achievement was a predictor of academic dishonesty (Rakovski & Levy, 2007; Vandehey et al., 2007). Specifically, previous studies have found that lower performing students were more likely to engage in academic dishonesty (Hensley et al., 2013). An explanation of this, is that students with lower grades had little to lose and more to gain by engaging in academic dishonesty (Pearson, 2019). However, Marsden (2005) found that different forms of academic dishonesty, related differentially with students' academic achievement. For example, falsification was predicted by age, student grade point average, and learning orientation, while plagiarism and exam cheating were predicted by sex, year of study and student's self-efficacy. The findings by Marsden (2005) suggests that different motives underlie different forms of academic dishonesty. Further, the unlikely findings from the current study may have been due to the way academic achievement was operationalized in the current study. The practice in the literature is to use Grade Point Average (GPA) as a measure of academic achievement, which was not the case in this study. Further investigations with GPA may be helpful in clarifying the link between academic achievement and academic dishonesty in this population.

Similarly, there was no significant interaction of participants' subject area and level of academic achievement on academic dishonesty. The absence of an interaction effect could be due to the non-significant finding on the influence of academic achievement on academic dishonesty. Given the individual significance of academic achievement and academic discipline on academic dishonesty reported in previous studies, it would be expected that there would be an interaction effect. Perhaps there were confounding factors not included in the present study. Though small, the proportion of variance explained by the model including the covariance of age and interaction terms illustrates the need for future studies to go beyond main effects and consider interaction terms to better explain academic dishonesty.

6.0 Limitations, Conclusions, and Recommendations

The study had limitations that need to be acknowledged. First, having used a cross sectional study design, a causal link between the predictors and outcome variable could not be established. The result however add to the body of literature establishing the relationships as indicated in this study. Additionally, in spite of assuring participants of confidentiality, and anonymity, it is likely that the use of self-reports may have introduced bias due to social desirability, impacting on the results. This study only focused on two predictors of academic dishonesty, which only accounted for a very small variation in academic dishonesty. Clearly, there are other predictors that warrant the attention of future studies. Previous researchers have shown that demographic variables explain only a small portion of the variation in academic dishonesty (Jurdi et al., 2011). A combination of demographic, situational, contextual, and personality factors as indicated in the literature may offer a better explanation for academic dishonesty. In spite of these limitations, the current study provides insights into demographic factors related to academic dishonesty among pre-service teachers in Kenya. Specifically, it demonstrates that propensity for academic dishonesty, differs in science and arts subjects, a finding that agrees with previous research. The study therefore recommends that educators should pay more attention to students taking sciences, to help them develop attitudes that support academic integrity. Ethics education should be

integrated with their studies to help them shun academic dishonesty. Further investigation to understand their attitudes toward academic dishonesty may further inform the prevention of academic dishonesty among science education students.

References

Ahmadi, A. (2014). Plagiarism in the academic context: A study of Iranian EFL learners. *Research Ethics, 10*(3), 151-168. doi: 10.1177/1747016113488859

Anderman, E. M., & Won, S. (2019). Academic cheating in disliked classes. *Ethics & Behavior*, *29*(1), 1-22.https://doi.org/10.1080/10508422.2017.1373648

Balbuena, S. E., & Lamela, R. A. (2015). Prevalence, motives, and views of academic dishonesty in higher education. *Online Submission*, *3*(2), 69-75.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.

Baran, L., & Jonason, P. K. (2020). Academic dishonesty among university students: The roles of the psychopathy, motivation, and self-efficacy. *Plos One*, *15*(8), e0238141. doi: 10.1371/journal.pone.0238141.

Birks, M., Smithson, J., Antney, J., Zhao, L., & Burkot, C. (2018). Exploring the paradox: A cross-sectional study of academic dishonesty among Australian nursing students. *Nurse Education Today*, *65*, 96-101. https://doi.org/10.1016/j.nedt.2018.02.040

Bono, R., Arnau, J., Alarcón, R., & Blanca, M. J. (2020). Bias, precision, and accuracy of skewness and kurtosis estimators for frequently used continuous distributions. *Symmetry*, *12*(1), 19. https://doi.org/10.3390/sym12010019

Brodowsky, G. H., Tarr, E., Ho, F. N., & Sciglimpaglia, D. (2020). Tolerance for cheating from the classroom to the boardroom: a study of underlying personal and cultural drivers. *Journal of Marketing Education, 42*(1), 23-36. https://doi.org/10.1177/0273475319878810

Brown, T., Isbel, S., Logan, A., Etherington, J. (2019). Predictors of academic honesty and success in domestic and international occupational therapy students. *Irish Journal of Occupational Therapy,* (2019). ISSN: 2398-8819.

Chirumamilla, A., Sindre, G., & Nguyen-Duc, A. (2020). Cheating in e-exams and paper exams: The perceptions of engineering students and teachers in Norway. *Assessment and Evaluation in Higher Education, 45*(7), 1–18. https://doi.org/10.1080/02602938.2020.1719975

Croucher, J. S. (1999). Differences in attitudes to academic dishonesty among college students. *Educational Practice and Theory, 21*(1), 97 – 107.

Cuadrado, D., Salgado, J. F., & Moscoso, S. (2019). Prevalence and correlates of academic dishonesty: Towards a sustainable university. *Sustainability*, *11*(21), 6062. https://doi.org/10.3390/su11216062

Delacre, M., Leys, C., Mora, Y. L., & Lakens, D. (2019). Taking Parametric Assumptions Seriously: Arguments for the Use of Welch's *F*-test instead of the Classical *F*-test in One-Way ANOVA. *International Review of Social Psychology*, *32*(1), 13. http://doi.org/10.5334/irsp.198

Desalegn, A. A., & Berhan, A. (2014). Cheating on examinations and its predictors among undergraduate students at Hawassa University College of Medicine and Health Science, Hawassa, Ethiopia. *BMC Medical Education, 14*(1), 1–11. https://doi.org/ 10.1186/1472-6920-14-89

Fendler, R. J., Yates, M., & Godbey, J. (2018). Observing and deterring social cheating on college exams. *International Journal for the Scholarship of Teaching and Learning, 12*(1), 1-9. https://doi.org/10.20429/ijsotl.2018.120104

Finelli, C.J., Holsapple, M.A., Ra, E., Bielby, R.M., Burt,B.A., Carpenter, D.D., Harding, T.S. and Sutkus, J.A. (2012). An assessment of engineering students' curricular and co-curricular experiences and their ethical development. *Journal of Engineering Education 101* (3), 469-494.

Geddes, K. A. (2011). Academic dishonesty among gifted and high-achieving students. *Gifted Child Today*, *34*, 50-56.

Hart, L., & Morgan, L. (2010). Academic integrity in an online registered nurse to baccalaureate in nursing program. *The Journal of Continuing Education in Nursing*, *41*(11), 498-505. https://doi.org/10.3928/00220124-20100701-03

Hendy, N.T., Montargot, N. & Papadimitriou, A. (2021). Cultural differences in academic dishonesty: A social learning perspective. *Journal of Academic Ethics* 19, 49–70. https://doi.org/10.1007/s10805-021-09391-8

Hensley, L. C., Kirkpatrick, K. M., & Burgoon, J. M. (2013). Relation of gender, course enrollment, and grades to distinct forms of academic dishonesty. *Teaching in Higher Education*, *18*(8), 895-907. http://dx.doi.org/10.1080/13562517.2013.827641

Ives, B., Alama, M., Mosora, L. C., Mosora, M., GrosuRadulescu, L., Clinciu, A. I., . . . Dutu, A. (2017). Patterns and predictors of academic dishonesty in Romanian university students. *Higher Education, 74*(5), 815–831. https://doi.org/10.1007/s10734-016-0079-8

Ives, B., & Giukin, L. (2020). Patterns and predictors of academic dishonesty in Moldovan university students.

Journal of Academic Ethics, *18*(1), 71-88. https://doi.org/10.1007/s10805-019-09347-z

Josien, L., & Broderick, B. (2013). Cheating in higher education: The case of multi-methods cheaters. *Academy of Educational Leadership Journal, 17*(3), 93.

Krou, M. R., Acee, T. W., Pino, N. W., & Hoff, M. A. (2019). Rationalizing the decision to cheat: An empirical analysis to determine whether social rational orientation can predict academic dishonesty. *Journal of College and Character, 20*(1), 9-24. doi: 10.1080/2194587X.2018.1559196

Kuntz, J. R., & Butler, C. (2014). Exploring individual and contextual antecedents of attitudes toward the acceptability of cheating and plagiarism. *Ethics & Behavior, 24*(6), 478–494. https://doi.org/10.1080/10508422.2014.908380

Lambert, E. G., Hogan, N. L., & Barton, S. M. (2003). Collegiate academic dishonesty revisited: What have they done, how often have they done it, who does it, and why did they do it. *Electronic Journal of Sociology*, *7*(4), 1-27.

Maeda, M. (2019). Exam cheating among Cambodian students: When, how, and why it happens. Compare: *A Journal of Comparative and International Education. 51*(3), 337-355. https://doi.org/10.1080/03057925.2019.1613344

Marsden, H., Carroll, M., & Neill, J. T. (2005). Who cheats at university? A self-report study of dishonest academic behaviours in a sample of Australian university students. *Australian Journal of Psychology, 57*(1), 1-10. DOI: 10.1080/00049530412331283426

McKibban, A. R., & Burdsal, C. A. (2013). Academic dishonesty: An in-depth investigation of assessing measurable constructs and a call for consistency in scholarship. *Journal of Academic Ethics, 11*(3), 185–197. https://doi.org/10.1007/ s10805-013-9187-6

Mensah, C., Azila-Gbettor, M., & Appietu. M. (2016). Examination cheating attitudes and intentions of students in a Ghanaian polytechnic. *Journal of Teaching in Travel & Tourism, 16*(1), 1-19. https://doi.org/10.1080/15313220.2015.1110072

Miller, B., Agnich, L., Posick, C., & Gould, L. (2015). Cheating around the world: A cross national analysis of principal reported cheating. *Journal of Criminal Justice Education, 26*(2), 211-232. http://dx.doi.org/10.1080/10511253.2014.986148

Miller, Y., & Izsak, R. (2017). Students' involvement in academic dishonesty and their attitudes towards copying in exams and academic papers. *Sociology and Anthropology, 5*(3), 225-232. https://dx.doi.org/10.13189/sa.2017.050306

Newton, P. M. (2018). How common is commercial contract cheating in higher education and is it increasing? A systematic review. *Frontiers in Education, 3*(67), 1-18. doi: 10.3389/feduc.2018.00067

Olafson, L., Schraw, G., Nedelson, L., Nedelson, S., & Kehrwald, N. (2013). Exploring the judgment–action gap: College students and academic dishonesty. *Ethics & Behavior, 23*, 148–162. https://doi:10.1080/10508422.2012.714247

Owunwanne, D., Rustagi, N., & Dada, R. (2010). Students' perceptions of cheating and plagiarism in higher institutions. *Journal of College Teaching and Learning, 7*, 59-68.

Pavlin-Bernardić, N., Rovan, D. & Pavlović, J. (2016). Academic cheating in mathematics classes: A motivational perspective. *Ethics & Behavior 27*(6), 486–501. https://doi.org/10.1080/10508422.2016.1265891

Peculea, L., & Peculea, A. (2020). Exploring the perceptions of first-year engineering students on academic dishonesty. *Journal of Educational Sciences*, *21*, 35-45. DOI: 10.35923/JES.2020.1.03

Rakovski, C. C. & Levy, E. S. (2007). Academic dishonesty: Perceptions of business students. *College Student Journal, 41*(2), 466–81.

Saana, S. B. B. M., Ablordeppey, E., Mensah, N. J., & Karikari, T. K. (2016). Academic dishonesty in higher education: students' perceptions and involvement in an African institution. *BMC Research Notes*, *9* (234), 1-13. DOI 10.1186/s13104-016-2044-0

Soroya, M. S., Hashmi, M. A., & Soroya, S. H. (2016). Academic integrity: effects of demographic variables on students' cheating. *South Asian Studies, 31*(2), 27-43.

Teixeira, A., & Rocha, M. (2010). Cheating by economics and business undergraduate students: An exploratory international assessment. *Higher Education, 59*(6), 663-701. https://doi.org/10.1007/s10734-009-9274-1

Theart, C.J. & Smit, I., 2012, 'The status of academic integrity amongst nursing students at a nursing education institution in the Western Cape', *Curationis 35*(1), 1-8. http://dx.doi.org/10.4102/ curationis.v35i1.27

Vandehey, M. A., Diekhoff, G. M., & LaBeff, E. E. (2007). College cheating: A twenty-year follow-up and the addition of an honor code. *Journal of College Student Development, 48*(4), 468–480.

Whitley, B. E. 1998. ''Factors Associated with Cheating among College Students: A Review.'' *Research in Higher Education 39* (3): 235-274. https://doi:10.1023/A:1018724900565.

Winardi, R. D., & Anggraeni, M. A. (2017). Academic dishonesty among accounting students: Some Indonesian evidence. *Jurnal Akuntansi Dan Keuangan Indonesia*, *14*(2), 2. cle 2. DOI: 10.21002/jaki.2017.08

Wollack, J., & Cizek, G. (2017). Security issues in professional certification/licensure testing. In S. Davis-Becker & C. Buckendahl (Eds.), *Testing in the Professions: Credentialing Policies and Practice* (pp. 178-209). Taylor & Francis.

Yu, H., Glanzer, P. L., Sriram, R., Johnson, B. R., & Moore, B. (2017). What contributes to college students' cheating? A study of individual factors. *Ethics & Behavior, 27*(5), 401–422. https://doi.org/10.1080/10508422. 2016.1169535