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Do individual factors and academic discipline affect student cheating behavior? An empirical study in the Middle East

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Introduction

In the current digital information age, university students are regularly exposed to unethical practices by role models in various professions across the world. Instances of bankers paying billions of dollars in penalties for money laundering and taking advantage of consumers (Finch, 2017) and of businesses infringing the intellectual property rights of their competitors (Lusha and Elias, 2017) are common news headlines. Similarly, in the medical profession, doctors have been suspended for over prescribing, malpractice, and insurance fraud (Maldonado, 2017).

As per social learning theory, "much of human behavior is learned through the influence of example" (Bandura, 1986, p. 527), university students may be led to believe that they "may need to act unethically to advance their careers" (Lawson, 2004, p. 189). Consequently, despite increasing recognition of the importance of ethical behavior in higher education (Macfarlane, Zhang, & Pun, 2014), academic integrity still remains a persistent problem at a global level (Cronan, Mullins, & Douglas, 2018) and scandals involving students' academic misconduct have surfaced at many of the world's leading institutions (Minarcik & Bridges, 2015).

With respect to individual differences, extant research has clearly established the influence of three of the big five personality dimensions, namely *emotional stability, conscientiousness and agreeableness,* on academic misconduct (Byle and Holtgraves, 2008; Giluk and Postlethwaite, 2015; Karim, Zamzuri, and Nor, 2009). A second individual factor relates to gender, as male and female students have been reported to exhibit different cheating behaviors (Chapman & Lupton, 2004; McCabe & Trevino, 1997; Simon et al., 2004). In terms of context, students on campus are enrolled in different academic disciplines, thus being exposed to different deontological standards and moral compasses in line with the exigencies of their respective disciplines.

Despite a rich academic integrity literature, to the best knowledge of the authors, no empirical investigations conducted on a single campus have simultaneously modeled the

influence of personality traits, academic disciplines, and gender on cheating behavior. The present study endeavors to address this gap.

The study had three specific objectives:

1. To analyze the impact of academic discipline (business, engineering, and medicine), on student academic misconduct.
2. To analyze whether gender has any correlation with the student academic misconduct.
3. To analyze the impact of three personality traits (agreeableness, emotional stability, and conscientiousness) on student academic misconduct.

Method

A mixed method approach was adopted for the study. At the first stage, in-depth interviews were conducted with five faculty members, a senior university administrator, and three senior students. This process provided insights into the factors affecting cheating behavior and helped in identifying measures for the study constructs and adapting them to the study context. The items were worded in terms of hypothetical behavior to make it easier to elicit honest responses. After a pilot administration, some enhancements in item wording were made leading to final study questionnaire. On obtaining ethics approval, the survey was administered electronically to students enrolled at a large university in the Middle East which offered programs in different disciplines. They were assured of anonymity of responses and provided a link to the electronic questionnaire. They were then required to provide an informed consent before responding to the survey. At the end of the data collection process, 678 responses from students in three schools (Business, Engineering, and Medical) were obtained.

The data was analyzed using exploratory factor analysis (EFA) in SPSS 20 to identify the factors that emerged. At the next stage, confirmatory factor analysis (CFA) in LISREL 8.5 was used to confirm this factor structure, as well as to establish reliability. Convergent and discriminant validities were assessed, using average variance extracted (Fornell & Larcker, 1981). After this, a composite measure of cheating scale was constructed and a comparison of means across the three programs of study, and across gender was undertaken using ANOVA and independent samples t-test. Finally, a multiple linear regression using dummy variables was conducted in SPSS, with cheating as the dependent variable, and personality traits (agreeableness, conscientiousness, and emotional stability), gender of students and the school they were enrolled in as predictors.

At the conclusion of the quantitative phase, in order to gather further insights to interpret the findings, a second qualitative phase in terms of in-depth interviews were conducted with three professors, one each from the Business, Engineering and Medical Schools, as well with two students from each school.

Findings

The 678 respondents demographically consisted of 353 males (52.1%) and 325 females (47.9%), with 353 students (52.1%) enrolled in Medical School, 178 students (26.3%) in Business School and 147 students (21.6%) in Engineering School, which was broadly reflective of the population statistics.

The sample sizes across schools and gender were adequate for statistical testing. An ANOVA test showed that there was a significant difference in the variance of cheating behavior across schools with medical students having the lowest scores (X = 1.92), followed by engineering students (X = 2.29) and finally business students being the highest (X =2.63)

Comparing means of cheating behavior by gender

An independent samples t-test showed that male students tended to self-report being involved in cheating behavior significantly more than females (X=2.32 &X=2.01, respectively, $p < 0.01$). However, t-tests conducted across each school had mixed results where differences across gender were statistically significant for medical students while there were no statistically significant differences for either business or engineering students.

Comparing means of cheating behavior across schools and gender

A pertinent issue arises from these findings, is to determine which one of gender and academic discipline has the higher impact on student on cheating behavior. To this end, a t-test was used to compare the mean score for male students at Medical school (2.07) to: 1. Female students in Business (2.45), 2. Female students in Engineering (2.13). The results showed that the difference was significant between male medical-female business ($p=0.02<0.05$), while not significant for male medical-female engineering students ($p=0.77>0.05$). This provides support to the key role of academic discipline on cheating behavior, as consideration of academic discipline reversed the earlier finding of male cheating behavior being greater or equal to that of their female counterparts.

Impact of personality on cheating behavior

A multiple linear regression (with dummy variables) was used to test if cheating behavior, could be predicted based on the three personality variables along with gender and academic discipline. For the purpose of defining dummy variables, male gender and medical students were selected as the comparison variables.

The variance inflation factor was well below the commonly used cut-off point of 10 (Belsley, Kuh & Welsch, 1980), with the highest value of 1.97 thereby confirming the absence of multicollinearity in the data, while the Durbin-Watson statistic was close to 2 (1.85) confirming that error terms were not correlated.

An examination of the output file showed that the data fit the model well with an F-value of

17 ($p<0.01$), while the predictors collectively explained 12.5% of the variance in cheating behavior. The output file may be interpreted as follows. All predictors were statistically significant. Emotional stability, agreeableness, and consciousness had a standardized coefficient of 0.29 ($p<0.01$), -0.122 ($p<0.01$), and -0.135 ($p<0.01$) respectively on cheating.

Hyp	Description	Parameters	Conclusion
H1	There is a significant difference in cheating behavior among students from different academic disciplines	Business and engineering students cheat 0.618, and 0.245 points > medical students	Supported
H2	Male students report cheating significantly more than their female counterparts	Females cheat 0.238 points <males	Supported
H3a	Emotional stability, is negatively associated with cheating behavior among university students	Beta=0.29 ($p<.01$)	Supported
H3b	Agreeableness is negatively associated with cheating behavior among university students	Beta=-0.122 ($p<.01$)	Supported
H3c	Conscientiousness is negatively associated with cheating behavior among university students	Beta=-0.135 ($p<.01$)	Supported

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