

Mental Health and Exam Malpractice:
Theory of Test Design is Prediction, Not Deception

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Abstract

The purpose of this research study is to determine whether students who cheat demonstrate significantly lower academic achievement than students who do not cheat. Students in a 100-level education course were classified as *Cheaters* if they cheated on a continuous assessment. *Cheaters* performed significantly lower on the final course examination than *Noncheaters*. Therefore, the researcher argues that unreasonably difficult examinations contribute to the proliferation of exam malpractice in Nigeria. In addition to giving students the impression that they must cheat to pass, tricky items also reduce the validity of the examination. Inordinately difficult examinations thus wound the mental health of test takers and encourage examination malpractice.

Introduction

The former Nigerian Minister of Education, Dr. Jeremiah Agada, has recently declared a “War against Examination Malpractice” to combat the proliferation of academic dishonesty in the Nigerian educational system (Wakaso, 2000). As an example of the profusion of examination malpractice in Nigeria, Onyechere of the Exam Ethics Project reported that WAEC, NECO, JAMB, and NABTEB canceled over 50,000 results from SSCE candidates in 2007 (Onyekachijet, 2008). To examine examination malpractice in the university, researchers allowed students to mark their own exam. However, the students did not realize that the researchers had already photocopied the original exams. When comparing the exams marked by the students and the original submitted exams, over 75% of the university students cheated by changing their responses when marking (Olasehinde-Williams, Abdullah, & Owolabi, 2003).

The issue of exam malpractice is not unique to the Nigerian educational system. In Australia, 19% of tertiary students reported having copied from another student during an exam and 12% of the students report taking unauthorized material into a testing room (Brimble & Stevenson-Clarke, 2005). In the United States, 26% of the students reported cheating on an exam during their university careers (Diekhoff, LaBeff, Shinohara, & Yasukawa, 1999). However, course grades in both the United States and Australia are

assigned differently than Nigeria in that they tend to include multiple exams and essays completed throughout the course of the term. Universities in Japan, on the other hand, are similar to Nigeria whereby course grades depend almost solely on exam scores. In Japan, 55% of the university students reported cheating on an exam (Diekhoff et al., 1999).

Researchers have identified many potential factors contributing to the rise in academic dishonesty in Nigeria. Asuru (1996) succinctly categorized these factors. Factors influenced by the society include a societal value system that tolerates corruption and an identification of success as holding certificates and not excellent performance. Economic factors encourage instructors and exam administrators to accept bribes for entrance and certification exams to supplement their low salaries. Factors influenced by the educational system include poor teaching, poor learning environments, lack of facilities, as well as unqualified candidates taking the exams. Finally, examinee factors consist of peer pressure to cheat and fear of failure. Besides Asuru, other researchers have also cited fear of failure (Okoh, 1996; Onuka & Obialo, 2004) and examinees' lack of confidence in their abilities (Esezobor, 1996) as factors that encourage examinees to cheat on exams. The focus of this paper will be on the examinee factors that contribute to examination malpractice.

Indeed, when asked why they engage in exam malpractice, fear of failing the exam was listed as one of the top reasons why students engage in exam malpractice in both Nigeria (Onuka & Obialo, 2004) and the United States (Schab, 1991). In Australia, students reported cheating because the exam was too difficult as the second most frequent reason for cheating (Brimble & Stevenson-Clarke, 2005). Research has found that a significant correlate of cheating behavior is one's self-efficacy for the exam. Self-efficacy is defined as the judgment of one's ability to successfully perform the skills necessary to produce a desired outcome (Murdock, 2006). In other words, a student's self efficacy on an exam can be the grade that they think they will earn on the exam based on their own skills. If a student does not think

they can perform very well on the exam, then they have low self efficacy for performance on that exam. To determine the relationship between self efficacy and cheating behavior, Murdock and colleagues administered a questionnaire of academic self-efficacy and also asked students about their cheating behavior in the past year. Those students who reported cheating in an exam had lower self-efficacy than those who do not cheat (Murdock, Hale, & Weber, 2001). Therefore, when students do not expect to be able to pass an exam through their own abilities, they resort to cheating (Murdock, 2006).

Research has demonstrated that in addition to self efficacy, cheating behavior is also influenced by students' actual academic performance (Crown & Spiller, 1998). Students with lower academic performance resort to cheating more frequently than students with higher academic performance. Newstead, Franklyn-Stokes, and Armstead (1996) found that students in England who received failing marks cheated considerably more than students who received upper 2nd class and 1st class marks. Another study conducted in the United States administered a questionnaire to assess the frequency of cheating behavior amongst university students (Roig & DeTommaso, 1995). A significant negative correlation between grade point average and frequency of cheating demonstrated that students who frequently cheat have lower grade point averages.

Since performance has been found to be a significant predictor of cheating behavior in previous research conducted in Europe and the United States, the purpose of this research study was to replicate these findings in a Nigerian setting. Over 100 students blatantly cheated in the researcher's 100-level educational psychology course by submitting continuous assessment assignments that were obviously photocopied. Therefore, the researcher decided to use this naturalistic incident of cheating to determine whether students who cheated had a lower average score on the final exam than students who did not cheat.

The null hypothesis presumed that there was no significant difference on exam scores between students who cheated and students who did not cheat.

Method

Participants

The population intended for this study are students who attend federal universities in Nigeria. The sample consisted of 228 students reading in the intact 100-level educational psychology course at the University of Jos. (Over 500 students were enrolled in this course. However, only students who completed this continuous assessment and were categorized as *Cheaters* or *Noncheaters* were included in the sample.) Of the 228 students involved in this study, 110 were identified as *Cheaters* because they either submitted a photocopy of a blatantly plagiarized assignment or were caught cheating on the final exam. (An additional 106 students also submitted a photocopy of the assignment. However, these students were not included in this study because only a few other students turned in an exact photocopy. Therefore, the researcher concluded that these students could have collaborated on the assignment. Students were only classified as *Cheaters* if at least 15 other students turned in the exact same photocopy of the assignment.) The remaining 118 students in the study were identified as *Noncheaters* because they were not caught cheating on the assignment or on the final course exam. Approximately 53% of the students in the course were male (47% female) and 83% of the students were below the age of 27 (17% above the age of 27). All students were enrolled in the Faculty of Education.

Design

The design of this study was causal-comparative. A causal-comparative research design examines the effect of an independent variable that the researcher does not manipulate on a dependent variable (Gall, Gall, & Borg, 2003). The current study sought to determine whether students who cheated demonstrated lower academic achievement. Cheating behavior

was operationally defined as whether students blatantly cheated on the assignment or final exam in their 100-level educational psychology course. Academic achievement was operationally defined as the final exam score in the same course. The final exam consisted of three essay questions. The exams were marked on a scale from 0 to 70 by the three course instructors based off of a rubric developed prior to the exam administration. Because the three evaluators had different scoring distributions, the final exam scores were first converted to z-scores based on the mean and standard deviation for each instructor separately. The analysis was then conducted on students' z-scores. The means for *Cheaters* and *Noncheaters* were then placed back on the marking scale by using the mean and standard deviation for the overall course. The level of significance to reject the null hypothesis was set at $p \leq .05$ for a one-tailed t-test.

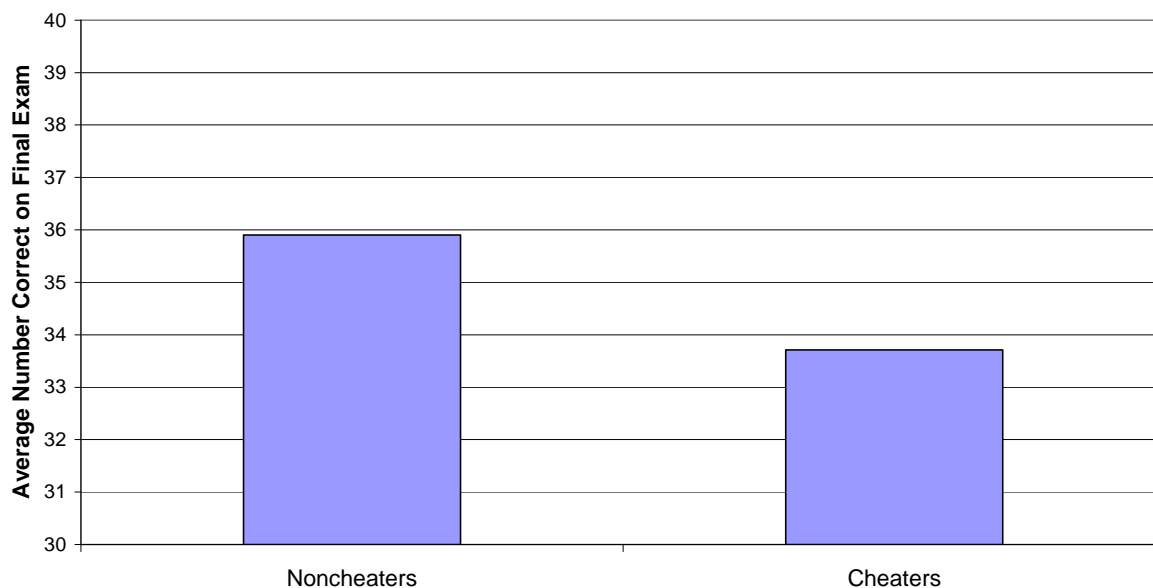
Results

To determine whether *Cheaters* demonstrated lower academic performance than *Noncheaters*, an independent sample *t*-test was conducted. The purpose of the *t*-test was to determine whether the average number of points that the *Cheaters* earned on the educational psychology final exam was significantly lower than the average number of points that the *Noncheaters* earned. The one-tailed *t*-test confirmed that students who cheated did perform significantly worse than students who did not cheat (see Table 1). Since the *t*-test was significant, *Cheaters* had lower academic performance than *Noncheaters* (see Figure 1 for a comparison of the mean performance of *Cheaters* and *Noncheaters*).

Table 1. *t*-test for the Null Hypothesis

	N	Mean	Pooled SD	SEM	t-Critical	t-Cal	df	p	Decision
Noncheaters	118	35.9	1.3	0.12	1.6	1.6	226	.05	Reject
Cheaters	110	33.8	1.3	0.12					

Figure 1
Academic Performance of Cheaters and Noncheaters



Discussion

The first step to winning the War against Examination Malpractice is to understand the reasons why students choose to cheat because it is only when the reasons are adequately understood through rigorous research that educators can then take up arms to fight future examination malpractice. This study demonstrated that students who chose to cheat had significantly lower academic performance than their peers who did not cheat. In other words, the students who had less understanding of educational psychology felt the necessity to cheat on their assignment. The inferior students apparently did not think they could succeed based on their own abilities so they chose to cheat.

Cheating requires advance thought and preparation. Students do not know the exam questions before they enter the exam, nor do they know how the instructor will mark a continuous assessment before they submit the assignment. Therefore, students determine whether they will cheat prior to their assessment by comparing their perceived abilities to their perception of the difficulty of the assessment. If a student concludes that they can achieve success on the assessment through their own abilities in the subject, then there is little

necessity for cheating. However, if a student concludes that they cannot achieve success through their own abilities, particularly if they judge that an assignment or an exam will be unduly difficult, then cheating becomes a viable option. Indeed, the continuous assessment that these students completed that determined whether students were classified as *Cheaters* or *Noncheaters* was to make a concept map of the information processing model of learning. Virtually all of the students in the class reported that they had never before completed a concept map.

This study determined cheating behavior based on a relatively inconsequential assignment. However, Nigerian students are required to take exams that have considerably more import. For example, performance on the JAMB determines both whether a student will be able to enroll in university and the program of study that they will read. This one exam therefore has a very significant impact on students' future and thus students undoubtedly feel considerably more pressure to succeed on a high-stakes exam than on a university assignment. Therefore, the findings from this study have considerable implications for testing beyond the university classroom.

Implications for Mental Health

Every individual in the field of education has a responsibility to take up their sword in the War against Examination Malpractice. As such, the testing industry that develops and administers high-stakes tests is responsible for doing everything in their power to ensure that exam malpractice is reduced to a minimum. While the testing industry cannot control societal and economic factors contributing to exam malpractice or control the examinees' dishonest behavior, test developers should be sensitive to the factors that have been empirically demonstrated to influence dishonest testing behavior. If a majority of students cheat because they doubt that they can succeed on the exam based on their own abilities, then test developers should scrutinize the examinations to determine whether the examinations are too

difficult and thus influencing undue fear of failure in the students. In other words, if the students cheat on exams because they cannot possibly succeed on a test that is much too difficult, then the testing industry must change the test specifications.

Educational assessments can be divided into two broad categories. The first type of educational assessment is an achievement assessment that determines how much the students have learned from instruction. These are the types of exams that instructors give to students at the end of the term to determine whether students have mastered the course content. The second type of assessment predicts how well a student will perform in a new educational program. The purpose of exams like the JAMB that determine entrance into tertiary institutions is to predict which students will perform well in university so officials can select the most appropriate students for admission. Therefore, these predictive exams should not be designed to trick students or to fail many students, but to ascertain which students will be most successful in the next level of education.

All assessments, including both achievement and predictive assessments, must demonstrate adequate validity. The most important type of validity for predictive assessments is criterion validity (American Educational Research Association [AERA], American Psychological Association [APA], and National Council on Measurement in Education [NCME], 1999). Since the purpose of a predictive assessment is to predict future performance, test developers must demonstrate that the test actually does predict future performance in subsequent education. This relationship between the test score and the criterion that it is intended to predict – in this case, performance in university – is criterion validity (AERA et al., 1999). Three psychological bodies, APA, AERA, and NCME, have developed standards that are to be followed by test developers for producing high quality tests (1999). Standard 1.15 states that “When it is asserted that a certain level of test performance predicts adequate or inadequate criterion performance, information about the

levels of criterion performance associated with given levels of test scores should be provided” (p. 21) In other words, examinations do not have to be so difficult as to fail a majority of the students. Instead, impossibly difficult tests foster fear in students, causing them to doubt their abilities to perform well on the exam. As this research has demonstrated, students who doubt their abilities resort to cheating. Instead of making extremely difficult exams, test developers should focus on developing exam questions that predict future educational performance. Even though reducing the difficulty of the exams will increase students’ overall performance on the exam, the exam can still accurately discriminate between students who will perform well in subsequent education and students who will not perform well. To do this, test developers need to conduct regression studies to determine the minimum level of performance demonstrated by the students who are qualified to continue their education.

Conclusion

One promising battle tactic to winning the War against Examination Malpractice is to reduce the difficulty of the examinations to more accurately reflect the content that is taught in the schools, which should in turn reduce students’ anxiety for taking the exam. As students become more confident in their abilities to do well on the exam, their need for cheating will be reduced. With the high proportion of students who currently cheat, the exams are suffering from a lack of validity because high test scores could indicate either high ability or having sophisticated cheating procedures. Less examination malpractice will then increase the validity of the examinations because students who perform well on the exams will be the students who have the highest ability. When the validity of the exams is increased, then students will be more appropriately placed in the educational setting where their skills and abilities can contribute to a more vibrant Nigerian society.

In conclusion, when tests are designed to predict future performance instead of to trick students, two positive outcomes will occur. First, students will have more confidence in their ability to pass the test, which will lead to less cheating on the exams. Second, the tests will become a more valid measure because they will more accurately predict those students who are most qualified to continue their education.

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