Assessing the understanding of academic integrity of university students

Justin Louder, Ed.D.

Marcelo Schmidt, M.Ed.

Abstract

Educational institutions must remain vigilant of the academic integrity of their students. It is thus, paramount that student perceptions, knowledge and practices pertinent to academic integrity be assessed periodically. The current study assessed the understanding of academic integrity of university students by academic classification and gender. Archival data retrieved from a 12-item survey based on the university’s stated academic integrity policies was used. Specifically, we examined items in which students collectively underperformed and those that have been supported by the literature as being historically problematic (i.e., plagiarism and collusion). Logistic regression was used to analyze each survey item considering gender, classification, and student age as predictors. The data analysis indicated that gender is a predictor of understanding of academic integrity. We did not find that classification nor student age were significant predictors of understanding of academic integrity. Previous studies have suggested that male students are more prone to infract on academic integrity. We suggest that this may be in part, due to a lack of clear understanding of certain items within academic integrity.

Key words: Academic integrity, university students, student knowledge
Introduction

Educational institutions concerned with high ethical standards and practices must remain vigilant over the academic integrity of their students. Despite efforts to ameliorate academic integrity on university campuses, academic dishonesty remains a complex and widespread problem. In assessing the extent of academic dishonesty, a few scholars have concluded that the incidence of such has been increasing (e.g., McCabe & Trevino, 1997), reaching “epidemic” proportions (Hutton, 2006, p. 171), and may continue to escalate if not properly addressed (Estep & Olson, 2011). Others, however, contend that the number of students committing academic infractions has remained rather stable over time (Whitley, Bichlmeier, & Jones, 1999; Brown & Emmett, 2001). Regardless of the trend, it is collectively accepted that academic dishonesty is pervasive (McCabe, Trevino, & Butterfield, 2001) and has become sufficient of a problem to merit attention from university educators and administrators. In doing so, academic integrity policies have been established as a means to uphold professional and ethical standards, guard the values of integrity, and prevent further occurrences academic dishonesty among students. However, a myriad of changes in cultural and moral values, advances in technology and instructional delivery, and faculty attitudes make the matter of academic integrity one which must be constantly reassessed. Over the past three decades scientific inquiry on the topic of academic integrity has grown exponentially with the core of research focusing on identifying student cheating modalities, on the demographics characteristics of those who cheat, and on the reasons why students choose to engage in in dishonest academic behavior.
Literature Review

Student violations of academic integrity take up several forms. Currently, it appears that collusion and plagiarism may be among the most common forms of academic dishonesty. In a review of cheating in academic institutions, McCabe, Treviño and Butterfield (2001) identified that between 1963 and 1996, plagiarism was consistently the highest self-reported form of academic dishonesty. Achey Kidwell, Wozniak, and Laurel (2003) found that from a sample of students who self-reported cheating patterns, the majority (47%) engaged in plagiarism, followed by collusion (46.7%), and illegally obtaining questions prior to taking an exam (45.8%). A similar trend was found by Whitley (1998) when reviewing over 100 studies on academic dishonesty. Among the studies reviewed by Whitney (1998), nine studies addressed plagiarism and had a prevalence range of 3% to 98% with a mean of 47%. While 36 studies examined the prevalence rates in cheating during examination and in homework reporting a range of 4% to 82% (M= 43.1%) and 3% to 83% (M=40.9%) respectively. It appears that plagiarism from digital sources is more problematic than from printed press (Ellery, 2008) and that its practice may be on the rise (Park, 2004).

A substantial amount of research has been focused on identifying demographic characteristics of students who commit academic integrity infractions. It is paramount to the proper implementation of preventive measures and interventions. Several studies have assessed gender differences and academic integrity with a focus on incidence, type of infractions committed, and reasons for engaging in academically dishonest behaviors. Evidence from these studies suggests that male students exhibit more troubling patterns relative to academic integrity. This propensity has been identified as early as half a century ago (Bowers, 1964) and has been documented repeatedly since then. For example, Davis, Grover, Becker, and McGregor (1992)...
surveyed over 6,000 students throughout several high schools and colleges finding that female self-reported cheating prevalence ranged from 9% to 51% while male self-reported cheating prevalence was reported ranging from 64% through 83% across schools. A difference in academic dishonesty by gender was found to be true in discipline specific studies as well. Chapman and Lupton (2004) found that from a sample of 443 American business students, cheating self-reports were approximately 66% for male and a substantially reduced 45% for female students. And while the bulk of studies on academic dishonesty has involved American students, male prevalence transcends nationalities and has been identified in Canadian (Genereux & McLeod, 1995), Japanese (Kobayashi & Fukushima, 2012), and Taiwanese (Lin & Wen, 2007) collegiate students. What may appear to solidify this notion of male propensity is the detection of differences in academic integrity by gender observed in experimental designs. One such study conducted by Niiya, Ballantyne, North and Crocker (2008) reported instances of cheating at 71% and 41% for males and females respectively in controlled laboratory conditions.

It should be noted, however, that a few studies have not detected gender differences relative to academic dishonesty. For example a study by Haines, Diekhoff, LaBeff, and Clark (1986) examined self-reported cheating behaviors of university students during exams, quizzes, and class assignments and found no difference between genders. Haines and colleagues (1986) however, cautioned that the sample of female students was overrepresented in their study and that this may have influenced their results. Favoring this no difference position is a meta-analytic study that considered gender differences on attitudes toward academic dishonesty and actual instances of academic dishonest behavior. The meta-analysis found that gender differences in attitude towards academic dishonesty were large with female students exhibiting higher standards of honesty yet a gender difference in actual behavior was small or non-existent when
controlling for certain study variables (i.e., observation vs. self-reported; student major; Whitley, Bichlmeier, & Jones, 1999). Further, some studies have found mixed findings according to gender and cheating modalities. When investigating traditional cheating modalities, fraudulent excuse making and plagiarism, Roig and Caso (2005) found male prevalence in traditional cheating and fraudulent excuse making yet non-significant differences between male and female students in instances of plagiarism.

In addition to gender, other student demographics that have merited extensive study are age and student classification. Yet, similarly to gender differences, findings regarding age and classification have been relatively equivocal. The dominant trend of findings appears to suggest that younger students engage in cheating more so than older students (Haines et al., 1986; Klein, Levenburg, McKendall, & Mothershell, 2007). Also, studies have identified that freshman students are considered to be within the most dishonest academic classification (Lin & Wen, 2007). Thus, it may be concluded that age exacerbates the incidence of academic dishonesty. Surprisingly, however, graduate students are not exempt from cheating nor do they represent a small portion of those engaging in academic dishonesty and the incidence of cases is similar to that of undergraduate student populations. In a study focusing on graduate student cheating behaviors, Zastrow (1970) found that 40% of students in a sample had been identified as cheaters. Self-reported incidence of cheating of graduate students was recorded between 2.5% and 55.1% (Wadja-Johnston, Handal, Brawer, & Fabricatore, 2001).

There are several reasons or factors that influence student propensity to engage in academic dishonesty. Often cheating is accompanied by “neutralizing techniques” such as rationalizing academic dishonesty or denial (McCabe & Treviño, 2001; p. 227). Moral attitudes (Grimes, 2004); laziness (e.g., McCabe, Travino, & Butterfield, 1999; Newstead, Franklyn-
Stokes, & Armstead, 1996), differences in institutional control (e.g., Davis, Grover, Becker, & McGregor, 1992; Diekhoff et al., 1996; McCabe & Trevino, 1997; McCabe, Trevino, & Butterfield, 2002; Roig & Marks, 2006); cultural differences (e.g., Chapman & Lupton, 2004; Grimes, 2004); fulltime versus part-time academic enrolment (Smyth & Davis, 2003); and student’s knowledge and understanding of what constitutes academic integrity (Brimble & Stevenson-Clark, 2005).

Studies have indicated that some students do not perceive that certain instances of academic dishonesty actually constitute academic integrity infractions. This may in part be due to a lack in understanding of what constitutes academic misconduct. As such, it has been suggested that understanding academic integrity policies may be central to the problem of academic dishonesty (McCabe & Trevino, 1993). Several studies have indicated that few students have adequate knowledge of the university’s academic integrity policies (e.g., Spaulding, 2009). This lack of understanding has been manifested by student failure to appropriately identify instances of academic misconduct in surveys (McCabe & Trevino, 1993; Brimble and Stevenson-Clarke, 2005). In a study examining the effect of student understanding of the stated academic policies, McCabe, Butterfield & Treviño (2006) found that understanding and acceptance of the academic policies was inversely related to academic misconduct. Despite this, a dearth of studies has sought to assess student understanding of academic integrity policies (Jordan, 2001). Thus, the purpose of our study was to contribute to the body of literature pertinent to collegiate student understanding of academic integrity. We hypothesized that in agreement with current literature we would find that a) gender would be a predictor of understanding of academic integrity, and b) that student academic classification would predict
understanding of academic integrity as evidenced in our understanding of academic integrity survey.

**Methodology**

For this study, archival data from a study that was conducted at a large university located in the southwestern region of the United States was used. Students had completed surveys during a student-centered event which had as a purpose to bring about awareness of academic integrity among the student population. A total of 1150 surveys were completed and used in the quantitative analysis. In order to assess student understanding of academic integrity, a 12 question survey based on the academic integrity survey designed by Dr. Donald McCabe and reflective of academic integrity stated policies of the university was created. Questions were presented to students in a ‘true and false’ format; however they were subsequently coded as ‘1 and 0’ (i.e. a correct identification equals one point and incorrect identification equals zero points) for purposes of statistical analysis. Upon inspection of the survey results, it was determined that students exhibited understanding difficulties on items 8, 11, and 12 which pertain to fraudulent excuse making respectively (see appendix A for survey items). Driven by present literature that indicates that students may not fully understand the concept of plagiarism (e.g., McGregor & Williamson, 2005), we also analyzed survey item 6 which pertains to plagiarism. Given the categorical binary nature of the data, we analyzed each survey item with binary logistic regression. Statistical analyses were conducted using SPSS V. 20.

**Results**

Descriptive statistics indicated that there were a total of 1049 student participants of which, 17.8% reported their academic classification as freshman, 18.8% as sophomore, 20.1% as
junior, 21.5% as senior, and finally, 21.5% as graduate students with an average age of 22.08 years with a range of 18 through 54 years. In terms of gender, 62.3% reported as female and 37.7% reported as being male.

First we examined item 8 of the survey “It is cheating to obtain questions or solutions for a test before taking it without having permission from your professor”. This statement was identified correctly by 88% of the survey respondents. The logistic regression model indicated that gender was a significant predictor of identifying the statement correctly ($b = .574, p < .01$). The odds ratio for gender indicated that female students were 1.77 times more likely than male students to identify the statement correctly (See table 2). The variables classification and age were not found to be significant predictors of correctly identifying this statement.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B(SE)</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.88 (0.87)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.574* (0.21)</td>
<td>1.17</td>
</tr>
</tbody>
</table>

Note: * $p < .01$. $R^2$ = (Cox & Snell), .01.

Our second logistic regression model examined survey item 11 which seeks to capture student understanding of collusion. The statement “It is ok to collaborate with other students on academic assignments without having permission from your professor” was identified correctly by 70% of the respondents thereby becoming the survey item with which students exhibited the most difficulty in identifying correctly. Gender was found to be a significant predictor for identifying the collusion statement correctly ($b = .536, p < .001$). No other variables were found to be significant predictors of correctly identifying the collusion statement.
While item 12 pertaining to fraudulent excuse making was identified correctly by 88% of students, indicating that more than 10% of students exhibited difficulties with understanding the statement, the logistic regression model did not identify any variable predictive of identifying this survey item correctly. However, with item 6 of the survey which pertains to plagiarism, the logistic regression model indicated that gender was a significant predictor of correctly identifying this statement ($b = 1.51$, $p < .001$). The odds ratio suggested that female students were 3.16 more likely to identify this statement correctly. As with all previous models, neither student classification nor age was found to be significant predictors.

**Discussion**

The importance of student understanding and acceptance of academic integrity policies have been identified as central to curbing the incidence of academic dishonesty. However, a dearth of literature addressing the matter of student understanding of academic integrity policies exists. Thus, we sought to contribute to the body of literature in this area by assessing understanding of academic integrity policies of a large group of students using archival data. We particularly focused on student demographics which is characteristic of the research in this area.

**Table 3.**

<table>
<thead>
<tr>
<th>B(SE)</th>
<th>Lower</th>
<th>Odds Ratio</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.88 (0.87)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.536* (0.15)</td>
<td>1.27</td>
<td>1.70</td>
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</tbody>
</table>

Note: * $p < .001$. $R^2 = (Cox & Snell), .018$. Model $\lambda^2 (6) = 16.53$, $p < .01$

**Table 4**

<table>
<thead>
<tr>
<th>B(SE)</th>
<th>Lower</th>
<th>Odds Ratio</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.23 (1.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.15* (0.51)</td>
<td>1.71</td>
<td>3.16</td>
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</table>

Note: * $p < .001$. $R^2 = (Cox & Snell), .01$ Model $\lambda^2 (6) = 17.54$, $p < .01$
Gender was found to be predictive of correctly identifying academic integrity policy statements with female students consistently being more likely to identify the statements correctly. We proffer, with caution, that correctly identifying academic integrity policy statements demonstrates understanding of such statement. Nearly half a century of research has identified male propensity to infract upon academic integrity. This propensity has been attributed to males having more favorable attitudes toward cheating (Whitley et al., 1999) such as academic dishonesty being an acceptable practice (Lin & Wen, 2007). Given our findings, we suggest that a lack of clear understanding of academic integrity may contribute to male propensity.

Students in lower classification (e.g., freshman, sophomore) may be more prone to engage in academic dishonesty (Vandehey, Diekhoff, & LaBeff, 2007). Nonis and Swift, (2001) found this trend to be true of younger students as well. While this may be true to propensity to engage in academic misconduct, we suggest that this may not necessarily be a product of misunderstanding of academic policies as our study found that academic classification was not a predictor of understanding of academic integrity policies.

Regarding the specific survey items that this study examined, survey item eight pertaining to students obtaining answers to an exam prior to taking it has been identified in the literature as a high incidence form of academic misconduct. McCabe (2005) in a summary of findings of students in North America, including the United States and Canada, found that from a sample of over 70,000 undergraduate students and over 20,000 graduate students 64% and 79% respectively perceived obtaining answers to an exam prior to taking it a serious offense while 33% of undergraduate students and 17% of graduate students reported engaging in this type of cheating. Our study found that 88% of students correctly identified this type of academic dishonesty. While this suggests that there may be a lack of understanding relative to this
cheating modality, we also consider that students may simply be challenging the statement as they may not perceive this type of cheating to be severe.

Collusion, assessed by survey item 11, has been identified by previous studies as a form of academic dishonesty that is problematic for students to understand. It appears that students struggle with identifying a difference between legitimate acceptable collaboration and unacceptable collusion (Barrett & Cox, 2005). Barrett and Cox (2005), in fact found low student response to a collusion scenario compared to other academic dishonesty scenarios presented to students and the most amount of variance in terms of responses to the collusion scenario including that collusion is a beneficial practice to engage in. In similar manner, our study found the lowest correct identification to the collusion survey item (70.3%) suggesting that there may indeed be a lack of clear understanding of what collusion constitutes and how students interpret the severity of collusion as a form of academic misconduct.

Our study found that slightly over 10% of the student sample failed to correctly identify survey item 12 which assessed the use of fraudulent excuse making by students. However, the analysis did not find gender, student classification or age to be predictors of understanding of this prompt. Roig & Caso (2005) who specifically studied fraudulent excuse making by students found that while there was a male propensity in this form of academic misconduct, female students were found to express more varied excuses, whether legitimate or not relative to male students. While this does not suggest gender parity in this form of academic misconduct, it does, however propose a trend that may offer a glimpse for why no gender differences were found in our study. We do make the recommendation that fraudulent excuse making should be explained further to students in general.
Finally, given the pervasiveness of plagiarism facilitated by internet copy and paste functions, we decided to examine one item pertinent to this form of academic dishonesty. Understanding or misunderstanding of what plagiarism represents has been found to be a culprit cited by students caught having plagiarized. For instance, Ellery (2008) noted that of 39 first year college English students who submitted plagiarized essays, 21 admitted having plagiarized inadvertently rather than by dishonest means. Selwyn (2008) within the qualitative data of his study on plagiarism found a “mismatch between students’ understandings of online plagiarism and the understandings and expectations of university authorities” (Selwyn, 2008, p. 476).

While our survey revealed a relatively high (94%) level of understanding as exhibited by correct identification of the plagiarism prompt, we still looked for trends related to gender, classification, and age. Our analysis did not find classification or age trends, yet it revealed that female students were nearly three times more likely to identify the statement correctly thus revealing a higher level of understanding pertinent to this type of academic misconduct.

The findings in our study confirm our first hypothesis suggesting that gender would predict understanding of academic integrity policies. However, our second hypothesis suggesting that academic classification would be a variable predictive of understanding of academic integrity policies was not confirmed. Yet, from these findings, we proffer that as institutions striving to design and implement adequate interventions to minimize the incidence of academic misconduct must focus on providing students, particularly male students, clear definitions of what constitutes academic misconduct and that this instruction should be followed with a check for understanding.
References


APPENDIX A

Academic Integrity Survey

1. Academic Integrity means that you are accountable for your own work.

2. Making a personal decision to adhere to the standards of ethical behavior is part of academic integrity.

3. Ethical behavior and independent thought are important for achieving academic success.

4. Trust and respect among students, faculty, and staff are essential components of education.

5. Academic Integrity is the foundation of professional and educational careers.

6. Don’t worry about plagiarism if you use the web; things from the web do not need to be cited.

7. Copying from another student or source during a test is cheating.

8. It is cheating to obtain questions or solutions for a test before taking it without having permission from your professor.

9. Using materials from other sources and presenting it as your own work is plagiarism.

10. Not citing materials or ideas from other sources in your work is plagiarism.

11. It is ok to collaborate with other students on academic assignments without having permission from your professor.

12. Submitting false information in order to get an extension on an assignment or to take a quiz/test later is considered “misrepresenting facts” (e.g., a false doctors’ note).
Table 1. Descriptive Statistics of Study Variables

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<th>N</th>
<th>Frequency (%)</th>
<th>M (SD)</th>
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<tbody>
<tr>
<td>Obtaining solutions</td>
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<tr>
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<td>88.2</td>
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<tr>
<td>False</td>
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<td>29.7</td>
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<tr>
<td>True</td>
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<td>88.1</td>
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