

Making our measures match perceptions:**Do severity and type matter when assessing academic misconduct offenses?****Thomas H. Stone**

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The version of record of this article, first published in the *Journal of Academic Ethics*, is available online at Publisher's website: <https://link.springer.com/article/10.1007/s10805-014-9216-0>

Stone, T., Kisamore, J., Jawahar, I.M., & Bolin, J.H. (2014). Making our measures match perceptions: Do severity and type matter when assessing academic misconduct offenses. *Journal of Academic Ethics*, 12(4), 251-270. <https://doi.org/10.1007/s10805-014-9216-0>

Making our measures match perceptions:**Do severity and type matter when assessing academic misconduct offenses?****ABSTRACT**

Traditional approaches to measurement of violations of academic integrity may overestimate the magnitude and severity of cheating and confound panic with planned cheating. Differences in the severity and level of premeditation of academic integrity violations have largely been unexamined. Results of a study based on a combined sample of business students showed that students are more likely to commit minor cheating offenses and engage in panic-based cheating as compared to serious and planned cheating offenses. Results also indicated there is a significant interaction between severity and type (planned vs. panic) of cheating. We hypothesized serious and planned cheating offenses would be related to justifications and found the largest differences were between panic and planned. Finally, panic and minor cheating were associated with two self-control-related personality traits. Implications for cheating research are discussed.

Keywords: Academic misconduct, measurement, cheating, integrity

Making our measures match perceptions:

Do severity and type matter when assessing academic misconduct offenses?

INTRODUCTION

The current consensus among many researchers is that cheating and plagiarism are common behaviors among high school and college students. A Harvard University official recently commented, “the issue of cheating is a national problem in American education” regarding findings of a survey of incoming Harvard freshmen which showed 42% cheated on homework (Moya-Smith, 2013). Many studies have documented the prevalence of academic misconduct in the U.S. (see for instance Davis, Grover, Becker and McGregor 1992; McCabe and Treviño 1993, 1997; McCabe, Treviño and Butterfield 2002; Whitley 1998), and around the world including but not limited to Canada (Christensen-Hughes and McCabe 2006; Genereux and McLeod 1995), Australia (Brimble and Stevenson-Clarke 2005; Marsden, Carroll and Neill 2005), the U.K. (Newstead, Franklyn-Stokes and Armstead 1996), Singapore (Lim and See 2001) and central European countries (Magnus, Polterovich, Danilov and Savvateev 2002).

In the U.S., Donald McCabe and colleagues have conducted a large nation-wide program studying violations of academic integrity for many years. They began their research on academic dishonesty in 1990 with a study of undergraduates at 31 colleges and universities across the U.S. (McCabe and Treviño 1993). This initial study led to the formation of the Center for Academic Integrity at Duke University as well as conduct of a number of additional large sample, multi-campus studies (McCabe and Bowers 1994; McCabe and Treviño 1997; McCabe et al. 2002; McCabe, Butterfield and Treviño 2006). While McCabe and colleagues were not the first to study the issue of academic misconduct, their work has spurred others to research this important topic (see for example, Anderman and Murdock 2007; Bing, Davison, Vitell, Ammeter, Garner and Novicevic 2012; Crown and Spiller 1998; Kisamore, Stone and Jawahar 2007; Stone, Jawahar and

Kisamore 2010; Whitley 1998). More recently, McCabe, Butterfield and Treviño (2012) contend a review of their recent data suggest a “sea change” in how students perceive and define cheating. As early as 2006, McCabe et al. (2006) argued that future research should examine how students perceive different types of cheating and their respective levels of severity.

Purpose of the Current Study

The traditional, survey-based studies of academic integrity have relied on student self-reports of their engagement in various forms of academic misconduct (e.g., cheating on a test, collaborating on assignments to be completed independently). Researchers then derive a composite score of misconduct for each participant by summing responses across the various integrity violations. We assert, however, that this practice essentially treats very different forms of academic integrity as equivalent and thus prevents examination of more fine-grained relationships between person and situation-level variables and unique forms of academic misconduct. The traditional approach is not conducive to examining the sea change among student perceptions of types of cheating and their severity. Thus, the purpose of this study is to determine whether classifying integrity violations by their level of severity (i.e., minor vs. serious violations) will provide greater information about academic misconduct than the current method of summing across all violations. This paper is the first to examine how separating integrity violations into categories based on the severity of the offenses (i.e., serious vs. minor) and the type of offense (i.e., panic-based vs. planned offense) can reveal important relationships with factors such as personality, motives and demographics.

Serious vs. Minor Academic Integrity Violations

The majority of academic integrity research makes little distinction or even ignores the issue of differences in the level of severity of cheating behaviors. Most of the extant research on academic integrity treats serious and minor violations as equivalent given that items are combined

to yield a single score for each participant. Students, a few researchers and some academic institutions, however, perceive differences in the severity of integrity violations. One of the earlier references to the distinction is found in McCabe and Treviño's (1996) discussion of findings from their 1993 survey (McCabe and Treviño 1993). They noted that 83% of the students felt that inappropriate collaboration was not a serious violation with 25% of the students actually indicating it was not really cheating. In contrast, students overwhelmingly viewed plagiarism and turning in work done by someone else as serious academic integrity violations. More recently, McCabe, Treviño and Butterfield (2001) defined what they believed constituted instances of "serious cheating" including violations involving examinations and written assignments. Specifically, McCabe et al. (2001, 223) indicated:

A serious test cheater is defined as someone who admits to one or more instances of...test cheating (that) includes students who engaged in copying on an exam—with or without another student's knowledge—using crib notes on an exam, or helping someone else to cheat on a test or exam. Serious cheating on written work includes students who have engaged in plagiarism, fabricated or falsified bibliography, turned in work done by someone else, or copied a few sentences of material without footnoting them in a paper.

It is important to note, however, that work by Brimble and Stevenson- Clarke (2005) showed that students often regard behaviors including "fabricated or falsified a bibliography" and "copied a few sentences of material without footnoting them in a paper" as minor violations; these perceptions are also reflected in some schools' academic integrity policies. McCabe et al. (2001) and McCabe et al. (2006) found that for test cheating, students categorize all but using unfair methods to learn about a test as serious cheating. Cheating on tests is regarded as more serious than most forms of plagiarism and cheating on written assignments. Other forms of cheating such as collaborating on

assignments and receiving substantial help for work specified as an individual assignment are regarded as less serious.

Similarly, some institutions and faculty perceive differences in the severity of misconduct offenses, enacting punishments of different severities depending on the perceived severity of the offense (see ICAI, “Featured Schools”, 2012). An Australian study of severity of academic integrity violations showed that the student respondents rated most violations as less serious than faculty respondents. Both groups rated impersonation in a test, gaining unauthorized access to test material and paying another person to complete an assignment as more serious than violations such as continuing to write after the test has ended, padding a bibliography with references and collaboration on individual work (Brimble and Stevenson-Clark, 2005).

In one of the few studies to report separate findings for serious and minor integrity violations, McCabe et al. (2006) found that only 10% of business students admitted to serious test cheating while 53% admitting to cheating on written work. Brimble and Stevenson-Clarke (2005) found similar results with less than 10% of students engaging in the following offences they categorized as serious: impersonation in a test, copying from another student’s test, gaining unauthorized access to test material and copying another student’s assignment without their consent. This level of cheating is similar to findings in field and laboratory experiments showing the magnitude of cheating is typically between 10 and 20% (Ariely 2012; Gino, Ayal and Ariely 2009; Mazar, Amir and Ariely 2008). McCabe et al. (2006, 205) concluded “... future research may wish to delve further into how students think about different types of cheating with different levels of perceived seriousness.”

Although research shows students, faculty, and even some institutions view misconduct offenses as varying in severity, measures currently used in research often do not reflect this. This study examines relationships between personal factors and the severity of academic integrity

violations. We begin this exploration from an institution's perspective of severity, however, rather than as McCabe and colleagues suggested, from a student perspective. Thus, consistent with extant research we expect:

Hypothesis 1. Results of a factor analysis will support a two-factor structure in which academic integrity violations can be grouped into minor and serious offenses.

Second, consistent with previous research, we expect serious violations to be reported less frequently than minor offenses. McCabe et al.'s (2012) data show fewer incidents of serious than minor offenses. Additionally, Ariely's (2012) research suggests most people tend to engage in some, albeit minor cheating possibly because minor cheating creates less dissonance than engaging in more serious offenses (cf., Festinger, 1957).

Hypothesis 2. The frequency of self-reported serious, academic integrity violations will be less common than minor violations.

Planned and Panic-based Misconduct Behaviors

Although much of academic integrity research assumes violations of academic integrity are premeditated (Anderman and Murdock, 2007b), it has been suggested that some, and possibly the majority of violations are due to panic (Bunn, Caudill and Gropper 1992). Bunn et al.'s (1992), study of 476 economics students, found that 75% answered "panic" to the question, "Of the cheating you observed, do you think it is panic or premeditated?" The question of circumstances underlying cheating has, however, been largely ignored in the literature. The possibility that some instances of cheating are spontaneous is consistent with recent arguments and research discussed by Kish-Gephart, Harrison and Treviño (2010). They suggest an "ethical impulse perspective" in which people "respond to ethically charged situations in ways that are more automatic than deliberative" (Kish-Gephart et al. 2010, 22) meaning students may engage in unexpected cheating under certain circumstances even if they would otherwise be considered ethical individuals. The

prevalence of spontaneous academic misconduct may help explain the paradox between students' beliefs that cheating is wrong and their actual engagement in it. Specifically, a survey (Davis et al. 1992) of 6,000 students from 35 schools found that 90% of students believed cheating was wrong, while at the same time, 76% said they had cheated in high school or college. Additionally, Smyth and Davis (2004) found that 92% of a sample of 265 two-year college students indicated that cheating is unethical yet, 45% of this sample indicated that they believed cheating was an acceptable social behavior. Following Bunn et al. (1992) we expect:

Hypothesis 3. Panic-based cheating violations will be reported more frequently than planned cheating violations.

The greater reported frequency of panic-based as compared to planned cheating evident in Bunn et al.'s (1992) study and expected in this study may be partly due to dissonance reduction (Festinger 1957) as well as the actual emotional state of students. Consistent with Steele's (1988) contention that an individual is motivated to maintain a self-image of a moral person, attributing cheating behaviors to a panic reaction rather than planned, deliberate behavior allows the person to maintain his or her self-image as a moral person.

Attributing cheating to panic is, in itself, a justification that says, in effect, this behavior is not representative of the student's true nature. Several studies support the influence of justifications. For example, Mazar et al. (2008) demonstrate in several experiments that categorization malleability and reinterpreting behaviors in a self-serving manner may be used to justify cheating. Additionally, the malleability of behavior is related to context. A context effect is apparent in the Chapman, Davis, Toy and Wright (2004) study that found many students did not believe giving or receiving help from a friend was unethical even though they knew it was cheating and that 75% of students would cheat if a friend were involved. Haines, Diekhoff, La Beff and Clark (1986) found that cheaters invoked more justifications than non-cheaters and their

justifications were more external such as blaming the instructor. Similarly, Daniel, Blount and Ferrell (1991) found a strong relationship between number of justifications and cheating. Brimble and Stevenson-Clarke (2005, 17) found the following were the top five justifications offered by Australian students: to help a friend (43%); “the assignment was too difficult” (37 %); “too time-consuming” (36%); “I wasn’t likely to be caught” (33%) and “It was unintentional” (31%). Finally, Stone, Jawahar and Kisamore (2009) found similar justifications for cheating (e.g., helping a friend, time pressure, peer pressure, extenuating circumstances) were among the strongest predictors of cheating behavior. Consistent with dissonance theory, students who acknowledge engaging in planned cheating have a greater need to justify their behavior than those attributing cheating to panic. Therefore, justifications will be more strongly associated with planned than panic violations of academic integrity. Similarly, serious violations should create more dissonance and a greater need to justify than minor violations. Therefore, we expect:

Hypothesis 4. Justifications will be more strongly associated with planned cheating than with panic cheating (H4a); and justifications will be more strongly associated with serious cheating than with minor cheating (H4b).

Measuring Cheating

Most research examining violations of academic integrity relies on self-report measures asking students how often in either the past year or in their college career they have engaged in one or more of a set of cheating or plagiarizing behaviors. These behaviors include both test-related cheating (e.g., using notes during a test without instructor permission, copying from another student, helping someone cheat on a test and using unfair methods to learn about a test) and plagiarism- related behaviors (e.g., include turning in work done by others, failing to cite sources, unapproved collaboration). The level of violation of academic integrity is determined by summing responses to each item, without regard to the perceived severity of the violations. One result of this

is the reported level of violations of academic integrity can appear larger and more serious than if the data were presented differently. For example, the 2009 results of the annual Survey of Academic Integrity conducted by McCabe at a mid-western university found that 60% of students had engaged in at least one behavior in the past year that violated academic integrity standards (Oklahoma State University 2009). While 45% of undergraduates reported seeing a student cheat during an exam, the frequency of self-reported cheating behaviors was lower. Although some of the difference may be due to multiple students reporting the same cheating incident, part is likely due to reluctance to admit cheating. The survey found the following levels of academic integrity violations: worked with others when instructor asked for individual work (37%); copied another student's homework (31%); obtained questions and answers from someone who already took a test (25%); copied material without footnoting (24%); and used a false excuse to obtain an extension on a due date (15%). Behaviors that were reported by fewer than 15% of the sample were not listed. Note that these percentages are significantly less than the overall 60% because the 60% includes students who engaged in only one of these behaviors as well as those that engaged in multiple behaviors. Additionally, with the exception of copying another student's homework and obtaining some questions and answers from someone who already took a test, these violations are categorized as minor rather than serious offenses according to the school's academic integrity policy (Oklahoma State University 2010, 36-37). Thus, while many students cheat, it is likely that only a small minority of students are hard-core cheaters, engaging in serious, premeditated cheating offenses (see also McCabe et al. 2006; McCabe and Treviño 1993, 1997).

In the last two decades, a significant portion of research investigating cheating and plagiarism in academia has relied upon a scale developed by McCabe and colleagues as part of the Duke University Center for Academic Integrity project (McCabe and Treviño 1993; McCabe et al. 2002; McCabe et al. 2006). Many of these items mirrored the 10 behaviors assessed in the Bowers

1964 study (McCabe and Treviño 1996). Since their program began, the McCabe and colleague's scale has been used to gather data from hundreds of schools and thousands of undergraduate and graduate students in the US and Canada (McCabe et al. 2012).

Logically, as more behaviors are included in measures of academic misconduct, a larger proportion of cheaters is likely to be identified. In fact, Brown and Emmett (2001) concluded from a meta-analysis of 33 studies that the incidence of academic misconduct is significantly positively related to the number of misconduct practices included in a study. Thus, figures that estimate academic misconduct are not only a function of actual engagement in misconduct but also a function of how many and the type of behaviors included in the misconduct measure.

Interaction of Severity and Type of Cheating

Prior arguments and research stipulated that minor violations of academic integrity occur more frequently than serious violations and that students commit more violations in a state of panic than due to premeditation. Thus, we expect:

Hypothesis 5. An interaction between level of cheating (minor vs. serious) and type of cheating (planned vs. panic) will be evident such that minor, panic-based violations will be most commonly reported, followed by planned minor and panic-based serious offenses with planned serious violations reported least.

Personality

Relatively few studies have examined the effects of personality on academic integrity. Crown and Spiller (1998) found only one personality variable, locus of control (Rotter 1966), was consistently related to academic integrity; "externals" were more likely to cheat than "internals." Seven studies in Whitley's (1998) review examined locus of control, but the effect size, as with virtually all other personality studies, was small ($d = .21$). Kisamore et al. (2007) and Stone et al. (2010) found two scales, prudence and adjustment, from the Hogan Personality Inventory (Hogan

and Hogan 1995) were useful predictors of cheating behavior with prudence accounting for more variance than adjustment.

Prudence is similar to the Big Five trait, conscientiousness. The HPI manual describes individuals high in prudence as “reliable, thorough, dignified, cautious, and responsible” and that “they tend to be good students” (Hogan and Hogan 1995, 42). The Prudence scale consists of seven homogeneous item composites (HICs) such as Mastery, Virtuous, Not Autonomous, Impulse Control and Avoids Trouble. HICs contain between three and five questions assessing the same behavior tendencies. Because the primary objective of this study is to identify traits associated with type and severity of cheating offenses, we choose to examine the Avoids Trouble and Impulse Control HICs. Avoids Trouble and Impulse Control were chosen from among the seven HICs for two reasons, first they are more relevant to academic cheating than the other 5 HICS – Moralistic, Virtuous, Mastery, Not Autonomous and Not Spontaneous; and second, each had five items compared to three or four of others (Hogan & Hogan, 1995), so we expect:

Hypothesis 6: Impulse Control will be negatively correlated with panic-based cheating behavior.

Hypothesis 7: Avoids trouble scores will be negatively correlated with all forms of cheating behavior.

Finally, past research (e.g., Anderman and Murdock 2007; Whitley 1998) has found small effects for gender (males cheating more than females), age (younger students cheat more than older ones). These variables will be examined to ensure our data are consistent with past research.

MATERIALS AND METHODS

Participants and Procedures

Data used in the current study were a combination of two samples. The samples were collected in fall 2009 and during the 2010-11 academic year. Both samples were collected from

students in marketing and management courses at a large, mid-western public university in the U.S. A total of 883 (353 and 530, respectively) students were recruited for possible participation in the study. Of the recruited participants, a total of 517 (173 and 344, respectively) provided responses to at least one of the two parts of the survey, yielding an effective response rate of 58.6%. Analyses that required answers to both the personality and integrity measures or those that used scale composites were based on smaller sample sizes as not all participants responded to both parts of the study or to all questions within a particular scale. Sample sizes are provided with the actual analyses to aid in interpretation.

Participants completed both the personality inventory and the integrity survey online outside of class. The personality inventory was administered through the Hogan Assessment System's online administration tool while the integrity survey was designed and administered by the researchers using Qualtrics. Participants were given individual logon codes that they had to enter when completing both the personality inventory and integrity survey so that the researchers could link their responses. Participants were also given individual passwords and assured of the confidentiality of their responses. Data regarding age were collected along with responses on the personality inventory while gender information was collected along with responses to the integrity items. On average, students were 25.53 years of age ($SD=7.48$). Age varied between 19 and 65 and was positively skewed (skewness coefficient= $+2.40$). Half of respondents self-reported as male ($N=250$; 50.0%), 46.8% ($N=234$) self-reported as female, and 3.2% did not report gender information ($N=16$).

Statement of Human Rights

Participation in the research study was voluntary. An incentive of extra-credit points was offered and an alternative for extra-credit was offered for students who did not choose to participate. IRB approval was obtained from the institutional review boards at both the university at

which the data was collected and the university at which the data was analyzed.

Measures

Severity of violations. To assess cheating behaviors, we used McCabe and colleagues 10 item scale (see McCabe and Treviño 1993, 1997). Using Oklahoma State University's academic integrity violation policy, we categorized the 10 academic integrity violations in McCabe's scale into Level 1/minor and Level 2/serious offenses. Three items fell into the Level 1/minor category while the remaining seven fell into the Level 2/serious category. These designations are shown in Tables 1 and 2. The university's sanctions for Level 1 integrity violations are that the student receive a zero or F on the assignment while the more serious Level 2 violations include received a grade of "F!" for the course; the "!" denotes the failing grade was due to academic misconduct not failure to meet requirements for a passing grade (Oklahoma State University 2010, 27).

Type of cheating. In this study, we examined the issue of premeditated versus spontaneous cheating by prefacing the standard 10 academic integrity violations questions (McCabe and Treviño 1993, 1997) with two different scenarios. The planned scenario stem indicated that,

Sometimes students plan to cheat before they actually engage in cheating. For instance, they may develop a "cheat sheet" that they use during an exam without the instructor's permission. For the items below, please indicate if or how often during college you engaged in these behaviors after planning to do them.

Alternatively, the panic scenario stated,

Sometimes students cheat out of a sense of panic. For instance, they may realize they studied the wrong information for a test or forgot about an assignment that is due. For the items below, please indicate if or how often during college you engaged in these behaviors out of a sense of panic.

Responses were made on a 5 point Likert-type scale with options ranging from "never" (1)

to “many times” (5). The panic scenario was presented first in both studies on the assumption students would be more candid in reporting panic-based cheating than planned cheating behaviors. Panic and planned cheating questions were presented sequentially in the first data set, while other questions were interspersed between the two sets of questions in the survey used in the second round of data collection.

Justifications. Students’ justifications for engaging in cheating were assessed with the 10 items from Stone et al. (2009). Questions asked their likelihood of cheating under a variety of conditions and circumstances (e.g., “to help a friend”, “time pressure”, “other students do it”, or “peer pressure”). Responses were made on a 5-point Likert-type scale with response options ranging from “very unlikely” (1) to “very likely.” (5). Higher scores indicate students were more likely to allow circumstances to justify possible engagement in academic misconduct.

Personality. We assessed personality characteristics using two homogenous item composites (HICs) from the Prudence scale of the Hogan Personality Inventory (HPI). The HPI is a measure of normal personality and was designed to parallel the Big Five personality factors (Hogan and Hogan (1995). Considerable data are available to support the reliability and validity of HPI scores in the measurement of personality (Hogan and Hogan 1995). The HPI consists of seven personality scales: adjustment, ambition, likeability, inquisitive, learning approach, prudence, and sociability, as well as a validity scale. Each of the HPI scales is composed of three to five item subscales. For the current study, we focused on two HICs, Avoids Trouble and Impulse Control that are part of the Prudence scale.

Avoids trouble. According to the HPI manual, individuals who score high on Avoids Trouble are those people who profess probity, that is they profess to have strong morals, be honest and decent. A sample of the five items is “When I was in school, I rarely gave teachers trouble” (Hogan and Hogan 1995, 15). The Cronbach’s alpha coefficient reported in the HPI manual was

0.56 (Hogan and Hogan 1995, 17).

Impulse control. According to the HPI manual, the five-item Impulse Control scale is used to assess how impulsive a person is. Individuals who score highly on the Impulse Control HIC are able to manage urges. A sample item is “I rarely do things on impulse” (Hogan and Hogan 1995, 15). The Cronbach’s alpha coefficient reported in the HPI manual for this scale was .63 (Hogan and Hogan 1995, 17).

Demographic Variables

Age. Participants were asked to indicate their age.

Gender. Participants were asked to report their gender. Males were coded “1” and females were coded as “2”.

RESULTS

Hypothesis 1

Results of a series of principle axis factor analyses with promax rotation are presented in Tables 3 and 4, representing panic-based and planned cheating behaviors respectively. Two factors were extracted based on Hypothesis 1 which predicted that items would cluster in two factors, one for serious cheating offenses and the other representing minor cheating offenses. Results generally support Hypothesis 1.

For the panic-based cheating offenses, item 2 (i.e., copied material from another student and turned it in as your own work) was removed after the initial factor analysis revealed cross-loading. The analysis was re-run which resulted in the loadings presented in Table 3.

For the planned cheating offenses, item 1 (i.e., copied a few sentences from a published or internet source and not given credit to the author) was removed after the initial factor analysis revealed cross-loading. The analysis was re-run which resulted in the loadings presented in Table 4.

In order to maintain consistency between the planned and panic scales, composites were formed for the panic items and planned items separately but the composite scores consisted only of items 3 through 10. Both composite scales demonstrated acceptable internal consistency reliability (see Table 5). When forming composite scales for minor and serious cheating offenses, only items 3 through 10 were included as well. Thus the minor offense scale consisted of items 4, 8, and 10 from both the planned and panic scales while the serious offense scale consisted of items 5, 6, 7, 8 and 9 from both the planned and panic scales.

Hypothesis 2

This hypothesis predicted that participants would report engaging in minor violations of academic integrity significantly more often than serious violations. We collapsed results across the panic and planned items to arrive at composite scores for minor and serious violations in order to conduct this analysis. Results of dependent samples t-tests show the data support this hypothesis. We found a significant difference between frequency of engaging in minor ($M=1.63$, $SD=0.75$) versus serious ($M=1.33$, $SD=0.58$) offenses, $t(461)=12.96$, $p=0.001$. Frequency distributions for minor and serious violations are shown in Tables 1 and 2.

Hypothesis 3

This hypothesis predicted that participants would report engaging in panic-based cheating violations significantly more frequently than planned cheating violations. We collapsed results across the minor and serious items to arrive at composite scores for planned and panic-based violations in order to conduct this analysis. A dependent samples t-test was used for the analysis. For the dataset, the difference between frequency of engaging in panic-based ($M=1.50$, $SD=0.63$) and planned ($M=1.39$, $SD=0.65$) offenses, $t(461)=-5.31$, $p<0.001$ was significant.

Hypothesis 4

This was a two-part hypothesis that involved testing for significant differences in dependent

correlations. Steiger's z-test was used for all tests of differences between correlations. Calculations were conducted using the SISA (Simple Interactive Statistical Analysis) program found online (Uitenbroek 1997). The first part of the hypothesis (H4a) predicted that the correlation between justifications and planned cheating ($r=0.365$) would be significantly stronger than the correlation between justifications and panic cheating ($r=0.431$). A significant difference was noted between the correlations, $Z=2.252$ ($p<0.05$), although the direction of the difference was opposite of the hypothesis. The second part of the hypothesis (H4b) predicted that the correlation between justifications and serious cheating ($r=0.406$) would be significantly different than the correlation between justifications and minor cheating ($r=0.388$). The difference between the correlations was in the hypothesized direction but the difference did not, however, reach significance $Z=-0.584$, *ns*.

Hypothesis 5

This hypothesis predicted that there would be an interaction between severity of cheating offense (minor vs. serious) and type of cheating (planned vs. panic-based). Items were clustered into 4 clusters representing severity X type of cheating clusters so that items were not double counted in the analysis. Specifically we predicted that minor, panic-based violations will be most commonly reported, followed by planned minor and panic-based serious offenses with planned serious violations reported least. A 2x2 repeated measures ANOVA was used to test for the predicted interaction. The analysis supported the hypothesis. Significant main effects were noted for severity of cheating offense, $F(1, 461)=195.58$, $p<0.001$, $\eta^2_{\text{partial}}=0.298$, and type of cheating, $F(1, 461)=37.63$, $p<0.001$, $\eta^2_{\text{partial}}=0.075$. The interaction between severity and type of cheating offense was also significant, $F(1,461)=39.99$, $p<0.001$, $\eta^2_{\text{partial}}=0.08$. The interaction is depicted in Figure 2. As hypothesized, minor, panic-based offenses were reported most frequently while planned serious offenses were reported as least frequent. Frequency of planned minor offenses and

panic-based serious offenses fell in between as predicted.

Hypothesis 6

This hypothesis predicted that students Impulse Control would be significantly negatively correlated with panic-based cheating (see Table 5). Results of the correlational analysis confirmed our hypothesis, $r(315) = -0.13, p < 0.05$. Students who had more control over their impulses were less likely to engage in panic-based cheating.

Hypothesis 7

We predicted students with high Avoids Trouble scores would be less likely to engage in any form of misconduct violation, whether planned or panic, minor or serious. Results supported this hypothesis. Avoids Trouble was significantly negatively related to panic, planned, serious and minor cheating. See Table 5 for correlation values.

Demographics

Finally, we tested several demographic variables to ensure our samples were generally consistent with those used by other researchers. Our results were consistent with previous research. We found age was significantly negatively correlated with all of the measures of cheating offenses (see Table 5) showing that the older students are, the less likely they are to cheat. Additionally, consistent with previous research (McCabe et al. 2012; Whitley, 1998; Whitley, Nelson, and Jones 1999), we also found that males were somewhat more likely to report engaging in the various cheating offenses. This is evident in the negative correlations between gender and the various measures of cheating offenses. Three of the four correlations reached significance.

DISCUSSION

This study has deconstructed violations of academic integrity into planned and panic-based offenses as well as serious and minor integrity violations to explore differences in perception of and motives for cheating. In doing so, we pursued McCabe et al.'s (2006, 205) call to “delve

further into how students think about different types of cheating with different levels of perceived seriousness .” Although some institutions and researchers have acknowledged that there are degrees of severity in integrity violations (ICAI, “Featured Schools”, 2014; Brimble and Stevenson-Clarke 2005; McCabe and Treviño 1993; McCabe et al. 2001, 2006), typically research on academic misconduct has lumped all integrity offenses into one dependent variable. This has undoubtedly contributed to the relatively high percent of students labeled as cheaters. For example, Bowers (1964) reported 82% of respondents were cheaters and McCabe and Treviño (1997) reported a nearly identical 84%. Haines et al. (1986, 342) concluded that student dishonesty has become “an epidemic” and reports by the Josephson Institute of Ethics (2010, 2012) suggest lying and cheating among students remains a major concern. However, our data suggest that integrity offenses fall into two separate factors, minor and serious (H1) and consistent with sanctions policies of some schools, researchers would portray the true state of academic integrity violations by reporting minor and serious offenses separately. At the same time, our data, as did Brimble and Stevenson-Clarke (2005) suggest faculty and students may not be in complete agreement for all offenses. Specifically, OSU policy categorized using unfair methods to learn about a test as serious while our factor analysis of student data categorized it as minor.

Analogous to our finding that serious and minor offenses were separate factors, the data also showed that minor violations were more common than serious ones, thus supporting Hypothesis 2. While this could suggest cheating is less serious than overall rates of integrity violations argue, McCabe et al. (1997), based upon comparison of 1963 and 1993 data, concluded the incidence of serious forms of cheating has doubled, although a minor violation, collaborating on assignments, quadrupled. Our data are consistent with McCabe’s as inappropriate collaborating with others on assignments was the most common planned and panic violation (see Tables 1 and 2). Therefore, we contend academic integrity researchers should examine serious and minor

violations of academic integrity separately as opposed to the prevalent practice of combining the two. Such an approach is consistent with treatment of violations of academic integrity at some schools and the consensus regarding serious versus minor violations.

Our results are also consistent with Bunn et al.'s (1992) finding that most students believed the cheating they observed was panic-based rather than premeditated; we found, more students reported engaging in panic-based cheating offenses as compared to premeditated ones, thus supporting Hypothesis 3. Our results were based on self-reports while the Bunn et al. results were based on reports of observed behavior of others. The theoretical and practical significance of the difference between premeditated and panic cheating are significant. Although the validity of both perceptions of other students' motives and the retrospective self-attributions may be questioned, finding consistent results using these two different approaches provides more strength to the belief that most cheating is not premeditated. Clearly, determining if specific cheating incidents were panic or premeditated is challenging particularly due to the tendency to reduce dissonance (Festinger 1957; Steele 1988) found in other studies (see for instance Davis et al. 1992; Smyth and Davis, 2004), between a favorable self-image and having violated academic integrity policies. Therefore, if we assume Bunn et al.'s and our findings have some validity, the prevalent assumption in cheating research, that cheating is premeditated (Anderman and Murdock, 2007b), must be questioned.

Hypothesis 4 contended that the correlation between justifications and panic cheating will be significantly stronger than the correlation between justifications and planned cheating (H4a); and the correlation between justifications and serious cheating will be significantly stronger than the correlation between justifications and minor cheating (H4b). Although the correlation between justifications and planned and panic cheating were significantly different, the difference was in the opposite direction than predicted. For H4b, although the association between justifications and

serious cheating was larger than with minor, and in the right direction, the 0.41 vs. 0.39, the difference is small and not significant. The test for differences in correlations is an inherently low power test meaning that differences between correlations must be large and/or the sample size has to also be very large in order for a difference to reach significance. Thus, it is important to note that the correlations between justifications and the different categories of cheating were all significant as would be expected; that is the higher ability to justify cheating was significantly positively correlated with all categories of cheating offenses. Our findings are consistent with Haines et al.'s, (1986) finding that cheaters used more justifications than non-cheaters and their justifications were more external and Daniel et al. (1991) who found a strong relationship between number of justifications and cheating.

It was argued that the association between planned cheating and justifications would be stronger than for panic on the assumption students would feel more need to reduce dissonance via justifications. It is possible students who admit planned cheating felt less need to justify their behavior because they had already resolved some dissonance. Additionally, although the correlations were significantly different, 0.43 for panic and 0.36 for planned, the absolute difference is small.

Despite only weak support for Hypothesis 4, examination of several justifications used in the current study's scale appears similar to other integrity research examining justifications for cheating. For example, consistent with Brimble and Stevenson-Clarke's (2005) finding that "to help a friend" was the most common justification students reported and Chapman et al.'s (2004) finding that students did not believe giving or receiving help from friend was unethical, we found strong correlations between helping a friend and panic-based cheating, $r(470)=0.40$, $p<0.001$. Indeed, all correlations between justifications with severity of cheating as well as between justifications and forms of cheating were relatively high, between 0.36 and 0.43. This is consistent

with Stone et al. (2009) who found justifications such as helping a friend, time pressure, peer pressure, and extenuating circumstances were significant predictors of cheating behavior.

The relationship between cheating and justifications has been well described and researched by Ariely (2012) and underlies recent views of McCabe et al. (2012). Ariely's research established that most people cheat when they have the chance but only by a relatively small amount. He contends each person has a limit to cheating up to the point it becomes "sinful". Therefore cheating is a "delicate balance between the contradictory desires to maintain a positive self-image and to benefit from cheating . . ." (Ariely 2012, 29). The prominence of helping a friend in Brimble and Stevenson-Clarke's (2005), Chapman et al.'s (2004) and Stone et al.'s (2009) studies is consistent with an Ariely experiment showing subjects lied more about their actual scores on a matrix task when it benefitted others rather than themselves. Ariely concluded even altruism has a dark side (Ariely 2012, 226). In their 2012 book, McCabe and colleagues note that a "sea change" appears to be occurring in how high school and college students define cheating. McCabe et al. (2012) explained that in many surveys, students report never having engaged in specific cheating or plagiarism behaviors but in the open-ended section state they violated academic integrity and wrote justifications such as the test was unfair, a personal emergency, or too much work. It is likely that a more in-depth examination of justifications is merited and that justifications such as helping a friend, should be measured with more than one item to assure reliable measurement. However, it is clear from both academic integrity research and Ariely and colleagues' research, the tension between the desire to maintain a positive self-image and justifications poses a significant challenge to self-report measures of cheating.

Results for Hypothesis 5 are consistent with the prevalence of panic-based as compared to planned cheating. This study went beyond previous research finding an interaction showing minor, panic-based offenses were reported most frequently with planned, serious offenses reported least

often. While this seems intuitive, researchers currently lump all such offenses together despite differences in frequency of students engaging in the various offenses. Data supported Hypothesis 5 and the frequency of planned minor offenses and panic-based serious offenses fell in between the other offenses. This finding, consistent with H2 that minor violations are more common than serious and H3 that panic is more common than planned, provides additional support for our contention that researchers need analyze and report more detailed aspects of academic integrity violations. Otherwise, the seriousness and possibly the magnitude of cheating is overstated and is inconsistent with the sanction policies of many schools.

Our data show there are significant although relatively small relationships between Avoids Trouble and all forms of cheating as hypothesized (H7). That is, students with high scores on Avoids Trouble scores would be less likely to engage in any form of cheating. Students with high Impulse Control scores were significantly less likely to engage in panic-based cheating (H6), minor cheating and planned and serious cheating although the correlations were not significant. However caution must be exercised when interpreting the analyses done with all four categories of cheating offenses because items overlap. That is, each item is either a planned or panic item and a minor or serious offense item. These findings are consistent with Kisamore et al. (2007) and Stone et al.'s (2010) findings that the Prudence scale of the HPI explained cheating behavior.

Results of the demographic variables were generally consistent with the bulk of the academic integrity literature. Namely, younger students tend to cheat more than older ones and (Anderman and Murdock 2007; Whitley 1998) and males tend to cheat more than females (Whitley, 1998; Whitley et al. 1999). McCabe et al. (2012) has observed that historic finding that males cheat more than females has gradually changed as more women adopt male integrity norms. As with personality, correlations are significant but generally small although the

relationships between minor cheating and older student, $r = -0.28$, and panic, $r = 0.26$, are notable. Anderman and Murdock (2007) suggest a number of possible explanations for the age-cheating relationship including a “weeding out” process, changes in moral development and others. The fact that there are older students who engage in planned and serious cheating, however, suggests there are some “habitual cheaters.” Davis and Ludvigson’s (1995), for example, found that 98% of students who cheated in high school continue to cheat in college. Future research should attempt to determine if personality variables explain some of the variance attributable to age.

CONCLUSIONS AND LIMITATIONS

Limitations

Although our data set is large and was gathered two years apart and the sample is business students from one university without honor codes advocated by McCabe and colleagues (2002). Therefore, while some of our findings are consistent with past integrity research examining justifications, additional research is necessary to assure the generalizability of our findings. Future research should also examine justifications in greater depth in a more cheating incident-specific manner and perhaps with more an open-ended format. The within-subjects design of the survey may have heightened the contrast between panic and planned cheating; a between subjects replication should examine this. Following McCabe’s (2012) statement regarding a “sea change” in how students define cheating, future research should explicitly measure perceived seriousness of integrity violations.

Conclusion

In conclusion, the theme of this paper is that academic integrity research has historically treated all types of cheating, serious and minor forms, equally when evaluating the magnitude of academic integrity violations. Our argument is that there is heuristic and practical value to

deconstructing cheating into at least serious versus minor and, if possible, planned versus panic cheating. However, we realize providing students the option of planned vs panic cheating provides them with a justification, i.e., panic. Therefore, providing this option, as demonstrated by our data, is associated with more self-reported incidents of panic cheating than planned. The planned versus panic distinction is conceptually valuable as it implicitly recognizes the distinction between attitudes and behavior and that at times, “good people do bad things” as suggested by the Kish-Gephart et al.’s (2010) “ethical impulse” concept. Clearly, a serious versus minor dichotomy is more feasible and can be done with a higher degree of reliability and validity. Indeed, at some universities recognize the serious vs. minor distinction and incorporate it into their policies for dealing with cheating.

Overall, the practical implications of this study are simply that faculty and administrators need to realize that most incidents of cheating are minor vs. serious and are likely due student panic vs. planned. This suggests that integrity policies and sanctions for cheating should be tailored to fit the situation, as some schools have already recognized. Ariely and McCabe’s approaches to reducing cheating and increasing moral behavior are similar, namely, both argue that we must appeal to people’s sense of morality and provide reminders to behave morally rather than relying on monitoring, rules and punishments. The prominent influence of justifications demonstrated here and in a few other studies suggests both measurement and prevention of cheating must take into account the temptations of cheating and the desire to maintain an ethical self-image. Bazerman and Tenbrunsel (2011) argue, “Formal ethics and compliance programs represent only the tip of an organization’s ethical infrastructure. Underlying formal systems are informal norms and pressures that exert far more influence on behavior than any formal efforts could” (p. 103).

ACKNOWLEDGEMENTS

The authors would like to thank the two anonymous reviewers who provided a number of suggestions that helped improve the paper.

CONFLICTS OF INTEREST

There were no conflicts of interest apparent in the current study.

REFERENCES

- International Center for Academic Integrity (ICAI, 2012). Featured schools. Retrieve from http://www.academicintegrity.org/icai/resources-4.php#featured_schools, August, 25, 2014.
- Anderman, A. M., & Murdock, T.B. (Eds.) (2007). *Psychology of academic cheating*. New York, NY: Elsevier.
- Anderman, A. M., & Murdock, T.B. (2007b). The psychology of academic cheating. In Anderman, A. M., & Murdock, T.B. (Eds.) *Psychology of academic cheating*. New York, NY: Elsevier.
- Ariely, D. (2012). *The honest truth about dishonesty: How we lie to everyone---Especially ourselves*. New York, NY: Harper.
- Bazerman, M. H., & Tenbrunsel, A. E. (2011). *Blind spots: Why we fail to do what's right and what to do about it*. Princeton, NJ: Princeton Press.
- Bing, M. N., Davison, H. K., Vitell, S. J., Ammeter, A. P., Garner, B. L., & Novicevic, M. M. (2012). An experimental investigation of an interactive model of academic cheating among business students. *Academy of Management Learning and Education*, 11, 28-48.
- Bowers, W. (1964). *Student dishonesty and its control in college*. New York: Bureau of Applied Social Research, Columbia University.
- Brimble, M., & Stevenson-Clarke, P. (2005). Perceptions of the prevalence and seriousness of academic dishonesty in Australian universities. *Australian Educational Researcher*, 32, 19-44.
- Brown, R., & Emmett, D. (2001). Explaining the variation in the level of academic dishonesty in studies of college students: Some new evidence. *College Student Journal*, 35, 529-538.
- Bunn, D. N., Caudill, S.B., & Gropper, D. M. (1992). Crime in the classroom: An economic analysis of undergraduate student cheating behavior. *Journal of Economic Education*, 23, 197-207.

- Chapman, K. J., Davis, R., Toy, D., & Wright, L. (2004). Academic integrity in the business school environment: I'll get by with a little help from my friends. *Journal of Marketing Education*, 26(3), 236-249.
- Christensen-Hughes, J.M., & McCabe, D.L. (2006). Academic misconduct within higher education in Canada. *The Canadian Journal of Higher Education*, 36, 1-21.
- Crown, D.F., & Spiller, S.M. (1998). Learning from the literature on collegiate cheating: A review of empirical research. *Journal of Business Ethics*, 17, 683-700.
- Daniel, L. G., Blount, K. B., & Ferrell, C.M. (1991). Academic misconduct among teacher education students: A descriptive correlation study. *Research in Higher Education*, 32,703-724.
- Davis, S.F., Grover, C.A., Becker, A.H., & McGregor, L.N. (1992). Academic dishonesty: Prevalence, determinants, techniques, and punishments. *Teaching of Psychology*, 19, 16-20.
- Davis, S. F., & Ludvigson, H. W. (1995). Additional data on academic dishonesty and a proposal for remediation. *Teaching of Psychology*, 22, 119-122.
- Festinger, L. A. (1957). *A Theory of cognitive dissonance*. Evanston, IL: Row, Peterson.
- Genereux, R. L., & McLeod, B. A. (1995). Circumstances surrounding cheating: A questionnaire study of college students. *Research in Higher Education*, 36, 687-704.
- Gino, F., Ayal, S., & Ariely, D. (2009). Contagion and differentiation in unethical behavior: The effect of one bad apple on the barrel. *Psychological Science*, 20, 393-398.
- Haines, V. J., Diekhoff, G. M., LaBeff, E. E., & Clark, R. E. (1986). College cheating: Immaturity, lack of commitment, and the neutralizing attitude. *Research in Higher Education*, 25, 342-354.
- Hogan, R., & Hogan, J. (1995). *Hogan Personality Inventory manual*. Tulsa, OK: Hogan

Assessment Systems.

Josephson Institute of Ethics. (2010). *The ethics of American youth: 2010*. Retrieved March 17, 2012 from [http://charactercounts.org/programs/reportcard/2010/installment02_report-](http://charactercounts.org/programs/reportcard/2010/installment02_report-card_honesty-integrity.html)

[card_honesty-integrity.html](http://charactercounts.org/programs/reportcard/2010/installment02_report-card_honesty-integrity.html)

Josephson Institute of Ethics. (2012). *The ethics of American youth: 2012*. Retrieved January 5, 2014 from [http://charactercounts.org/programs/reportcard/2012/installment_](http://charactercounts.org/programs/reportcard/2012/installment_report-card_honesty-integrity.html)

[card_honesty-integrity.html](http://charactercounts.org/programs/reportcard/2012/installment_report-card_honesty-integrity.html) .

Kisamore, J. L., Stone, T. H., & Jawahar, I. M. (2007). Academic integrity: Individual and situational factors on academic conduct contemplation. *Journal of Business Ethics, 75*, 381-394.

Kish-Gephart, J. J., Harrison, D. A., & Treviño, L. K. (2010). Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work. *Journal of Applied Psychology, 95*(1), 1-31.

Lim, V. K. G., & See, S. K. B. (2001). Attitudes toward, and intentions to report, academic cheating among students in Singapore. *Ethics & Behavior, 11*(3), 261-274.

Magnus, J. R., Polterovich, V. M., Danilov, D. L., & Savvateev, A.V. (2002). Tolerance of cheating: An analysis across countries. *Journal of Economic Education, 33*, 125-135.

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*, 1–10.

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research, 45*, 633-634.

McCabe, D., & Bowers, W. (1994). Academic dishonesty among male college students: A thirty year perspective. *Journal of College Student Development, 35*, 3-10.

McCabe, D. L., Butterfield, K. D., & Treviño, L. K. (2006). Academic dishonesty in graduate business programs: Prevalence, causes and proposed action. *Academy of Management Learning and Education*, 5, 294-306.

McCabe, D. L., Butterfield, K. D., & Treviño, L. K. (2012). *Cheating in college: Why students do it and what educators can do about it*. Baltimore, MD: Johns Hopkins Press.

McCabe, D. L., & Treviño, L. K. (1993). Academic dishonesty: Honor codes: Honor codes and other contextual influences. *Journal of Higher Education*, 64, 522-538.

McCabe, D. L., & Treviño, L. K. (1996). What we know about cheating in college. *Change*, 28, 29-33.

McCabe, D. L., & Treviño, L. K. (1997). Individual and contextual influences on academic dishonesty: A multi-campus investigation. *Research in Higher Education*, 38, 379-396.

McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior* 11, 219-232.

McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2002). Honor codes and other contextual influences on academic integrity: A replication and extension of modified honor code settings. *Research in Higher Education*, 43, 357-378.

Moya-Smith, S. (2013). Survey: 42 percent of Harvard incoming freshman class cheated on homework. Retrieved January 6, 2014 from http://usnews.nbcnews.com/_news/2013/09/06/20361014-survey-42-percent-of-harvards-incoming-freshman-class-cheated-on-homework?lite.

Newstead, S. E., Franklyn-Stokes, A., & Armstead, P. (1996). Individual differences in student cheating. *Journal of Educational Psychology*, 88, 229-241.

Oklahoma State University (2010). Academic integrity handbook for faculty. Retrieved January 10, 2012 from <http://academicintegrity.okstate.edu/doc/OSUAIHandbook.pdf>

- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80(1), Whole No. 609.
- Smyth, L. M., & Davis, J. R. (2004). Perceptions of dishonesty among two-year college students: Academic versus business situations. *Journal of Business Ethics*, 51, 62-73.
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In Berkowitz, L. (Ed.). *Advances in Experimental Social Psychology*, 21, 261-302.
- Stone, T. H., Jawahar, I. M., & Kisamore, J. L. (2009). Using the Theory of Planned Behavior and justifications to predict academic misconduct. *Career Development International*, 14, 221-241.
- Stone, T. H., Jawahar, I. M., & Kisamore, J. L. (2010). Predicting academic misconduct intentions and behavior using the theory of planned behavior and personality. *Basic and Applied Psychology*, 32, 35-45.
- Uitenbroek, D. G. (1997). *SISA Correlation*. Southampton: D.G. Uitenbroek. Retrieved May 21, 2012, from <http://www.quantitativeskills.com/sisa/statistics/corrhlp.htm>
- Whitley, B. E. Jr. (1998). Factors associated with cheating among college students. *Research in Higher Education*, 39, 235-274.
- Whitley, B. E., Nelson, A. B., & Jones, C. J. (1999). Gender differences in cheating attitudes and classroom cheating behavior: A meta-analysis. *Sex Roles*, 41, 657– 677.

Table 1.

Prevalence of Planned Academic Misconduct

Type of Offense	Scenario	Percent of respondents who have engaged in this activity:					N
		Never	Once	A few times	Several times	Many times	
Minor/ Level 1	Copied a few sentences from a published or internet source and not given credit to the author.	72.4	10.6	11.8	1.4	0.8	485
Serious/ Level 2	Copied material from another student and turned it in as your own work.	78.0	7.2	9.8	2.2	97.2	486
Serious/ Level 2	Helped someone else cheat on a test.	82.0	5.4	7.4	1.6	0.2	483
Minor/ Level 1	Worked with others on an assignment when the instructor asked for individual work.	59.0	12.8	19.8	4.2	1.4	486
Serious/ Level 2	Turned in work done by someone else.	84.0	5.4	6.2	1.2	0.4	486
Serious/ Level 2	Copied from another student on a test.	81.2	6.2	7.2	2.4	0	485
Serious/ Level 2	Used a text or notes on a test without the instructor's permission.	77.4	8.2	8.8	2.0	0.2	483
Minor/ Level 1	Received substantial help on an assignment without the instructor's permission.	72.4	9.0	11.6	3.2	1.0	486
Serious/ Level 2	Cheated on a test in any way.	74.2	9.6	10.2	2.4	0.4	484
Serious/ Level 2	Used unfair methods to learn about a test before taking it.	74.4	9.0	9.6	2.6	0.8	482

Table 2.

Prevalence of Panic-based Academic Misconduct

Type of Offense	Scenario	Percent of respondents who have engaged in this activity:					N
		Never	Once	A few times	Several times	Many times	
Minor/ Level 1	Copied a few sentences from a published or internet source and not given credit to the author.	54.8	15.0	23.4	3.0	1.0	486
Serious/ Level 2	Copied material from another student and turned it in as your own work.	67.8	9.6	17.4	2.2	0.2	486
Serious/ Level 2	Helped someone else cheat on a test.	76.6	8.6	9.2	1.6	0.6	483
Minor/ Level 1	Worked with others on an assignment when the instructor asked for individual work.	42.6	13.0	31.0	8.2	2.0	484
Serious/ Level 2	Turned in work done by someone else.	83.2	5.4	6.8	1.0	0.6	485
Serious/ Level 2	Copied from another student on a test.	78.6	5.6	10.4	1.8	0.6	485
Serious/ Level 2	Used a text or notes on a test without the instructor's permission.	79.4	6.8	9.2	1.0	0.4	484
Minor/ Level 1	Received substantial help on an assignment without the instructor's permission.	65.0	11.0	17.6	2.4	0.8	484
Serious/ Level 2	Cheated on a test in any way.	67.2	9.8	15.8	3.2	0.4	482
Serious/ Level 2	Used unfair methods to learn about a test before taking it.	69.6	10.2	13.2	3.0	0.8	

Table 3
Factor Pattern Matrix from a Principle Axis Factor analysis with Promax Rotation-Panic

	Item Mean (SD)	a priori classification	Factor 1 "Minor"	Factor 2 "Serious"
1. Copied a few sentences from a published or internet source and not given credit to the author	1.78 (.99)	Minor	.499	.168
2. Copied material from another student and turned it in as your own work	--	Serious	--	--
3. Helped someone else cheat on a test	1.35 (.76)	Serious	.107	.686
4. Worked with others on an assignment when the instructor asked for individual work	2.12 (1.14)	Minor	.772	-.083
5. Turned in work done by someone else	1.25 (.68)	Serious	.059	.638
6. Copied from another student on a test	1.35 (.79)	Serious	-.018	.853
7. Used a text or notes on a test without the instructor's permission	1.30 (.71)	Serious	-.079	.751
8. Received substantial help on an assignment without the instructor's permission	1.58 (.93)	Minor	.717	.006
9. Cheated on a test in any way	1.54 (.90)	Serious	.220	.636
Used unfair methods to learn about a test before taking it	1.49 (.89)	Serious	.518	.209

N=472

Table 4
Factor Pattern Matrix from a Principle Axis Factor analysis with Promax Rotation-Planned

	Item Mean (SD)	a priori classification	Factor 1 "Minor"	Factor 2 "Serious"
1. Copied a few sentences from a published or internet source and not given credit to the author	--	Minor	--	--
2. Copied material from another student and turned it in as your own work	1.34 (.75)	Serious	.086	.700
3. Helped someone else cheat on a test	1.27 (.69)	Serious	.075	.805
4. Worked with others on an assignment when the instructor asked for individual work	1.73 (1.03)	Minor	.794	-.029
5. Turned in work done by someone else	1.24 (.66)	Serious	-.033	.839
6. Copied from another student on a test	1.28 (.71)	Serious	.022	.852
7. Used a text or notes on a test without the instructor's permission	1.34 (.75)	Serious	.188	.686
8. Received substantial help on an assignment without the instructor's permission	1.48 (.91)	Minor	.814	.073
9. Cheated on a test in any way	1.40 (.81)	Serious	.221	.609
10. Used unfair methods to learn about a test before taking it	1.41 (.84)	Serious	.642	.217

N=473

Table 5. Correlations among studied variables

	Mean (SD)	Minor	Serious	Panic	Planned	Justification	Impulse Control	Avoids Trouble	Gender	Age
Minor	1.63 (0.75)	(.87)								
Serious	1.33 (0.58)	.737**	(.93)							
Panic	1.50 (0.63)	.856**	.887**	(.88)						
Planned	1.39 (0.66)	.858**	.894**	.760**	(.93)					
Justification	2.36 (1.08)	.388**	.406**	.431**	.365**	(.94)				
Impulse Control	2.60 (1.31)	-.121*	-.102	-.127*	-.097	-.155**	(.63 ^a)			
Avoids Trouble	3.08 (1.14)	-.174**	-.195**	-.192**	-.184**	-.268**	.224**	(.56 ^a)		
Gender	1.48 (0.50)	-.062	-.151**	-.137**	-.092*	-.115*	.137*	.237**	--	
Age	25.53 (7.48)	-.279**	-.192**	-.255**	-.215**	-.322**	.075	.171**	.088	--

* $p < 0.05$; ** $p < 0.01$; Note: N ranged from 352 to 484 due to missing responses on items on some scales.

Cronbach's alpha values are presented on the diagonal.

Gender: Male=1; Female =2; ^a-value published in Hogan Personality Inventory manual

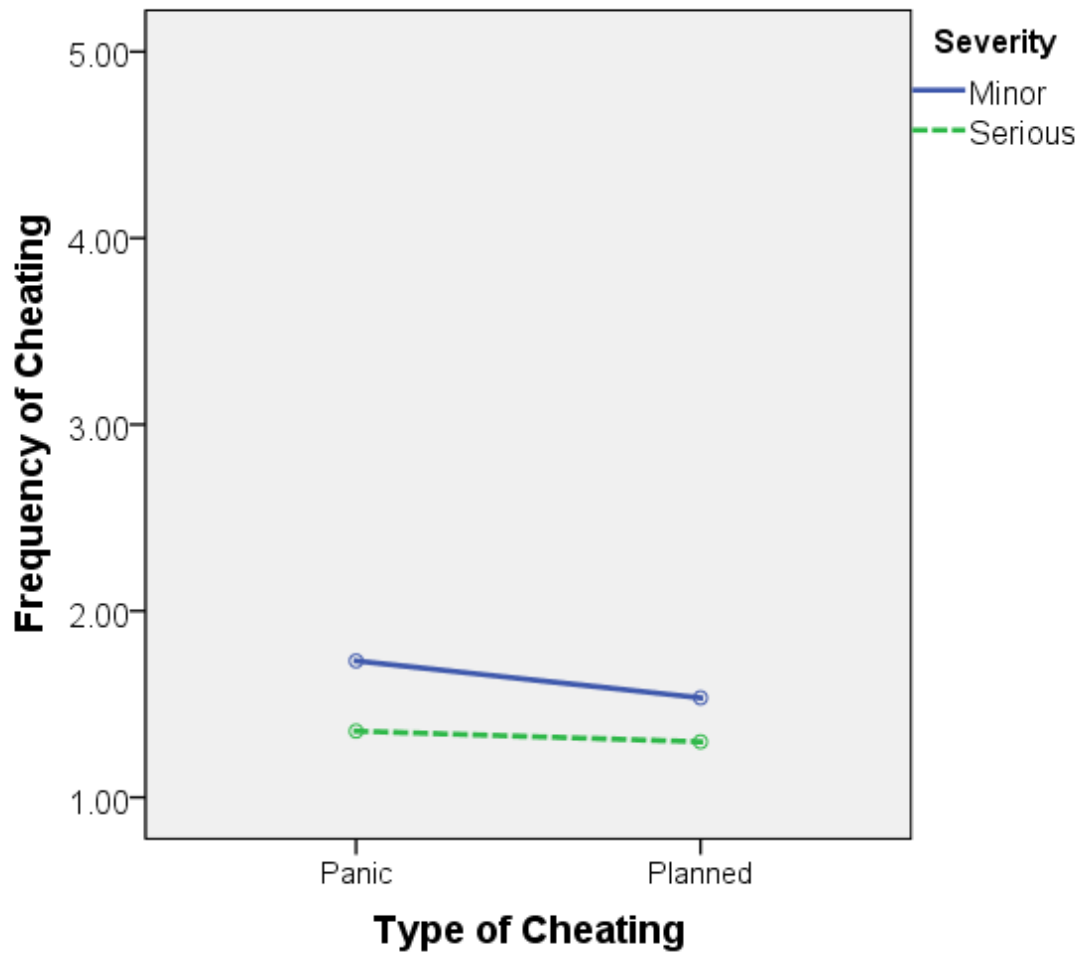


Figure 1. The interaction between type of cheating and severity of cheating offense on frequency of cheating.