Whistle-Blowing in the Classroom?

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Although a large body of research has examined academic cheating, very little attention has been devoted to student reporting of academic misconduct. We argue academic integrity violations are similar to but different in some ways from whistle-blowing. Using data from 131 business students, we use hierarchical regression to show how demographic, personality, attitudinal and contextual factors combine to predict intention to report cheating. The adjusted R squared for the model is .45. Implications for future research and practice are discussed.

INTRODUCTION

A considerable body of research has examined student cheating and plagiarism (e.g., Anderman & Murdock, 2007; Crown & Spiller, 1998; McCabe, Butterfield & Treviño, 2006; Stone, Jawahar & Kisamore, 2010; Whitley, 1998). Research indicates cheating, plagiarism and related forms of academic misconduct occur among high school (Josephson Institute of Ethics, 2009), college (McCabe & Treviño, 1997; McCabe, Treviño & Butterfield, 2001; Whitley, 1998) and even graduate students (McCabe et al., 2006). Bowers (1964) found that 66% of undergraduate business students attending 99 schools admitted to one or more incidents of cheating in an academic year. Similarly, McCabe (1997) found 84% of business students reported one or more incidents of serious cheating. In both studies, cheating rates were highest among students majoring in business, followed by engineering majors.

Research also suggests those who cheat in school also engage in unethical and illegal behavior at work (McCabe, Treviño & Butterfield, 1996; Nonis & Swift, 2001; Sims, 1993). For example, results of the 2009 Josephson Institute survey of nearly 7,000 people, indicate those who admitted to cheating on exams in high school were more likely to lie to customers, clients, their boss and significant others as well as engage in other unethical behaviors such as inflating expense claims for reimbursement. Similarly, Stone, Jawahar and Kisamore (2010) found cheating and/or plagiarizing in school was associated with sabotage and theft in the workplace.

Predicting Academic Misconduct

Two of the most comprehensive reviews of academic integrity research are Whitley's (1998) review of 107 published studies conducted between 1970 and 1996 and Crown and Spiller's (1998) review of studies from the previous 25 years. Both reviews affirmed that research has mainly examined either individual factors (e.g., gender, age, grade point average, education, personality) or situational factors (e.g., honor codes, surveillance, rewards/sanctions, peer context, fraternity or sorority membership) as antecedents of unethical conduct.

The Theory of Planned Behavior

In an effort to highlight patterns of findings, Whitley (1998) used Ajzen's Theory of Planned Behavior (TPB; 1985, 1991) as a taxonomy to organize findings across the studies reviewed. Prior to Whitley's review, Beck and Ajzen (1991) used the TPB to categorize predictors of cheating and intent to cheat as did several later studies (e.g., Kisamore, Stone, & Jawahar, 2007; Passow, Mayhew, Finelli, Harding & Carpenter, 2006; Stone, Jawahar & Kisamore, 2010). Of the 16 studies included in Whitley's review which examined one or more of the three TPB components (i.e., attitude, subjective norms, perceived behavioral control) an average of 27.8% of the variance in cheating was explained by TPB components. Variables with the largest effect size included: favorable attitude toward cheating, perception of norms allowing cheating, moderate expectation that cheating will be successful and rewarded, past cheating, poor study skills and seeing themselves as less honest. The first three of these variables represent the three TPB components (Ajzen 1985, 1991). Other research has also supported use of the TPB for predicting cheating. For instance, McCabe et al. (2006) found perception that others cheat (i.e., norms) was the best predictor of cheating. Furthermore, Stone et al. (2010) found the TPB accounted for 25% of the variance in cheating intentions and 36% of variance in self-reported cheating behavior.

Personality

A limited amount of research has examined personality as an antecedent of academic cheating and other unethical behaviors. Both Whitley's (1998) review and Kish-Gephart, Harrison and Treviño's (2010) review of a broad spectrum of unethical behavior found external locus of control (Rotter, 1966) associated with unethical behavior. Harding, Mayhew, Finelli and Carpenter (2007) found evidence that moral obligation (Kohlberg, 1969) was associated with less cheating and Kish-Gephart et al. (2010) also found higher levels of cognitive moral development related to more ethical choices. Students with higher scores on the Hogan Personality Inventory (Hogan & Hogan, 1995) scales of prudence (similar to conscientiousness) and adjustment (similar to emotional stability) cheated less than those with lower scores (Kisamore et al., 2007). Stone et al. (2010) found similar results for prudence but not adjustment.

In summary, research on antecedents of student cheating and plagiarism has identified a number of individual-level as well as contextual variables associated violations of academic integrity. However, very few studies have examined student reports of cheating, in other words, classroom whistle-blowing. This paper examines factors associated with student reporting cheating and discusses how it is similar to but also different than whistle-blowing in industry.

Whistle-Blowing

Whistle-Blowing in the Workplace

Near and Miceli (1985) define whistle-blowing as, "the disclosure of illegal, immoral or illegitimate practices under the control of their employer, to persons or organizations who may be able to effect action" (p. 4). Whistle-blowing is considered a form of prosocial organizational behavior/organizational citizenship behavior (OCB) (Brief & Motowidlo, 1986; Dozier & Miceli, 1985). Staw (1984), however, argues that although whistle-blowing may benefit the organization, if a problem is reported to external sources such as the media or enforcement agencies, it may be perceived by some within the organization as counter-productive behavior. Indeed, research (Mesmer-Magnus & Viswesvaran, 2005; Miceli & Near, 2002; Near & Miceli, 1986, 1996) suggests whistle-blowers who use external channels are more likely to experience retaliation than those using internal sources.

Whistle-blowing appears to be on the rise. In a study of 8,500 federal agency employees, Miceli and Near (1984) found that half of the employees reported wrong-doing they observed. In a similar large study of government employees, Miceli and Near (1988) found 36% of those observing wrong-doing reported it. Two decades later, Bates (2009) showed that 63% of workers included in the Ethics Resource Center's 2008 National Business Ethics Survey reported misconduct they observed. This figure was up from the 2007 survey rate of 58% (Bates, 2009). Recently, a study by Bjorkelo, Einarsen and Matthiesen's (2010) of 503 Norwegian municipal employees revealed that 32.6% blew the whistle one or more times. Based upon these surveys, the incidence of whistle-blowing varies from approximately 35% to a high slightly more than 60%. Burton and Near (1995) noted lower rates, 10 to 20%, of whistle-blowing in several studies conducted in the 1980s. These authors, however, argue that no study has been able to assess the accuracy of incidences of wrong-doing, whistle-blowing and retaliation without social desirability biases from influencing the results.

Some research has examined characteristics of whistle-blowers and the context of whistle-blowing (Mesmer-Magnus & Viswesvaran, 2005). One conclusion of the Mesmer-Magnus and Viswesvaran (2005) review was that contextual variables such as supervisor and coworker support, organizational climate, threat of retaliation, and size of organization explained more variance in the decision to blow the whistle than did individual characteristics. Although, Near and Miceli (1996) found no consistent personality effects, whistle-blowers tended to be older, male, better-educated, have high job performance and hold supervisory or professional status with the responsibility for reporting wrong-doing. However, some evidence of a personality – whistle-blowing relationship was found in three studies. Specifically, Bjorkelo et al. (2010), LePine and Van Dyne (2001) and Miceli and Near (1985) found extraversion positively associated with whistle-blowing while Bjorkelo et al. also identified low agreeableness as a predictor of whistle-blowing.

Research shows that the antecedents of whistle-blowing are a complex combination of situational and individual factors. Many of the factors associated with whistle-blowing are related to Jones' (1991) elements of moral intensity of an ethical dilemma. Kish-Gephart et al. (2010) use Jones' framework to discuss "bad cases" of ethical choices. For example, if the magnitude of consequences of an unethical behavior is small, it affects few people and will not have an immediate impact, observers are more likely to ignore it because the potential for harm is relatively small. Individual factors associated with whistle-blowing are related to status and influence of the whistle-blower, specifically; whistle-blowers tend to be older, in supervisory and professional positions, and has a history of good job performance. In Hollander's (1958) terms, whistle-blowers tend to have a stock of idiosyncrasy credits that would allow them to call attention to a problem in their organization with a lower probability of incurring retaliation.

Whistle-Blowing in the Classroom

Although whistle-blowing and reporting cheating in school are clearly both pro-social behaviors, very few studies have considered them as analogous behaviors within their respective organizations. Burton and Near (1995) classified reporting cheating by students as whistle-blowing. They argue that although students view cheating as less serious than illegal or unethical financial or safety violations, the process of observing, reporting and experiencing the organization's response is similar to "real world" whistle-blowing. While we agree the experience is similar, we believe there are important differences. First, the stakes of whistle-blowing for employees are much higher than for students. On the positive side, organizational whistle-blowing can result in significant financial rewards for employees, while reporting cheating by fellow students yields no financial rewards. On the negative side, whistle-blowing can result in various forms of retaliation, up to and including job loss. Negative consequences of reporting violations of academic integrity policies, however, are far less severe, possibly leading to social rejection by some students. Second, while many academic institutions have some form of integrity policy or honor code (as do many organizations), it is likely that students are less certain about how to report cheating than employees are to report unethical behavior. For example, few if any schools have anonymous hotlines for reporting cheating while an increasing number of organizations have such ethics hotlines. A final important difference is the bulk of research showing that cheating in school is very common,

virtually the norm in many schools, while wrong-doing in most organizations is less common and therefore, not the norm. Results of a survey of U.S. students and students from "transitional economies" (i.e., eastern European and central Asian) support this. Grimes (2004) found 48.5% of U.S. students and 57% of students from transitional economies agreed cheating was socially acceptable; however both groups viewed unethical practices in business as less acceptable than cheating in school.

The few studies examining frequency of student reports of cheating find a very small proportion of those observing cheating report it. Nuss (1984) found only three percent of students would report cheating, although 28% said they would report serious cheating while 43% said they would ignore it. In a study of exam cheating among 117 medical students in a laboratory experiment, Sierles, Kushner, and Krause (1988) found that only two students of 20 (10%), who observed cheating reported it. Later, when examining two methods of measurement, Burton and Near (1995), found that while between 67 and 75% of their sample of 550 undergraduate business students witnessed cheating, only 3 to 5% reported cheating to "someone official". The most common reason for not reporting cheating, a mentioned by three-fourths of students, was they did not want to get involved. Approximately one third of students also said they did not want to be a tattletale and did not want to hurt a friend. More recent research by Lim and See (2001) showed that less than two percent of Singaporean students said they would report a friend for cheating, while 82% indicated they would ignore it and the rest said they would tell friends or privately confront the cheater(s). McCabe's series of annual surveys of academic misconduct also include a few questions related to reporting cheating. Although results for these questions have not been published, the senior author contacted Professor McCabe regarding what his research suggests regarding reporting of cheating. He responded:

I have longed asked questions about both potential and actual reporting. First, I have three questions which have the lead-in "How likely is it that" (1) you would report an incident of cheating you observed, (2) the typical student would, and (3) a student would report a close friend? Of the 90,000+ US undergrads in my web survey (Fall 2002 - Spring 2009) 27% say likely or very likely to (1), 16% to (2), and 4% to (3). I believe (1) is inflated because reporting is the 'right' thing to do according to many (most) campus policies. I also ask a two question sequence where the first question asks if you have ever "observed" another student cheating on a test. Of the 44% who have, only 9% indicate they have ever reported. Assuming many have observed more than one incident and have likely not reported all of them, the percent of incidents reported is probably much lower. In addition, I have not defined what constitutes reporting and I would guess at least some have reported without mentioning names, etc. which many would consider not really reporting at all. (McCabe, personal communication, February 1, 2010).

McCabe's findings are consistent with the studies discussed above and with whistle-blowing surveys affected by social desirability bias described by Burton and Near (1995).

The Current Study

Few studies have examined factors associated with student reporting academic misconduct. The current study was conducted to examine the role of cheating behavior, personality, attitudinal and situational factors in predicting intent to report cheating.

Demographics

The literature on whistle-blowing in industry (Mesmer-Magnus & Viswesvaran, 2005; Near & Miceli, 1996) shows both age and gender associated with reporting wrongdoing; males and older individuals are more likely to blow the whistle. Classroom whistle-blowing research, however, is very limited. Kisamore et al. (2007) found older students were more likely than younger students to indicate they would report cheating. Thus, we base our hypotheses on the whistle-blowing literature for both academia and industry, namely, males and older students are more likely to report cheating than females and younger students.

Hypothesis 1: Age will be positively associated with intentions to report cheating.

Hypothesis 2: Male students will have stronger intentions to report cheating than female students.

Personality

Limited research supports personality as a predictor of whistle-blowing and reporting cheating. We argue, however, that students who are moralistic and self-confident are likely to report cheating. Bjorkelo et al. (2010), Le Pine and Van Dyne (2001) and Miceli and Near (1985) found extraverts as well as those who self-confident and seek attention are more likely to blow the whistle. Bjorkelo et al. (2010) identified low agreeableness, typified as fault-finding, (Hogan & Hogan, 1995) as a predictor of whistle-blowing. Although several studies have used personality variables to predict academic cheating, only Kisamore et al. (2007) examined personality as a predictor of intent to report cheating. The study found students' intent to report cheating correlated .23 with the personality factor prudence. Prudent people are those who "readily follow organizational procedures" and are "reliable, thorough, dignified, cautious, and responsible" (Hogan & Hogan, 1995, p. 42). The prudence scale is part of the Hogan Personality Inventory and is comprised of seven HICs (homogeneous item composites) that measure different aspects of prudence. However, only the *moralistic* HIC, as described by a sample item, "I always practice what I preach" (Hogan & Hogan, 1995, p. 15) suggests the personality of a whistle-blower. Similarly, the HPI's ambition scale is comprised of several HICs. The self-confidence HIC, is characterized by the item, "I am a very self-confident person" (Hogan & Hogan, 1995, p. 14). Therefore, we contend that the HPI's HICs of moralistic and self-confidence are consistent with high extraversion associated with whistle-blowers in Bjorkelo et al. (2010), Le Pine and Van Dyne (2001) and Miceli and Near (1985).

> *Hypothesis 3: Students scoring high on moralistic and self-confidence HIC will be more likely to report cheating than low scorers.*

The Theory of Planned Behavior (TPB)

The TPB (Ajzen, 1985, 1991) stipulates three components predict intention to engage in a specific behavior and subsequent engagement in the behavior. The crux of the theory is that intentions to engage in and actual behavior are affected by three components: (1) attitudes toward the behavior, i.e., beliefs about a behavior or its consequences; (2) subjective norms, i.e., normative expectations of other people regarding the behavior, and (3) perceived behavioral control, PBC, i.e., the perceived difficulty or ease of performing the behavior. The efficacy of the TPB model may be seen in a recent meta-analysis of 185 independent studies published through 1997 (Armitage & Conner, 2001). This analysis found that the TPB accounted for 27% and 39% of the variance in behavior and intention, respectively. The Armitage and Conner (2001) review suggests that the TPB is a powerful theory for predicting an array of intentions and behaviors. To date, the model has been utilized in one major review (Whitley, 1998), used to examine student cheating in one ex post facto study (Passow et al., 2006) and explicitly tested a priori in two studies (Beck & Ajzen, 1991; Stone et al., 2010). The Stone et al. study found the TPB components explain the mediating mechanisms between personality and intentions to cheat.

The current study is the first to use the TPB model to predict intentions to report cheating. Generally, favorable attitudes and supportive group norms result in both strong intent to perform and actual performance of a behavior, but perceived behavioral control, the perceived ease or difficulty of executing the behavior can affect both level of intent and actual engagement in the behavior. For example, a student may have a favorable attitude toward fairness, honesty and upholding academic integrity, but the student's friends may clearly engage in cheating and plagiarism without repercussions from the instructor. Thus the student perceives reporting cheating as difficult due to uncertainty or whether and how to do so, lack of understanding about consequences cheating and fear of retaliation from other students. That is, an attitude supporting reporting observations of cheating may not overcome a norm condoning frequent cheating and perceived uncertainty and difficulty of reporting. One study found students with favorable attitudes toward academic integrity policies are more likely to report cheating than those who regard the policies as unfair (Simon, Carr, McCullough, Morgan, Oleson, & Ressel, 2004). Whitley's (1998) review found a large effect (d = .81) for attitudes toward cheating across 16 studies, such that students who cheat have more favorable attitudes toward cheating than students who do not cheat. We expect students with negative attitudes toward academic dishonesty will be more likely to report cheating.

Treviño, Weaver and Reynolds (2006) point out that norms play a major role in moral development. In discussing Kohlberg's (1969) stages of moral development, they state that most adults are at the conventional level. At this level, peer behavior, norms, punishments and rewards, organizational climate and related external factors influence judgments about right and wrong. Whitley's (1998) review found a very large effect (.93) of norms on cheating, even larger than for attitudes; students who perceive cheating is common are more likely to cheat than those who believe cheating is rare. McCabe et al. (2002) found that students' perceptions of peers' behavior was the best predictor of academic dishonesty regardless of the presence or absence of an honor code. Thus, we expect students who do not believe cheating is the norm are more likely to report cheating than those who believe cheating is common behavior.

In Whitley's (1998) review of 107 studies, five examined a variable approximating PBC. He concluded that students who believed they were effective cheaters were more likely to cheat. Both Beck and Ajzen (1991) and Stone et al. (2010) found PBC added significant variance to attitudes and norms for intention to cheat, but the addition of PBC did not significantly increase variance explained for cheating behavior. This may be because while students may have attitudes favorable to cheating and believe other students cheat, circumstances may not allow them to cheat. Similarly, students and workers may hold favorable attitudes toward ethical behavior and believe such behavior is the norm, circumstances in specific situations may make whistle-blowing difficult or futile. Therefore, if a student believes cheating is difficult (a low PBC score) he or she is more likely to report cheating. In other words, if a student believes cheating was easy, this implies reporting it would do little good. This is consistent with the findings from the 2003 Business Ethics Survey that the major reason employees do not report wrong-doing is they do not believe appropriate action would be taken to correct the misconduct (Gurchiek, 2006).

> *Hypothesis 4: Scores on the three TPB components (attitude, norms and perceived behavioral control) regarding cheating will be negatively associated with report cheating intentions.*

Past Cheating

Near et al. (1991) and Near and Miceli (1996) note that whistle-blowers tend to be high organizational performers. This implies they are more likely to have behaved in pro-social vs. anti-social or counterproductive manner. Similarly, in academia, students who engage in counterproductive behavior such as cheating and related violations of academic integrity are not likely to engage in a pro-social behavior such as report cheating.

One of the best predictors of cheating and other unethical behaviors is past cheating (Whitely, 1998). There is evidence that cheating begins in high school if not earlier (Josephson Institute, 2009), college cheating continues in graduate school (McCabe et al., 2006) and extends into the workplace (McCabe, Treviño & Butterfield, 1996; Nonis & Swift, 2001; Sims, 1993). Because personalities and attitudes of wrong-doers differs from that of good citizens and given that cheating and reporting cheating are logically inconsistent, we expect students who admit to cheating will be less likely to report cheating than non-cheaters. A study by Bunn, Caudill and Gropper (1992), however, found that students believed "panic" cheating was three times as common as planned or pre-meditated cheating. Virtually all academic integrity research has implicitly or explicitly assumed cheating and plagiarism were premeditated. In this study, students were asked if or how often they engaged in various cheating behaviors "out of a sense of panic" and "after planning to do them". We expect students engaging in panic cheating will be more likely to intend to report cheating than those admitting to planned cheating. Whitley's review (1998) found a large effect for students who saw themselves as less honest. We believe students who admit to panic cheating are likely to believe cheating is wrong, do not see themselves dishonest and are more likely to report cheating than planned cheaters.

> *Hypothesis 5: Panic cheating will be more strongly associated with intent to report cheating than planned cheating.*

Integrity Culture

Mesmer-Magnus and Viswesvaran (2005) conclude from their review of whistle-blowing research that contextual variables such as supervisor and coworker support, organizational climate, threat of retaliation, and size of organization explain more variance in the decision to blow the whistle than individual characteristics. McCabe and his colleagues also emphasize contextual factors; particularly honor codes (McCabe & Treviño, 1993, 1997; McCabe, Treviño & Butterfield, 1996, 2002). One study, Simon et al. (2004) found students more willing to report cheating when the campus climate supports academic integrity. Many aspects of culture such as norms of behavior, supervisor and coworker support and threat of retaliation, however, influence behavior as they are perceived. At the same time, the real-world in which whistle-blowing occurs is more complex and has much higher stakes than the classroom. Thus, situational factors may often have more influence on whistle-blowing than personality or perceptual and attitudinal factors in the work environment. We contend, in the less complex, more predictable venue of the classroom, personality and perceptual factors such as the TPB components will better predict reporting cheating. This is consistent with some academic integrity research such as Whitley (1998), Beck and Ajzen (1991), Kisamore et al. (2007).

> *Hypothesis 6: In the presence of culture, demographics, personality, and TPB components, panic cheating will significantly predict reporting cheating.*

METHOD

Sample and Procedure

The sample consisted of 353 undergraduate business students in seven marketing and management classes at a large, mid-western public university in the U. S. An incentive of extra-credit points was offered and an alternative for extra-credit was offered for students who did not choose to participate. Participants completed the integrity and personality surveys online outside of class. Participants were given a logon code and an individual password and assurance of confidentiality of their responses. A total of 173 students responded to the survey yielding a response rate of 49%. The low response rate is attributed to the fact that students had a choice among several studies in which they could participate to receive extra credit and instructors commented for the current study, some students had problems correctly entering the complex URL to get to the survey. Forty-two students were eliminated from analysis due to careless responding on the HPI as identified by scores lower than 10 on the inventory's validity scale.

Measures

Items used to measure the constructs are included in Appendix A. All integrity survey items were measured on a 5-point Likert-type scale, except cheating behavior.

Integrity Culture

Students' perceptions of the institution's academic integrity culture was measured with eight items (α = .75). Students rated the institutions culture from low (1) to high (5) for each aspect of the culture. Sample aspects measured include: faculty concern about academic integrity, severity of penalties for cheating and culture of honesty.

Attitude Toward Misconduct

The attitude toward academic misconduct scale consisted of 5 items (α = .79) that assessed participants' beliefs regarding cheating. High scores indicate an accepting attitude of academic misconduct behaviors.

Subjective Norms

Subjective norms were measured with 6 items (α = .83) assessing participants' perceptions and

suspicions regarding the frequency with which other students engage in various forms of academic misconduct. High scores indicate a belief that others cheat frequently and academic misconduct is the norm.

Perceived Behavioral Control

The perceived behavioral control measure consisted of 5 items (α = .76) designed to assess participants' perceptions of the ease or difficulty of successfully cheating. A high score indicates cheating is perceived to be easy meaning that there are few controls or barriers to prevent cheating.

Report Cheating

Intent to report cheating was assessed using 4 items (α = .91) that asked respondents how likely they would be to report cheating by a friend or a student they did not know and belief in importance of reporting cheating. Thus, high scores indicate intent to report observations of academic misconduct.

Planned and Panic Cheating Behavior

To assess cheating behaviors, we asked students to report how frequently they engaged in cheating ranging from *never* (1) to *many times* (5): (a) out of a sense of panic (α = .86), and (b) in a premeditated fashion (α = .95) (i.e., planned to engage in cheating). Sample items included "helped someone else cheat on a test" (planned) and "received substantial help on an assignment without the instructor's permission" (panic). These questions were identical to those used in U.S. and Canadian surveys of academic misconduct by McCabe and his co-authors (see McCabe, 2005; McCabe et. al, 1993, 1997). Higher scores indicate greater levels of academic misconduct than lower scores.

Personality

We assessed personality characteristics using the Hogan Personality Inventory (HPI). The HPI is a measure of normal personality based on the Socio-analytic theory of personality and was designed to parallel the Big Five personality factors (Hogan & Hogan, 1995). Considerable data are available to support the reliability and validity of HPI scores in the measurement of personality (Hogan & Hogan, 1995). The HPI consists of seven personality scales: adjustment, ambition, likeability, inquisitive, learning approach, prudence, and sociability, as well as a validity scale. The validity scale detects careless responding. Each scale is comprised of several homogenous item composites or HICs (i.e., subscales). For this study, two HICs were used, moralistic (α = .56**)** from the prudence scales and self-confidence (α = .58) from the ambition scale. Moralistic is a five-item HIC defined as adhering strictly to conventional values and a sample item is "I always practice what I preach" (Hogan & Hogan, 1995). Self-confidence is a three-item HIC defined as confidence in oneself; "I am a very self-confident person" is a sample item (Hogan & Hogan, 1995). Because reporting cheating is a very specific behavior, we used targeted HICs rather than the full personality scales in the current study. A meta-analysis by Dudley, Orvis, Lebiecki and Cortina (2006) showed that narrow traits, such as those representing HPI HICs, demonstrate higher predictive power for narrow outcomes.

Results

Table 1 includes means, standard deviations and correlations between study variables. Bivariate correlations between report cheating and study variables are in the expected direction and significant.

TABLE 1
DESCRIPTIVE STATISTICS AND INTERCORRELATIONS AMONG STUDY VARIABLES

	1	2	3	4	5	6	7	8	9	10	11
1 Age	--										
2 Sex	.09	--									
3 Self-Confidence	.07	.03	(.58)								
4 Moralistic	.06	.15	.20*	(.56)							
5 Attitude	-.24**	-.21*	-.11	-.21*	(.79)						
6 Subj. Norms	-.22*	-.09	-.13	-.19*	.24**	(.83)					
7 Behavioral Control	-.19*	-.16	-.15	-.15	.40**	.62**	(.76)				
8 Planned Cheating	-.13	-.12	-.01	-.03	.26**	.44**	.35**	(.95)			
9 Panic Cheating	-.17*	-.17	-.05	-.20*	.42**	.59**	.56**	.77**	(.86)		
10 Culture	.10	.13	.06	.23**	-.31**	-.51**	-.49**	-.13	-.26**	(.75)	
11 Report Cheating	.26**	.05	.28**	.30**	-.60**	-.22*	-.38**	-.22*	-.38**	.33**	(.91)
Mean	25.15	--	2.50	2.13	1.69	2.39	2.62	1.35	1.50	4.00	3.05
SD	7.2	--	.79	1.08	.65	.75	.84	.61	.54	.50	1.00

As shown in Table 2, age and sex entered in Step 1 of the hierarchical regression (Cohen & Cohen, 1983) explaining 3% of the variance in report cheating (adjusted R^2 = .03, $F_{2, 122}$ = 2.896, p < .10), but only age was significant (β = .21, t = 2.33, p < .05). Older students showed a greater intent to report cheating than younger ones (r =. 268, p < .05). Thus, we found support for Hypothesis 1 but for not Hypothesis 2.

The overall F statistic for panic cheating entered in Step 4 failed to reach statistical significance ($F_{1,116}$ = 2.61, p = .109) even though the standardized beta for panic cheating was significant (β = -.19, t = -1.99, p < .05). To facilitate testing of Hypothesis 5, we removed panic cheating from Step 4 and in its place entered planned cheating. Planned cheating also failed to add additional variance in report cheating ($F_{1,116}$ = 1.01, p = .32) and the standardized beta for planned cheating was also not significant (β = -.08, t = - 1.01, p = .32). The significant beta for panic but not planned cheating offers a moderate level of support for Hypothesis 5 which predicted that panic cheating would be more strongly associated with intent to report cheating than planned cheating. That panic cheating was more strongly correlated, r = -.384, p <. 01, than planned cheating, r = -.217, p < .05 was with intent to report cheating is also shown in Table 1.

TABLE 2
REGRESSION RESULTS

	β Stage 1	*β* Stage 2	*β* Stage 3	*β* Stage 4	*R squared*
Age	.21*	.19*	.06	.07	
Gender	.04	.00	-.11	-.12	
					.05
Self-Confidence		.21*	.18*	.20*	
Moralistic		.25*	.16*	.13	
					.17*
Attitude			-.50*	-.44*	
Subjective Norms			.08	.21*	
PBC			-.20*	-.12	
					.46*
Culture				.15	
Panic Cheating				-.19*	
					.49

Hypothesis 6 examined whether panic cheating would add incremental explanatory variance beyond other study variables. For culture, although the change in F is not a significant one (.072) the correlation between integrity culture and reporting cheating is significant (r = .328, p <. 01). These results suggest integrity culture is an important antecedent of reporting cheating. Further, panic cheating was found to be a significant predictor of report cheating, even when accounting for age, gender, self-confidence, moralistic personality, attitude, subjective norms, PBC, and culture. Thus, hypothesis 6 was supported.

DISCUSSION

Overall, our data generally support the hypotheses and suggest that, at least in an academic environment, individual variables, particularly personality and the attitudes and perceptions captured in the TPB model, explain more variance in reporting academic misconduct than the academic integrity culture.

The finding for hypothesis 1, that whistle-blowers are older is consistent with both the whistle-blowing and academic integrity literatures. Although older students are not significantly more moralistic or self-confident than younger ones, they hold less favorable attitudes toward cheating, tend not to perceive cheating as the norm, do not view cheating as easy and have a favorable perception of the school's academic integrity climate. Hypothesis 2 was not supported as women were more likely to intend to report cheating than men, although not significantly so. The fact that hypothesis 2 was not supported runs counter to the whistle-blowing literature, is not surprising because whistle-blowing in working environments is a very different situation in which men are often in better positions to blow the whistle than women – they are more likely to hold supervisory roles and thus have more idiosyncrasy credits (Hollander, 1958).

Support for hypothesis 3, that the narrow personality traits moralistic and self-confidence are associated with reporting cheating, is consistent with the traits of a whistle-blower. The high level of self-confidence parallels the high extraversion found among whistle-blowers by Bjorkelo et al. (2010), Le Pine and Van Dyne (2001) and Miceli and Near (1985). The high moralistic score fits well with Treviño

and Victor's (1992) finding that a felt role responsibility had the largest effect on whistle-blowing and Miceli et al.'s (1991) finding that feeling morally compelled was important for auditors to report wrongdoing.

By far the most significant component of the regression model for both panic and planned cheating was the TPB components, thus supporting hypothesis 4. Our results provide strong support for using the TPB model to explain intentions to report cheating. Support for the TPB model in these data is generally consistent with Armitage and Conner's (2001) meta-analysis of TPB research as well as the limited research using the TPB to examine violations of academic integrity (Beck & Ajzen, 1991; Passow et al., 2006; Stone et al., 2010; Whitley, 1998). The large increase in adjusted R square over demographics and personality is similar to the findings of Stone et al. (2010) in which the TPB components full mediated personality predicting intent to cheat.

Results for Hypothesis 5 suggest that panic cheating is more closely associated with reporting cheating than planned cheating. We argued this would be the case because planned cheating is more likely associated with a student who is more dishonest than honest. Honesty is rarely black and white; under some conditions, most everyone would be honest, while under very different conditions, most people would make unethical choices (Kish-Gephart et al., 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, p. 22). Additionally, the prevalence of spontaneous academic misconduct may help to explain an apparent paradox between students' beliefs that cheating is wrong despite engaging in it. For example, Grimes (2004) found 85% of American students and 40% of Soviet bloc country students believed cheating was unethical, although 47% of the former and 57% of the later believed it was socially acceptable.

Although integrity culture was not significant examination of Table 1 shows that it is highly correlated with the three TPB components, attitude (r =.31), norms (r =.51) and PBC (r =.49). Students' perceptions of norms regarding academic integrity and their sense of the ease or difficulty of cheating are clearly important determinants of perception of the school's academic culture. Therefore, we agree with McCabe and others who advocate honor codes and development of a favorable academic culture. While honor codes, like codes of ethics are an important component of creating an ethical culture, one must remember the caveat that codes of ethics are not effective unless they are enforced (Kish-Gephart et al., 2010).

SUMMARY AND CONCLUSIONS

We have reviewed whistle-blowing literature, compared and contrasted it with academic integrity research. In so doing, this paper builds upon Burton and Near's (1995) study. Our findings demonstrate a set of individual level variables, particularly, attitudinal, perceptual and personality, capture much of the variance in the integrity culture of an organization. Therefore, while personalities cannot be changed, organizations should seek persons with a strong sense of morality and a high level of self-confidence for their leaders. Additionally, both schools and organizations can take steps such as creating codes of ethics, teaching them to organization members and enforcing them.

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APPENDIX: SCALE CONTENT

Attitude toward Cheating (R = reverse scored)

1. It is always wrong to cheat. (R)
2. Students should cheat if they know they can get away with it.
3. Students should try to cheat even if their chances of getting away with it are slim
4. Sometimes it is necessary to cheat to keep up with my classes.
5. I would let another student cheat off my test if he/she asked.

Subjective Norms

1. In the past year, how often, if ever, have you suspected another student of cheating during a test/exam?
2. In the past year, how often, if ever, have you suspected that another student plagiarized an assignment?
3. How frequently do you think plagiarism occurs in classes at your school?
4. How frequently do you think inappropriate collaboration occurs in classes at your school?
5. How frequently do you think cheating during tests occurs in classes at your school?
6. Approximately what percentage of students do you think engage in some kind of cheating?

Perceived Behavioral Control

1. If I wanted to cheat on assignments or papers, it would be easy.
2. If I wanted to cheat on exams, it would be easy.
3. Some of my friends have cheated and NOT been caught.
4. It is difficult to cheat and NOT get caught. (R)
5. Students who cheat often do NOT get caught.

Cheating Behavior (same items but different stems)

For planned cheating, the stem was "How frequently have you engaged in the following behaviors *in a premeditated fashion*?"

For panic cheating, the stem was "How frequently have you engaged in the following behaviors *out of a sense of panic*?"

1. Copied a few sentences from a source but not give credit.
2. Copied from another student and turned in an own.
3. Helped someone cheat on a test.
4. Collaborated on assignment that was supposed to be individual work.
5. Turned in work done by others.
6. Copied from another student on test.

7. Used notes on test without instructor permission.
8. Received substantial help on assignment without permission.
9. Cheated on test in any way.
10. Used unfair methods to learn about a test.

Integrity Culture

1. How would you rate the culture of honesty at your school?
2. How would you rate the culture of academic integrity at your school?
3. How would you rate faculty concern about academic integrity?
4. How would you rate the average student's understanding of the school's policies concerning academic integrity?
5. How would you rate the effectiveness of these policies?
6. How would you rate the severity of penalties for cheating at your school?
7. How would you rate the competitiveness for grades at your school?
8. How would you rate the pressure you feel for getting good grades?

Report Cheating

1. I would report an incidence of cheating by a student I do not know.
2. I would report an incidence of cheating by a student I consider to be a friend.
3. It is important to report observations of academic dishonesty by other students.
4. Reporting cheating is necessary to be fair to honest students.