

# The ethical student scale: development of a new measure

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## Abstract

**Purpose** – The purpose of this study is to develop the “ethical student scale” to understand the underlying factors that lead to the decisions of cheating and plagiarism and where business students are developmentally from a moral perspective and to help academic institutions assess how best to develop ethical education throughout the curriculum. This three-dimensional nine-item scale based on Kohlberg’s moral development model is proposed to serve as a valuable tool for educators who are struggling with identifying the best approach to help their students make ethical choices both within and outside of the walls of their educational institutions and once they join the workforce.

**Design/methodology/approach** – Four survey design studies were conducted to determine what factors had previously been identified to both negatively and positively impact the propensity of a university student to engage in cheating and/or plagiarizing (Study 1,  $N = 179$ ), to preliminarily validate the three dimension nine item scale that emerged from Study 1 (Study 2,  $N = 87$ ); to test the construct validity of the three-dimensional nine-item scale (Study 3,  $N = 235$ ); and to test the nine-item scale for convergent, divergent and predictive validity (Study 4,  $N = 201$ ). The four surveys were administered to undergraduate students at two universities in the Northeast in the USA.

**Findings** – To shed light on the underlying factors that lead to the decisions of cheating and plagiarism, the authors propose three factors that are engaged when students make these types of ethical decisions: rules and enforcement as an external control, personal morality as an internal control and social influences as a social control (Kohlberg, 1976). Through four studies, this paper presents a three-dimensional nine-item scale based on Kohlberg’s moral development model to determine the factors that influence the propensity of a university student to engage in cheating and/or plagiarizing. The proposed scale showed strong reliability across the three dimensions.

**Research limitations/implications** – The limitations of the scale are that this research was restricted to an academic setting. The relationship between the academic environment, the resulting behaviors of students and the subsequent behavior of these students as managers also needs investigation to determine if business ethics education does have an impact on increasing ethical decision-making.



**Practical implications** – The ethical student scale attempts to measure the development stage of students in a university setting and has the potential utility to help higher education institutions better understand the moral development of their students and what drives their decisions to engage in an ethical manner. Being a short yet reliable tool, ethical student scale may help business schools develop programs beyond a single business ethics course to instill ethical decision-making in students.

**Social implications** – One of the goals as business educators is to produce ethical managers. The ethical student scale can help us develop a more integrated approach to business ethics education. As the students become managers and leaders in organizations, the social implications for more ethical decision-makers and organizations are widespread and vital to the community and the economy.

**Originality/value** – Ethical student scale is an attempt to quantify what types of controls (external, social, or personal) help develop ethical students and ethical managers. Based on Kohlberg's moral development model, this three-dimensional nine-item scale which shows strong reliability will serve as a valuable tool for educators who are struggling with identifying the best approach to the issue of unethical decisions and behaviors as they try to create strategies to help their students make ethical choices both within and outside of the walls of their educational institutions and once they join the workforce.

**Keywords** Ethics, Ethical decision-making, Kohlberg, Ethics scale, Academic dishonesty

**Paper type** Research paper

## Introduction

A pressing issue in today's organizations is promoting ethical decision-making among employees. After some high-profile scandals in the early 2000s (e.g. Enron), discussions about the necessity of ethics education led to many business schools integrating business ethics into their core curriculum. Despite the integration of mandatory ethics courses into business curricula for two decades, real-world examples (e.g. Theranos, FTX) demonstrate a continued lack of moral development in our managers. Many educators question how best to teach students to make decisions that translate to more ethical employees.

Unfortunately, empirical studies in this area paint a daunting picture as findings suggest that taking a course in ethics is not enough to curb unethical behavior. Pervasive cheating is seen among business students in particular despite mandatory business ethics courses (Ghanem & Mozahem, 2019) with 56% of graduate business students confessing to cheating (McCabe, Butterfield, & Trevino, 2006). One potential explanation for this discrepancy between intentions and outcomes could be that formal instruction in business ethics may compete with ethical decision-making that students grapple with in their daily lives – the decision to cheat to perform academically.

Students may develop a sense of what is considered ethically appropriate behavior in business environments based on their experiences in business schools. Empirical findings support a positive relationship between academic dishonesty and future unethical workplace behavior (e.g. Guerrero-Dib, Portales, & Heredia-Escorza, 2020). If experiences during a student's business education lead to the normalization of unethical behaviors in the workplace, it is important to understand the reasons students engage in unethical practices in an academic context.

Empirical findings indicate that students feel more compelled to cheat under three conditions:

- (1) a perception among students that academic dishonesty is trivial due to a lack of enforcement of policies (McCabe & Pavela, 2004);
- (2) a belief that the benefits outweigh the risks (McCabe, 1992); and
- (3) an opportunity to easily cheat (Grady, 2012).

Students are more inclined to cheat if they believe not cheating will put them at a disadvantage due to a pervasive level of cheating behavior among peers (McCabe, 1992).

Previous research also demonstrates the importance of a student's moral compass in this decision process. Students who have more centralized moral identities are less likely to engage in academic dishonesty (Reynolds & Ceranic, 2007).

The authors propose three factors that impact student ethical decisions: rules and enforcement as an external control, social influences as a social control and personal morality as an internal control (Kohlberg, 1976). The current paper presents a three-dimensional nine-item scale to measure these factors. The scale is structured with the purpose of helping students understand their moral processing when they find themselves in situations that challenge their ethical reasoning in an academic setting. The scale is different from existing ethics measures anchored by Kohlberg's model as it specifically focuses on an academic setting unlike the scenarios represented in measures such as the DIT (Rest, Thoma, & Bebeau, 1999) or DIT2 (Gungordu, Nabizadehchianeh, O'Connor, Ma, & Walker, 2023), which focus on moral dilemmas that are, in most cases, not reliable to undergraduate business students nor are directly related to academic integrity.

### Theoretical background

#### *Unethical students as unethical employees*

Academic dishonesty among business students raises the question of whether unethical academic behavior could prime unethical practices in the workplace by normalizing such behaviors. Multiple studies have tackled the question of whether academic dishonesty can predict unethical workplace conduct. Harding, Carpenter, Finelli, & Passow (2004) found that frequent cheaters in high school were more likely to engage in ethically questionable behaviors such as violating workplace policies once they become employees. LaDuke (2013) found that nurses who cheated and plagiarized during their studies were more likely to engage in unethical behaviors, such as calling in sick when healthy and sharing confidential information with unauthorized people. Guerrero-Dib and associates (2020) observed that MBA students who self-reported cheating and plagiarism during their academic programs also engaged in behaviors such as providing false reasons for missing work and stealing from the company in the form of office supplies, merchandise or money. These findings suggest that the consequences of academic dishonesty extend well beyond higher education and into the workplace.

#### *Kohlberg's moral development model*

Kohlberg's moral development model can help better understand a student's ethical decision making process. Based on findings from longitudinal studies, Kohlberg argues that individuals progress through three primary developmental levels of morality associated with different ways of thinking (e.g. Kohlberg, 1976). The stages define what a person perceives as valuable when dealing with moral issues. At the preconventional level, children are focused on the hedonistic consequences of action, evaluating each situation based on punishment (Stage 1: obedience and punishment orientation) and reward (Stage 2: instrumental relativist orientation) (Kohlberg, 1971, 1973, 1976). At the conventional level, the focus shifts to maintaining expectations of one's social group, which is displayed in the form of conformity (Kohlberg, 1971, 1976). In this level, individuals first engage in good behavior to seek approval from others (Stage 3: the interpersonal concordance) and then progress to complying with social authority (Stage 4: the "law and order" orientation) (Kohlberg, 1973). Finally, at the postconventional level, people perceive the right action based on social good (Stage 5: the social contract orientation), and then advance to perceiving ethical issues through principles of justice and fairness (Stage 6: the universal-

ethical principle orientation) (Kohlberg, 1973). Kohlberg (1976) argues that educational institutions should expose students to moral discussions and curricula that stimulate moral growth (Kohlberg, 1975) to help them advance through the three stages.

#### *Moral development model and its implications for academic integrity*

Empirical findings suggest that students' cheating behaviors are influenced by external controls, social controls and internal controls, overlapping with the three levels and six stages of Kohlberg's moral development theory (Kohlberg, 1971, 1976). Prior research indicates that students are more likely to cheat when they believe they will not get caught (Genereux & McLeod, 1995) or that the benefits of cheating outweigh the consequences of getting caught. These thought processes and justifications are in sync with Kohlberg's preconventional level (Stages 1 and 2) in which individuals are more concerned about the hedonistic consequences of their actions (Kohlberg, 1971, 1976).

Empirical findings also suggest that students exhibit more academic integrity if there is an expectation among peers to do the right thing (McCabe & Pavela, 2004) while cheating behavior increases if it is perceived to be acceptable by peers (Gino, Ayal, & Ariely, 2009). These findings coincide with Kohlberg's conventional level of moral development (Stages 3 and 4), where individuals place more emphasis on helping others and maintaining social order (Kohlberg, 1971, 1976).

Prior research points to the importance of internal controls in shaping students' academic integrity. Students are more likely to display academic integrity if they are in institutions that emphasize an academic honor code that is integrated into academic life (McCabe & Trevino, 1995) and promote more centralized moral identities (Reynolds & Ceranic, 2007). These tendencies fall in line with Kohlberg's postconventional level (Stages 5 and 6) where an individual's moral compass is separate from and is prioritized over society's perspective (Kohlberg, 1971, 1976).

We used this model as a framework to design a scale that measures the factors that explain the state of academic integrity in universities. We present a three-dimensional nine-item scale to help academic institutions assess their student's ethical development stage. In developing the scale, we followed the recommended steps and best practices, particularly with regard to theoretical and conceptual development of factors and items as discussed in Carpenter (2018). In Study 1, we identified potential factors that influence cheating and created items that reflect each factor. Using a combination of qualitative research with students, expert feedback and statistical analysis, we identified three items per factor that were predictive of the concept measured. In Study 2, we preliminarily validate the nine-item scale, which emerged from the factor analysis that was conducted in Study 1. In Study 3, we conducted a larger validation test of the nine-item scale. Finally, in Study 4, we provide convergent, discriminant and predictive validity evidence. All exploratory and confirmatory factor analyses were conducted using principal axis factoring for extraction, as it provides better results for small samples over maximum likelihood (Carpenter, 2018) and Varimax with Kaiser normalization for the rotated factor solution.

## **Scale development**

### *Development of ethical student scale dimensions*

#### *Study 1: Development of ethical student scale dimensions and items.*

**Methodology.** A literature search was conducted to determine what factors impact the propensity of a university student to cheat and/or plagiarize and that aligned with theory. Five factors were identified:

- (1) clear rules and policies articulated by university (e.g. [Grady, 2012](#));
- (2) faculty involvement/enforcement of rules and policies ([McCabe et al., 2006](#); [Nonis & Swift, 2001](#));
- (3) peer pressure to help friends perform academically ([Colnerud & Rosander, 2009](#));
- (4) pressure to perform academically ([McCabe, 1992](#); [Nonis & Swift, 2001](#)); and
- (5) personal morality about what is right or wrong ([Reynolds & Ceranic, 2007](#)).

These factors were then aligned with Kohlberg's three stages of moral development as further explanation of why students were motivated or persuaded by external factors, societal influences and internal beliefs. Clear rules and policies and faculty enforcement were aligned with Kohlberg's preconventional stage. Peer pressure to help friends and pressure to perform academically were aligned with Kohlberg's conventional stage. Personal morality was aligned with Kohlberg's postconventional stage.

A total of nine items were developed for each factor clearly articulated deciding to cheat or not based on that one factor. Some items had overlapping wording, and two items in each factor were reversed scored. These were developed based on a combination of student feedback, our own experience as senior faculty and through behaviors identified in the literature. The analysis to reduce items used confirmatory factor analysis (CFA), interitem correlation analyses and face validity analysis (the authors and two other senior faculty with experience in ethics and student cheating). A final CFA supported the final three items selected to measure each factor.

An anonymous survey was administered to 179 undergraduate students at a northeastern university. Fifty-one percent were females, and 84% were business majors. Students were asked whether they agreed with the presented statements using a five-point Likert scale.

**Results and discussion.** An exploratory factor analysis revealed that three well-defined dimensions emerged from the data: Rules and enforcement (external control); Personal morality (internal control); and Pressure to perform academically (social control). As the dimensions were orthogonal and theoretically measured a different type of ethical control, individual items were analyzed to assess their contribution to the measurement of a single dimension. With the reduction of factors from five to three, items were assessed for reliability and measurement validity (per methodology outlined above). Three items per scale were identified that appeared to measure three different aspects of the dimension while at the same time maximizing the reliability of the scale. A CFA was conducted on the nine final items (please refer to [Table 1](#)). The three dimensions were determined to be distinct as Bartlett's test of sphericity was significant ( $\chi^2 = 830.08$ ,  $df = 36$ ,  $p = 0.000$ ), and the sample size was sufficient for the analysis (Kaiser–Meyer–Olkin [KMO] = 0.806). All items were loaded on the correct dimension with all factor loadings above 0.750 and with no other loadings above 0.25. The three dimensions explained 76.5% of the variance in the data. Enforcement of rules and policies explained 26.0% of the variance; personal morality explained 24.5% of the variance; and pressure to perform explained 26.0% of the variance. The CFA determined that the three dimensions as measured by the nine items fit the data well.

#### *Study 2: Validation of ethical student scale dimensions and items*

**Methodology.** Study 2 was conducted to preliminarily validate the three-dimensional nine-item scale. The scale was included in a larger survey on ethical decision-making. The sample consisted of 87 undergraduate students at a northeastern university. The respondents were predominantly business students (87%), 51% were males, 82% were

|                                                     |                                                                                     | Factor loadings   | The ethical student scale |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|---------------------------|
|                                                     |                                                                                     |                   |                           |
| <i>Factor 1: Rules and policies</i>                 |                                                                                     |                   |                           |
| <i>Rule1</i>                                        | It is important to follow the university's rules and policies on academic integrity | 0.878             |                           |
| <i>Rules2</i>                                       | Everyone is expected to follow the university's policies on academic integrity      | 0.905             |                           |
| <i>Rule3</i>                                        | The university has strict rules and policies on academic integrity                  | 0.751             |                           |
| <i>Factor 2: Personal morality</i>                  |                                                                                     |                   |                           |
| <i>Morality1</i>                                    | I do not cheat on tests because I believe cheating is unethical                     | 0.787             |                           |
| <i>Morality 4</i>                                   | I try to be ethical when it comes to completing assignments                         | 0.848             |                           |
| <i>Morality 8</i>                                   | I try to follow my own personal moral beliefs in my class work                      | 0.807             |                           |
| <i>Factor 3: Pressure to perform</i>                |                                                                                     |                   |                           |
| <i>Pressure 6</i>                                   | If you do not cheat or plagiarize you are at a disadvantage academically            | 0.847             |                           |
| <i>Pressure 8</i>                                   | I feel pressure to cheat or plagiarize to do well academically                      | 0.851             |                           |
| <i>Peer 8</i>                                       | I feel peer pressure to cheat or plagiarize to help my friends do well academically | 0.837             |                           |
| <i>Percent variance explained</i>                   |                                                                                     | 26.0% 24.5% 26.0% |                           |
| <b>Note:</b> Items loading below 0.30 are not shown |                                                                                     |                   |                           |
| <b>Source:</b> Table by authors                     |                                                                                     |                   |                           |

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**Table 1.**  
Study 1: factor analysis of three-dimensional nine-item scale

Caucasian and the median GPA was 3.2. Students were asked to rate on a five-point Likert scale the degree to which they agreed with the provided statements.

Results and discussion. The CFA showed that the three-dimensional nine-item scale fit the data fairly well. All items loaded on the correct factor with factor loadings above 0.75 and below 0.30. Bartlett's test of sphericity supported that three-factor solution ( $\chi^2 = 423.75$ ,  $df = 36$ ,  $p = 0.000$ ). The sample approached sufficient size for the analysis ( $KMO = 0.77$ ). The three dimensions accounted for 79.1% of the variance in the data with enforcement of rules and policies accounting for 26.6% of the variance, personal morality accounting for 24.5% of the variance and pressure to perform accounting for 27.9% of the variance. Reliability analysis showed support for the three subscales (enforcement of rules and policies:  $\alpha = 0.86$ ; personal morality:  $\alpha = 0.77$ ; pressure to perform:  $\alpha = 0.85$ ) and overall reliability for the scale ( $\alpha = 0.82$ ).

### *Validation of ethical student scale*

#### *Study 3: Construct validation of the ethical student scale*

Methodology. Study 3 was conducted to test the construct validity of the three-dimensional nine-item scale using students from a different population than Study 2. Data was collected over three terms using an online survey administered to undergraduate students at a northeastern university in the USA. The sample consisted of 235 responses. Fifty-four percent were male; 83% were Caucasian; the average was 20.4 years; and the average GPA was 3.65.

#### Results and discussion

Confirmatory factor analysis of three-dimensional nine-item scale. A CFA was performed to validate the items used in the scale (please refer to [Table 2](#)). All nine items loaded on the respective dimension with all factor loadings above 0.74 and with no split

**Table 2.**  
Study 3:  
confirmatory factor  
analysis of the three-  
dimensional nine-  
item ethical student  
scale

|                                                                                                         | Factor loadings |
|---------------------------------------------------------------------------------------------------------|-----------------|
| <i>Factor 1: Rules and policies</i>                                                                     |                 |
| It is important to follow the university's rules and policies on academic integrity                     | 0.885           |
| Everyone is expected to follow the university's policies on academic integrity                          | 0.913           |
| The university has strict rules and policies on academic integrity                                      | 0.846           |
| <i>Factor 2: Personal morality</i>                                                                      |                 |
| I do not cheat on tests because I believe cheating is unethical                                         | 0.742           |
| I try to be ethical when it comes to completing assignments                                             | 0.853           |
| I try to follow my own personal moral beliefs in my class work                                          | 0.872           |
| <i>Factor 3: Pressure to perform</i>                                                                    |                 |
| If you do not cheat or plagiarize you are at a disadvantage academically                                | 0.826           |
| I feel pressure to cheat or plagiarize to do well academically                                          | 0.891           |
| I feel peer pressure to cheat or plagiarize to help my friends do well academically                     | 0.881           |
| <b>Notes:</b> Percent variance explained 27.7%, 24.9% and 26.1%. Item loadings below 0.30 are not shown |                 |
| <b>Source:</b> Table by authors                                                                         |                 |

loadings above 0.30. Bartlett's test for sphericity supported the three-factor solution ( $\chi^2 = 1,249.45$ ,  $df = 36$ ,  $p = 0.000$ ), and the KMO measure of sample adequacy met sufficiency of sample size (KMO = 0.77). The Cronbach's alpha reliability measures for each subscale were also in acceptable range (rules and policies:  $\alpha = 0.89$ ; personal morality:  $\alpha = 0.79$ ; pressure to perform:  $\alpha = 0.85$ ), and overall for the scale, the reliability was  $\alpha = 0.81$ .

*Study 4: Convergent, divergent and predictive validity methodology.* Study 4 was conducted to test the nine-item scale for convergent, divergent and predictive validity. For the convergent and divergent validation, we conducted a literature search to identify personality and demographic measures that may or may not have a relationship to student cheating. To test for convergent validity, we compared the three factors of the scale to conscientiousness and openness (Big 5 personality traits), locus of control and moral identity, as they had been shown to be highly correlated academic integrity/cheating. Extraversion (Big 5 personality trait) and gender were used to test divergent validity as no relationship was found with academic integrity/cheating. For predictive validity we identified two measures: satisfaction with academic experience (Muñoz-García & Aviles-Herrera, 2014) and academic engagement (Schreiner & Louis, 2011).

Data was collected in a northeastern university. The sample consisted of 201 undergraduate students, of which 58.2% were male, with an average age of 19, and an average GPA of 3.26.

**Results and discussion.** Conscientiousness had been found to have a strong relationship with cheating behavior (Williams, Nathanson, & Paulhus, 2010), as it is the tendency to plan, be organized, delay gratification and follow norms and rules (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009) and is related with conformity (Parks-Leduc, Feldman, & Bardi, 2015). Many studies have found it to be related to academic honesty (e.g. Clariana, 2013; Williams et al., 2010). Consistent with this conceptualization, conscientiousness was positively related to rule following ( $r = 0.267$ ,  $p < 0.001$ ) and morality ( $r = 0.302$ ,  $p < 0.001$ ), and negatively related to the pressure to cheat ( $r = -0.277$ ,  $p < 0.001$ ). This finding supports convergent validity (please refer to Table 3 for all convergent, divergent and predictive validity related results).

Individuals high in openness to experience are intellectually curious and creative. Openness is most related to cognitive ability (Judge, Jackson, Shaw, Scott, & Rich, 2007), and individuals with high cognitive ability are less likely to cheat (e.g. Williams et al., 2010) and

| Variable                       | <i>M</i> | <i>SD</i> | 1        | 2       | 3       | 4        | 5        | 6        | 7        | 8      | 9       | 10       | 11      | 12      | 13 |
|--------------------------------|----------|-----------|----------|---------|---------|----------|----------|----------|----------|--------|---------|----------|---------|---------|----|
| 1. Conscientiousness (C)       | 4.12     | 0.707     |          |         |         |          |          |          |          |        |         |          |         |         |    |
| 2. Agreeableness (A)           | 3.51     | 0.659     | 0.382**  |         |         |          |          |          |          |        |         |          |         |         |    |
| 3. Extraversion (E)            | 3.40     | 0.870     | 0.198**  | 0.086   |         |          |          |          |          |        |         |          |         |         |    |
| 4. Neuroticism (N)             | 3.67     | 0.776     | 0.416**  | 0.117   | 0.246** |          |          |          |          |        |         |          |         |         |    |
| 5. Openness to experience      | 3.80     | 0.779     | 0.428**  | 0.300** | 0.494** | 0.299**  |          |          |          |        |         |          |         |         |    |
| 6. Internal locus of control   | 4.77     | 0.764     | 0.238**  | 0.234** | 0.052   | 0.195**  | 0.117    |          |          |        |         |          |         |         |    |
| 7. Moral identity (MI)         | 3.99     | 0.565     | 0.515**  | 0.401** | 0.161*  | 0.215**  | 0.337**  | 0.515**  |          |        |         |          |         |         |    |
| 8. Gender                      | 1.42     | 0.494     | 0.294**  | 0.228** | 0.127   | -0.119   | 0.169*   | 0.146*   | 0.224**  |        |         |          |         |         |    |
| 9. Morality                    | 4.36     | 0.737     | 0.302**  | 0.199** | -0.022  | 0.122    | 0.248**  | 0.291**  | 0.400**  | 0.111  |         |          |         |         |    |
| 10. Pressure to cheat          | 1.92     | 1.00      | -0.277** | -0.151* | 0.069   | -0.229** | -0.268** | -0.233** | -0.304** | -0.005 | -0.163* |          |         |         |    |
| 11. Rule following             | 4.58     | 0.646     | 0.267**  | 0.118   | 0.019   | 0.122    | 0.189**  | 0.296**  | 0.360**  | 0.010  | 0.485** | -0.184** |         |         |    |
| 12. Satisfaction with acad exp | 3.67     | 0.637     | 0.175*   | 0.251** | 0.030   | 0.276**  | 0.019    | 0.500**  | 0.473**  | 0.001  | 0.236** | -0.157** | 0.210** |         |    |
| 13. Academic engagement        | 3.51     | 0.583     | 0.301**  | 0.319** | 0.152*  | 0.282**  | 0.251**  | 0.506**  | 0.551**  | 0.067  | 0.442** | -0.192** | 0.255** | 0.504** | -  |

Notes: *N* = 201; for gender, 1 = male, 2 = female; \**p* < 0.05; \*\**p* < 0.01

Source: Table by authors

**Table 3.**  
Study 4: descriptive statistics and correlations

have an interest in learning (Payne, Youngcourt, & Beaubien, 2007). As expected, openness was positively related to rules ( $r = 0.189, p < 0.01$ ) and positively related to morality ( $r = 0.248, p < 0.001$ ) and was negatively related to the pressure to cheat ( $r = -0.269, p < 0.001$ ), supporting convergent and divergent validity.

Locus of control was also included as a measure to demonstrate convergent validity. An internal *locus* of control is related to a higher academic self-concept (e.g. Anazonwu, 1995), which, in turn, is related to a lower likelihood of academic dishonesty (Murdock & Anderman, 2006). In support of convergent validity, internal *locus* of control was positively related to rules ( $r = 0.296, p < 0.001$ ), positively related to morality ( $r = 0.291, p < 0.001$ ) and negatively related to pressure to cheat ( $r = -0.233, p < 0.001$ ).

Moral identity (Aquino & Reed, 2002) has been demonstrated to predict moral cognition and behavior and therefore was included to establish convergent validity. As expected, moral identity was positively related to rules ( $r = 0.360, p < 0.001$ ), positively related to morality ( $r = 0.400, p < 0.001$ ) and negatively related to pressure to cheat ( $r = 0.304, p < 0.001$ ).

Extraversion is related to a positive affect, high energy, being outgoing and assertive. Conceptually these characteristics should not be related to academic honesty. Meta-analyses have demonstrated that extraversion is unrelated to deviant workplace behavior (e.g. Salgado, 2002) and not related to academic honesty (Giluk & Postlethwaite, 2015). Extraversion was found to be statistically unrelated to all three dimensions. Gender has also been found through meta-analyses to be unrelated to academic cheating behavior (Whitley, Nelson, & Jones, 1999). Our analyses found no relationship between gender and the three factors in the scale. Thus, discriminant validity of the scale is supported.

To further demonstrate predictive validity, outcome measures were included to assess relationships with students' academic satisfaction and academic engagement. Both have been found to be higher in environments with less academic dishonesty (Muñoz-García & Aviles-Herrera, 2014; Kahu, 2013). As expected satisfaction with the academic experience was positively related to rules ( $r = 0.210, p < 0.005$ ), positively related to morality ( $r = 0.236, p < 0.001$ ) and negatively related to pressure to cheat ( $r = -0.163, p < 0.05$ ) (please refer to Table 3). As expected academic engagement was positively related to rules ( $r = 0.255, p < 0.001$ ), positively related to morality ( $r = 0.442, p < 0.001$ ) and negatively related to pressure to cheat ( $r = -0.192, p, 0.01$ ).

## Discussion

The ethical student scale was developed as a teaching tool to help students better understand ethical decision-making. The decision by a student to engage in or abstain from academic dishonesty is easy for students to relate to. Using Kohlberg's theory as a framework, student learning can focus on how external, societal and internal factors become part of the ethical decision process.

The ethical student scale also has the potential to help higher education institutions better understand the moral development of their students and factors that influence their ethical decision making. Environments that promote the development of students along these different stages may observe variation in their students depending on the predominant methods of controlling academic dishonesty and the stage of moral development that a student has achieved (Trevino, Weaver, & Reynolds, 2006). Institutions which are less concerned with developing their students' sense of moral responsibility and more concerned with enforcement may view rules and procedures as the best deterrent to academic dishonesty. Conversely, institutions which want to give students agency to behave honestly or dishonestly, may see honor codes and the focus on personal conduct as more effective.

The larger question is what is more effective in developing ethical managers. The ethical student scale may help business programs develop curriculum beyond a single business ethics course to create an educational experience that fosters ethical decision-making in students.

### Directions for future research

Our ethical student scale is an attempt to identify what types of controls (external, social or personal) help develop ethical students and ethical managers. While the scale shows strong validation, the scale needs to be tested for generalizability and whether geographical and cultural differences influence students' response to each of the subscales and ultimately their behaviors associated with academic integrity. Another limitation of the scale is the likely limitations in variability for the personal morals factor as a smaller percent of people reach this level of moral development (Trevino et al., 2006).

Future research needs to explore the predictive relationships between students' stage of moral development and their frequency of engagement in academic dishonesty and how this relates to their behavior when they enter the workforce. The relationship between the academic environment, the resulting behaviors of students and the subsequent behavior of these students as managers needs further investigation in a longitudinal study.

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