

## Ethical awareness and peer reporting intention of exam cheating and plagiarism: Mediation role of ethical judgment

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Peer reporting, defined as a lateral control effort by reporting witnessed academic dishonesty, is one method used to foster academic integrity. However, most students refrain from reporting. This study portrays the process of peer reporting intention based on an ethical decision-making perspective in two types of academic dishonesty (exam cheating and plagiarism) through mediation analysis. The variables were ethical awareness, ethical judgment, and peer reporting intention. The instruments used were the ethical awareness scale, the Moral Equity scale, and the peer reporting intention scale. The participants in this study were 228 students aged between 17 and 23 who attend an Indonesian university. The results of the study indicate that ethical judgment acts as a significant mediator between ethical awareness and peer reporting intention of plagiarism witness, but not between ethical awareness and peer reporting intention of exam cheating witness. Students witnessing academic dishonesty of any kind need to align their judgment and their intention to report by believing that peer reporting of academic dishonesty is an act that is fair, just, morally right, and acceptable. Additionally, lecturers and educational institutions need to encourage peer reporting of all types of academic dishonesty among students through clear and firm regulations; for example, by emphasising the responsibility of witnesses to report and by providing a safe and adequate reporting channel.

### Introduction

*Academic dishonesty* can be defined as any type of cheating or unethical behaviour designed to illicitly obtain academic achievement. Academic dishonesty can be demonstrated through many behaviours, including cheating on exams or engaging in plagiarism when working on academic assignments (Whitley & Keith-Spiegel, 2002). The methods of committing academic dishonesty are diverse and vary from traditional means, like copying a peer's work, to sophisticated practices such as abusing technology (Williams et al., 2010). Academic dishonesty is also relatively commonplace and is habitual for some students (Simkin & McLeod, 2010). Even though some students consider academic cheating as a serious offence, they still do it (Chala, 2021).

Academic dishonesty undermines both the academic integrity and credibility of individual students and of universities (Murdock & Anderman, 2006; Yang et al., 2013). Other studies show that engaging in academic dishonesty is associated with cheating behaviour later in the workplace (Carpenter et al., 2004). Therefore, teachers and educational institutions make various efforts to prevent and reduce the occurrence of academic dishonesty. These efforts range from the application of mastery-oriented instead of

performance-oriented learning motivation (Murdock & Anderman, 2006) to the implementation of an honour code at the institutional level (McCabe et al., 2001).

Witnessing academic cheating is relatively common among college students (Yachison et al., 2017). Research findings show that around 85% of students have witnessed their friends cheating on exams (Teodorescu & Andrei, 2009). A witness of dishonesty who feels disadvantaged by the offence by getting a lower grade than the perpetrator, for example, may retaliate by chiding the perpetrator (Yang et al., 2013; Latan et al., 2019). The witness can also report to the lecturer or the institution in charge of handling academic dishonesty in order to reduce the incidence or prevent it from recurring (McCabe & Trevino, 1997; Mihelic & Culiberg, 2014). Such behaviour, referred to as *peer reporting*, is a lateral control effort for reporting dishonesties or unethical actions of peers to those who are authorised to handle them (Trevino & Victor, 1992).

An official campus regulation that explicitly requires students to report cheating can contribute as a deterrent and serve as a preventive way to deal with academic dishonesty (Burrus et al., 2013). Therefore, lecturers and educational institutions can take advantage of peer reporting to foster academic integrity attitudes among students (Yachison et al., 2017) and to stop academic dishonesty (Trevino & Victor, 1992). However, the role of the institution is still needed through the implementation of an honour code (Tatum & Schwartz, 2017), especially regarding peer reporting (Culiberg & Mihelic, 2020) by students who witness academic dishonesty.

Reporting academic dishonesty is not easy for students and thus is not commonly practised (Burton & Near, 1995; Yachison et al., 2017). Only a small number of students report the academic dishonesty they have witnessed (Rennie & Crosby, 2002). A number of factors play a role in preventing peer reporting, such as fear (Latan et al., 2019), friendship (Hendricks et al., 2011), and group loyalty (De Graaf, 2010).

The types of academic dishonesty are also assumed to play a role in the likelihood of reporting because the acceptance (Molnar & Kletke, 2012) and perceived seriousness of the offences differ between types of academic dishonesty (Megehee & Spake, 2008). Therefore, if individuals hold a positive view about one type of academic dishonesty and do not consider it a serious problem, it is unlikely that peer reporting will occur (Mihelic & Culiberg, 2014; Curphy et al., 1998; Douhou et al., 2012). Such a tendency is especially true in cases where there are differences in opinion among teachers and the institution about the extent to which a behaviour can be considered fraudulent, such as when standard principles regarding various types of dishonesty have not been established (Kuntz & Buttler, 2014). This lack of clarity may further reduce the chances of peer reporting (McCabe & Trevino, 1997).

The factors that play a role in peer reporting are taken into consideration by individuals who witness dishonesty. They then make ethical judgments that play an essential role in deciding whether or not to report (Douhou et al., 2012). *Justice evaluation*, or judging whether the act of reporting the observed cheating is just or unjust (Victor et al., 1993)

after considering various factors, is one of the ethical judgments dishonesty witnesses make.

This study will contribute to the development of the literature on academic dishonesty reporting, particularly regarding decision-making for peer reporting, by considering the mediation role of ethical judgment in different types of academic dishonesty. To verify this assumption, the *Four Component Model* (FCM) of an ethical decision-making perspective by Rest (1986) was used as the explanatory framework. This study differs from previous peer reporting studies (e.g., Burrus et al., 2013; Jones et al., 2014; Yachison et al., 2017) in that it considers the different types of academic dishonesty.

## **Overview of peer reporting and conceptual framework**

Several studies have found individual demographic factors of gender and age influencing peer reporting of dishonesty. Some studies found that women are more likely to report (Yachison et al., 2017), while other researchers have found no gender differences in reporting (Douhou et al., 2012; Yang et al., 2013). In terms of age, older respondents are more likely to report dishonesty than their younger peers (Stone & Kisamore, 2012).

An individual-psychological factor of self-interest also plays a role in reporting dishonesty (Trevino & Victor, 1992; Burton & Near, 1995; Jenkel & Haen, 2012). Individuals tend to report dishonesty if it is detrimental to their interests. Individuals are also more likely to report dishonesty due to anger and a sense of injustice (Jones et al., 2014). The authority's ignorance of academic dishonesty will cause anger and a sense of injustice among students. Additionally, the extent to which individuals perceive the seriousness of wrongdoing (Curphy et al., 1998) also affects the intention to report it. Individuals who perceive the act as something serious that may have a significant impact are more likely to report.

An individual's courage to report dishonesty is also influenced by their previous experiences of reporting dishonesty (Bernardi et al., 2015). They would be more likely to report dishonesty if a previous occurrence brought about concrete actions by the authorities. However, a friendship between the witness and the perpetrator of dishonesty (Burton & Near, 1995; Hendricks et al., 2011; Rennie & Crosby, 2002) can reduce the intention to report because individuals tend to prioritise maintaining the friendship over dealing with the dishonesty issue.

In addition to individual factors, contextual factors also play a role in reporting academic dishonesty. These include role responsibility, which is assumed to increase the intention to reveal dishonesty (Burton & Near, 1995; McCabe et al., 2001; Trevino & Victor, 1992). Role responsibility is manifested in the students' actions of reporting academic misconducts through channels provided by the institution. Anonymous reporting channels are believed to strengthen the intention to report dishonesty (Burton & Near, 1995; Jenkel & Haen, 2012). The implementation of role responsibility and anonymous reporting channels illustrates the ethical climate of the campus to actively prevent and

reduce academic dishonesty. The grading system applied in the classroom also affects peer reporting (Jones et al., 2014; Yachison et al., 2017). Individuals tend to report dishonesty if the perpetrator's grade has a negative effect on the witness' grade.

Witnesses of academic dishonesty engage in ethical decision-making which considers several factors before a decision is made to report or not report. Ethical decision-making is a complex process that includes neurocognitive and affective processes (Schwartz, 2016). Two approaches underlie ethical decision-making: the rational-based approach (Rest, 1984; Jones, 1991), which does not include emotional factors in the theoretical models, and the non-rational-based approach (Haidt, 2001), which includes factors of emotion and intuition in the theoretical models. This study focused on one of the rational-based ethical decision-making models: the *Four Component Model/FCM* (Rest, 1984, 1986). The FCM includes four components in the ethical decision-making process: (1) ethical awareness; (2) ethical judgment; (3) ethical intention; and (4) ethical behaviour.

*Ethical awareness* is the individual awareness of an ethical dilemma evident in the situation at hand. The result of this initial component of the ethical decision-making process is that individuals are aware of several alternative actions that are likely to be performed and have consequences for other parties (Hunt & Vitell, 1986; Jones, 1991; Rest, 1984). For example, whistleblowers are antagonised by their friends because of the reporting (Trevino & Victor, 1992), or the perpetrator gets punished because the dishonesty was reported (De Graaf, 2010). Ethical awareness differs between individuals because of different personal experiences and contexts of dishonesty, and such differences affect individual perceptions of whether or not an ethical problem has occurred (Hunt & Vitell, 1986).

The second component in the ethical decision-making process is *ethical judgment*, which is the extent to which alternative actions are considered ethical. Individuals make ethical judgments about situations that contain ethical dilemmas and decide which actions are considered morally right and fair (Jones, 1991; Victor et al., 1993). It is considered an ethical judgment when an individual makes a judgment about whether or not dishonesty reporting is ethical and necessary (Sparks & Pan, 2010). Ethical judgment is at the core of the ethical decision-making process (Curzer, 2014) and is an internal aspect that plays a significant role in encouraging ethical behaviour, including peer reporting (Mihelic & Culiberg, 2014). Rest (1984) argued that an ethical judgment varies and occurs naturally in individuals. Thus, individuals could have different opinions in judging that it is ethical and necessary to report a witnessed dishonesty.

The third component in ethical decision-making is *ethical intention*, where the individual thinks about taking action according to the ethical judgment they made at the previous stage. The intention is a predictor of actual behaviour (Ajzen, 1991). In this study, peer reporting intention was the variable that represented the third component and also served as the dependent variable. The fourth component of the ethical decision-making process is *ethical behaviour*, i.e., when an individual reacts to a witnessed dishonesty with certain behaviours, for example, reporting it (Zhang et al., 2009). However, this study was limited to the third component of the model: peer reporting intention. Including the fourth

component would require a different research approach to capture actual behaviour. Therefore, experimental methods would be more suitable for this purpose (e.g., Jenkel & Haen, 2012; Yachison et al., 2017).

The aim of this study was to explain the process leading to the intention for peers to report witnessing exam cheating and plagiarism, based on the ethical decision-making perspective using the FCM model (Rest, 1984). The process of peer reporting intention was investigated in terms of two types of academic dishonesty—exam cheating and plagiarism—and involved ethical awareness and ethical judgment as independent and mediator variables, respectively. Individual perceptions about the occurrence of academic cheating in their surroundings, which cannot be separated from their personal experience and the context of the occurrence of events, play a role in a witness' ethical judgment. Individuals assess whether an ethical behaviour—in this case, peer reporting—is fair, right, and acceptable. Furthermore, ethical judgments affect whether or not a peer intends to report academic dishonesty. No previous research considering the potential role of different types of academic dishonesty as the settings of dishonesty witnessed was found. Therefore, it was assumed that ethical judgment plays a significant role as a mediator between ethical awareness and the intention for peers to report witnessing the two types of academic dishonesty, i.e., exam cheating and plagiarism.

These assumptions were tested through the following research question: “*By using the FCM theoretical framework, is ethical judgment a significant mediator between ethical awareness and peer reporting intention in each of the two types of academic dishonesty witnessed?*” To answer this, we tested two hypotheses in this study:

1. Ethical judgment significantly mediates the relationship between ethical awareness and peer reporting intention of exam cheating witnesses.
2. Ethical judgment significantly mediates the relationship between ethical awareness and peer reporting intention of plagiarism witnesses.

## Methods

### Participants

The participants in this study were 228 students at a state university in Jakarta, Indonesia. The participants were students in the *Elementary School Teacher Education* (54%) and *Psychology* (46%) undergraduate programs. The data were collected offline from several classes prior to the impact of the Covid-19 pandemic with approval granted by the respective lecturers. The participants completed the research questionnaires before the class began to avoid interfering with their learning. Ethical approval for the study was obtained from the research ethics committee at the university.

The participants were first to third-year students, aged between 17 and 23 years old. 34 were male and 189 were female, while 5 did not provide gender information; this represented a much greater portion of female students than that of their male counterparts in the two undergraduate programs.

## **Instruments**

The research was conducted in Indonesian. Two scenarios were arranged that contained exam cheating and plagiarism examples, based on the real experiences of some students. Two education experts helped develop the scenarios. The translation of scenarios into English was carried out by professional translators (as seen in the Appendix). Each scenario was equipped with a set of instruments. The instruments in this study, also used by Culiberg and Mihelic (2020), were used to measure ethical awareness, ethical judgment, and peer reporting intention. The participants were asked to read the exam cheating scenario and respond to the first set of instruments. They were also asked to read the plagiarism scenario and respond to the next set of instruments.

### *Ethical Awareness Scale*

Respondents were asked to express how much they agreed or disagreed that the situation described in the scenario was an ethical problems. A single item, adapted from Singhapakdi et al. (1996), was used. "The events in the scenario contain an ethical problem: disagree --- agree", to which the participants responded on a seven-point scale. A higher score indicates higher ethical awareness.

### *Ethical Judgment Scale*

A four-item *Moral Equity Scale*, developed by Robin et al. (1996), was used to measure ethical judgment. The scale consisted of four items to respond to the same statement, "I find peer reporting as described in the illustration is..." on a seven-point scale. Each of the four items includes one of the following answers: (1) fair --- unfair; (2) just --- unjust; (3) morally right --- not morally right; and (4) acceptable to my family --- not acceptable to my family. Reverse scoring was used in this instrument because peer reporting is ethically desirable when academic dishonesty is witnessed (Trevino & Victor, 1992). The higher the score, the more positive the ethical judgment on peer reporting. Cronbach's alpha reliabilities for ethical judgment on exam cheating and plagiarism were 0.68 and 0.73, respectively.

The items on the Moral Equity Scale relate to inherent fairness, justice, goodness, and rightness, as well as to family acceptance (Reidenbach & Robin, 1990). The items describe the process of forming moral equity in individuals, starting from the family at home; for example, telling stories or fables in attempts to inculcate justice and truth from an early age (Manly et al., 2015; Reidenbach & Robin, 1990).

### *Peer Reporting Intention Scale*

The three-item Peer Reporting Intention scale, developed by Cherry and Fraedrich (2002), was used in this study. The scale consists of three items to respond to the same question, "How likely are you to report the dishonesty of your peers if you are in a situation as described in the illustration?" on a seven-point scale. Each of the three items included one of the following answers: (1) very likely --- unlikely; (2) possible --- impossible; and (3) certain --- no chance, respectively. Reverse scoring was applied for this instrument. The higher the score, the higher the peer reporting intention. Cronbach's alpha reliabilities for

the peer reporting intention on exam cheating and plagiarism were 0.88 and 0.89, respectively.

All scenarios and instruments used in the study are provided in the Appendix.

## Results

### Descriptive statistics

Table 1 shows the results of descriptive analysis of research data based on the types of academic dishonesty scenario.

Table 1: Descriptive statistics (N = 228)

	Ethical awareness		Ethical judgment		Peer reporting intention	
	Exam cheating	Plagiarism	Exam cheating	Plagiarism	Exam cheating	Plagiarism
Mean	4.01	3.46	15.54	14.17	10.06	11.11
SD	1.98	2.33	6.33	7.77	3.95	4.70
Minimum	1	1	4	4	3	3
Maximum	7	7	28	28	21	21

The results of the descriptive analysis show that the mean score of each variable is almost equivalent to half of the maximum score. For example, the mean scores of ethical awareness in the exam cheating scenario (4.01) and the plagiarism scenario (3.46) were around the intermediate value of the scale ( $7/2 = 3.5$ ). Likewise, the mean scores of ethical judgment in the exam cheating scenario (15.54) and the plagiarism scenario (14.17) were also close to half of the maximum value ( $28/2 = 14$ ). Similar findings were also seen in the mean scores of peer reporting intention in the exam cheating scenario (10.06) and the plagiarism scenario (11.11). In summary, the participants' ethical awareness, ethical judgment, and peer reporting intention were at the mediocre level; neither too high nor too low.

Furthermore, correlation testing between variables was carried out both for the exam cheating and plagiarism scenarios.

As shown in Table 2, the variables of ethical awareness, ethical judgment, and peer reporting intention in the plagiarism scenario significantly correlated, whereas in the exam cheating scenario, only ethical awareness and ethical judgment significantly correlated. The correlation between ethical awareness and peer reporting intention was not significant in the exam cheating scenario. Nevertheless, a significant correlation between the independent and dependent variables is not a precondition to examine the indirect effect in mediation analysis (Zhao et al., 2010; Hayes, 2018).

Table 2: Correlations between variables

Variables	1	2	3	4	5	6
1. Age	-					
2. Gender	0.019	-				
3. Year of study	0.138*	-0.055	-			
<i>Exam cheating scenario</i>						
4. Ethical awareness	-0.088	-0.047	0.013	-		
5. Ethical judgment	-0.112	-0.062	0.105	0.380***	-	
6. Peer reporting intention	-0.010	-0.025	-0.101	0.115	0.087	-
<i>Plagiarism scenario</i>						
4. Ethical awareness	-0.060	-0.079	0.029	-		
5. Ethical judgment	-0.085	-0.080	0.077	0.610***	-	
6. Peer reporting intention	-0.114	-0.032	-0.032	0.255***	0.345***	-

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

### Mediation test results

The testing of the mediation models of the two scenarios revealed different results. Tables 3 and 4 illustrate the results of the mediation testing with the ordinary least square (OLS) path analysis model 4 (Hayes, 2018).

Table 3: The-mediation effect of ethical judgment on the relationship between ethical awareness and peer reporting intention (The exam cheating scenario)

Path/effect	Standardised coefficient	SE	<i>p</i>
<i>c</i> Ethical awareness → peer reporting intention; direct effect before mediation	.115	.131	.083
<i>a</i> Ethical awareness → ethical judgment	.380	.196	<.001
<i>b</i> Ethical judgment → peer reporting intention	.050	.044	.480
<i>c'</i> Ethical awareness → peer reporting intention	.095	.142	.181
<i>a</i> × <i>b</i> (indirect effect)	.019	.030	

Note. Bias corrected and accelerated 95% CI [-0.040 to 0.079]; bootstrap re-samples = 1000; SE = Standard Error

Table 3 shows no significant direct effect of ethical awareness on peer reporting intention ( $c = 0.115$ ;  $p = 0.083$ ); ethical awareness influences ethical judgment ( $a = 0.380$ ;  $p < .001$ ), but ethical judgment insignificantly influences peer reporting intention ( $b = 0.050$ ;  $p = 0.480$ ). The indirect effect ( $ab = 0.019$ ) was tested through the bias-corrected bootstrap confidence interval (Lower Level of Confidence Interval/LLCI and Upper Level of Confidence Interval/ULCI) conducted with 1000 bootstraps, and it was found to contain zero (-0.040 to 0.079). The mediation test results showed an insignificant relationship between ethical awareness and peer reporting intention ( $c' = 0.095$ ;  $p = 0.181$ ).

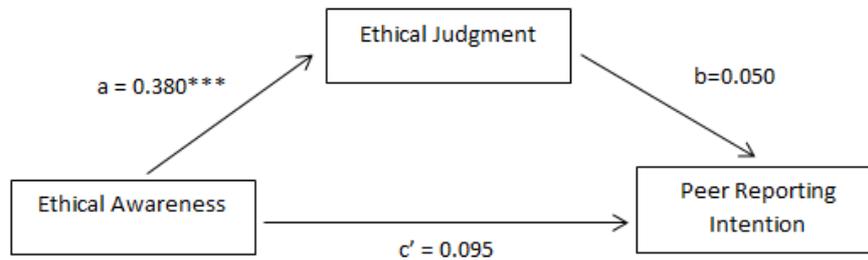


Figure 1: Mediation model on the exam cheating scenario (\*\*\*) $p < .001$

Results of analysis suggest that ethical judgment is an insignificant mediator of the relationship between ethical awareness and peer reporting intention of witnessed exam cheating. Thus, Hypothesis 1 was not confirmed by the data. Figure 1 depicts an overview of the results of the mediation model testing.

The results of mediation analysis for the plagiarism scenario are summarised in Table 4.

Table 4: The mediation effect of ethical judgment on the relationship between ethical awareness and peer reporting intention (The plagiarism scenario)

Path/effect	Standardised coefficient	SE	<i>p</i>
<i>c</i> Ethical awareness → peer reporting intention; direct effect before mediation	.254	.129	<.001
<i>a</i> Ethical awareness → ethical judgment	.610	.175	<.001
<i>b</i> Ethical judgment → peer reporting intention	.050	.047	<.001
<i>c'</i> Ethical awareness → peer reporting intention	.070	.158	.375
<i>a</i> x <i>b</i> (indirect effect)	.184	.049	

Note. Bias corrected and accelerated 95% CI [0.091 to 0.286.]; bootstrap re-samples = 1000  
SE = Standard Error

Results of analysis shown in Table 4 revealed a significant direct effect of ethical awareness on peer reporting intention ( $c = 0.254$ ;  $p < .001$ ). The mediation analysis result also showed the significance of ethical awareness on ethical judgment ( $a = 0.610$ ;  $p < .001$ ). Furthermore, ethical judgment had an influence on peer reporting intention ( $b = 0.050$ ;  $p < .001$ ). The indirect effect ( $ab = 0.184$ ) analysis was assessed through the bias-corrected bootstrap confidence interval (Lower Level of Confidence Interval / LLCI and Upper Level of Confidence Interval/ULCI) with 1000 bootstraps, and it was found that both were above zero (0.091 to 0.286). Meanwhile, the direct relationship between ethical awareness and peer reporting intention was no longer significant ( $c' = 0.070$ ;  $p = 0.375$ ).

Results indicate that ethical judgment significantly mediates the relationship between ethical awareness and peer reporting intention of witnessed plagiarism. Hence, Hypothesis 2 was confirmed. Figure 2 shows an overview of the results of the mediation model testing.

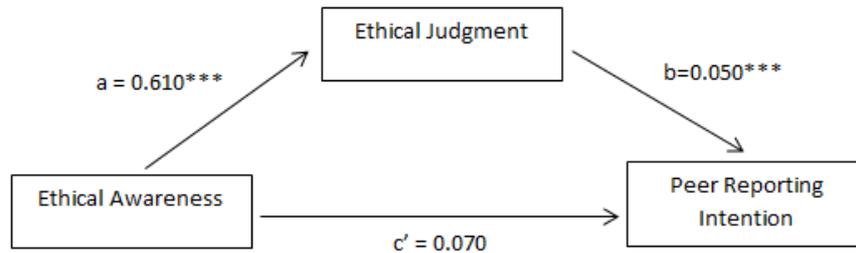


Figure 2: Mediation model on the plagiarism scenario (\*\*\*) $p < .001$

## Discussion

Studies related to reporting of academic dishonesty witnessed by peers are sparse (Jenkel & Haen, 2012; Yachison et al., 2017) compared to studies referencing the perpetrator. However, such studies are essential for two reasons. First, witnessing academic dishonesty is relatively common among college students (Yachison et al., 2017). Second, lecturers and educational institutions can take advantage of peer reporting to foster attitudes of anti-academic dishonesty among students (Yachison et al., 2017) and to stop academic dishonesty (Trevino & Victor, 1992). Therefore, this research was carried out to enrich the literature on peer reporting by witnesses of academic dishonesty to help teachers and educational institutions prevent and reduce incidences of academic dishonesty.

Peer reporting intention in this study used the ethical decision-making perspective with the Four Component Model (FCM) introduced by Rest in 1984. Previous studies involved other variables to the model such as subjective knowledge of the code of ethics, reflective moral attentiveness, and mindfulness (e.g., Mihelic & Culiberg, 2014; Culiberg & Mihelic, 2020). However, none of these studies considered the potential role of different types of academic dishonesty as a setting for the cheating incidents witnessed. Different types of academic dishonesty cannot be considered as a single construct (Mihelic & Culiberg, 2014), partly because their prevalence differs from one another (Passow et al., 2006). This research aimed to fill that gap and to demonstrate the significant role that ethical judgment plays as a mediator between ethical awareness and peer reporting intention in each type of academic dishonesty witnessed; i.e., exam cheating and plagiarism.

The results of this study indicated that in the first model that described the mechanism of peer reporting intention of exam cheating, the role of ethical judgment as a mediator was not significant. On the other hand, in the second model, which described the process of peer reporting intention of plagiarism, ethical judgment was found to be a significant mediator. These results indicate an inconsistency in the role of ethical judgment as a mediator between ethical awareness and peer reporting intention in two different types of academic dishonesty.

Initial assumptions were made that ethical judgment would be a significant mediator between ethical awareness and peer reporting intentions when witnessing both exam cheating and plagiarism. However, the data revealed that while it occurred in plagiarism, it

did not in exam cheating. These two findings are worth reflecting on and asking questions such as: Why did ethical judgment play a significant role as a mediator in the plagiarism witnessed, but not in exam cheating? What are the possible factors that contributed to such a finding?

Student judgments about reporting the dishonesty they witness depend on the moral, values-based views they adopt (Douhou et al., 2012; Mihelic & Culiberg, 2014) and how they justify cheating (Mihelic & Culiberg, 2014). If individuals judge that peer reporting is fair, right, and acceptable, and consider that the academic dishonesty they witness is unjustifiable, such judgment will likely lead to an intention for peers to report. However, this study focused only on the moral values of the witnesses in responding to the peer reporting depicted in the scenarios. How the respondents accepted or justified academic dishonesty was not measured. The results of this study indicate that ethical judgment—based on moral values and the belief that peer reporting of dishonesty is just, right, and acceptable—affects peer reporting intention only on witnessing plagiarism, not exam cheating. When students judge that the cheating they witness does not disturb their sense of justice and rightness, such judgment will not lead to an intention to report (Jones et al., 2014). On the other hand, a strong assumption or belief that plagiarism constitutes a serious ethical violation will likely lead to an intention to report (Curphy et al., 1998).

In terms of prevalence, exam cheating is rife among students (Teoderescu & Andrei, 2009) and more commonly committed than plagiarism (Passow et al., 2006). When dishonesty is considered commonplace, a witness does not feel the need to report it (Bowling et al., 2020). Additionally, over time, students who are used to watching exam cheating will perceive it as something trivial, and reporting will be less likely to happen (Douhou et al., 2012). Peer reporting is more likely to occur in cases of serious dishonesty (Bowling et al., 2020) because witnesses feel more obligated to report them (Bowling & Lyons, 2015).

Students consider exam cheating more acceptable than plagiarism, so they think they do not need to report exam cheating (Mihelic & Culiberg, 2014). The acceptance of cheating relates to the underlying reasons behind the behaviour. For example, students tend to accept the cheating behaviour of friends if they are in difficult situations, like being threatened with not graduating or losing the opportunity to get scholarships if their scores are not high enough (Sutton & Huba, 1995). They 'turn a blind eye' to their friend's dishonesty by not reporting it so that the perpetrator avoids punishment (De Graaf, 2010). Baack et al (2000) found that students are willing to accept cheating behaviour that is even more severe than what they have previously witnessed. Therefore, it is feared that cheating behaviours will worsen over time if not managed at an institutional level.

In general, honour codes at various campuses explicitly include plagiarism as a form of academic ethics violation that must be prevented (e.g., Adiningrum, 2015; Akbar & Pickard, 2019). Such codes raise awareness among the students that plagiarism is a serious ethical violation and are followed by various sanctions against the perpetrators (Siaputra, 2013). This differs from the policies regarding exam cheating; the application of such policies is generally limited to classrooms, and the policies against it vary depending on the

seriousness of the offence and individual lecturers' discretions (Gallant, 2008). The results of this study support the notion that lecturers and educational institutions should improve their supervision systems regarding examinations (Fontaine et al., 2020) as well as assignments (Newton, 2016). Lecturers and institutions also need to apply the rules of academic integrity (Rangkuti, 2011) in all teaching and learning activities consistently (De Maio et al., 2019). Thus, the chance of academic dishonesty, as illustrated in the scenarios, can be minimised.

Students whose peer reporting is not followed up with concrete actions by the lecturers and institutions are likely to 'give up' on reporting dishonesties in the future (McCabe et al., 2012; Bernardi et al., 2015). Therefore, teachers and educational institutions must demonstrate seriousness in following up with students who witness and report academic dishonesty (Culiberg & Mihelic, 2020) by taking concrete steps, such as investigating and inflicting penalties on students who commit cheating, while keeping secret the identity of the whistleblower (Burton & Near, 1995; Jenkel & Haen, 2012).

Moreover, the responsibility of students to report academic dishonesty needs to be included explicitly in an honour code to encourage action by the witness (Burton & Near, 1995; McCabe et al., 2001; Trevino & Victor, 2003). An institutional policy that requires witnesses to report academic dishonesty will likely cause an increase in peer reporting (Lyons & Bowling, 2017). Regardless of the type of academic dishonesty witnessed, it needs to be addressed with strict regulations that include clearly-defined role responsibilities and peer reporting procedures to give the witness the sense that reporting dishonesty is useful and rational (Burrus et al., 2013; Pupovac et al., 2019). If role responsibilities are not clearly defined, students will not bother to report the academic dishonesty they witness (Burton & Near, 1995; Knoll & Van Dick, 2013) and they will not perceive reporting as their responsibility (Rennie & Crosby, 2002). In other words, it takes collaboration between students, teachers, and the institution to promote peer reporting that achieves a climate of academic integrity on campus.

Some of the results of this study align with those of other studies that also used the FCM framework in business and professional settings (e.g. Latan et al., 2019; Musbah et al., 2014) and academic settings (e.g. Culiberg & Mihelic, 2020), proving the role of ethical judgment as a significant mediator between ethical awareness and peer reporting intention. A portion of the results of this present study strengthens the position of the FCM theory as a framework to explain the process of peer reporting intention of academic dishonesty.

## **Conclusions and implications**

The results of this study suggest that ethical judgment is a significant mediator between ethical awareness and peer reporting intention only on witnessing plagiarism, not on witnessing exam cheating. Therefore, this study confirms the assumption that the types of dishonesty, as reflected in the two scenarios, potentially play a role in the process of peer reporting intention.

An ethical decision such as peer reporting intention reflects an ethical behaviour likely to be carried out (Trevino, 1992; Craft, 2013). Individuals may face obstacles, difficulties, and frustrations to manifest an intention into actual behaviour; this requires persistence from the individual (Rest, 1986) and support from others. Therefore, teachers and institutions must play an active role in collaborating with students who witness academic dishonesty to increase peer reporting among students and to entrench a climate of academic integrity. Ethical decision-making in individuals begins with an awareness that a situation involves an ethical issue. The ethical awareness of individuals can be increased through ethics education, a practice that is supported by research (e.g., Jackling et al., 2007).

In addition, teachers and institutions need to label any forms of academic dishonesty as inappropriate (Caldwell, 2010) and establish clear and explicit rules about the types of academic dishonesty that must be reported by peers in an unambiguous policy (Lyons & Bowling, 2017). Clear rules will ensure that students' sensitivity and awareness to academic dishonesty will increase when it occurs around them (Mihelic & Culiberg, 2014). The next step is to instill and strengthen the belief that peer reporting of academic dishonesty is just, right, and acceptable (Victor et al., 1993; Hunt & Vitell, 1986) and will lead student witnesses to take actions.

Ideally, any academic dishonesty witnessed should be reported as a form of role responsibility (Burton & Near, 1995; McCabe et al., 2001; Trevino & Victor, 1992; Mihelic & Culiberg, 2014). Reporting would be more likely if an institution's honour code contained an article that explicitly regulated role responsibilities, accompanied by information on the reporting channels within the institution (Burton & Near, 1995; Jenkel & Haen, 2012). If these conditions were met, the intention to report academic dishonesty witnessed by students would be strengthened due to the perceived institutional support.

### **Limitations and future directions**

This study contained a number of limitations. First, the participants originated from only one university, so the findings do not describe the process of peer reporting intention in the general population. It is recommended that future research expands on the sample to increase the generalisability of research results. Second, the study used a self-report survey method that reveals peer reporting intention only. Future research needs to use an experimental method to reveal actual peer reporting behaviour and to allow for the Four Component Model (Rest, 1986) to be fully applied. Third, this study involved only two types of academic dishonesty (exam cheating and plagiarism). It is recommended that future studies involve other types of academic dishonesty to develop further understanding of the process of peer reporting. Fourth, academic dishonesty is a sensitive topic and has the potential to raise participants' social desirability when responding to instruments. Therefore, participants filled out the instrument anonymously so that responses could not be tracked individually (Ghosh, 2017). In addition, uncomfortable feeling about the scenarios was also anticipated by ensuring that the content was based on the students' real experiences. However, future research can use anonymous qualitative methods to get deeper and more natural responses.

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## Appendix: The scenarios and instruments

### Scenario 1: Exam cheating

During a final course exam, all students focused on their respective papers to work on short-answer questions. One hour later, some students had finished their work, and the lecturer allowed them to immediately submit their work and leave the classroom. Soon the lecturer's table was surrounded by so many students. One of the students, named Andi, was ready to stand up to submit his work when a friend suddenly asked, "What is the answer to this question?" Andi did not want to tell him the answer, and immediately left

after submitting his work. The many students huddling in front of the lecturer's desk to submit their work blocked the lecturer's view of the entire class. Andi saw that his friend who had asked him for the answer to the exam question was still trying to find the answer from other students, and then wrote down the answer on his paper. He also saw that some other students were working on the exam questions together. However, the lecturer was not aware of the incidents because he was still busy collecting exam papers and his view was also blocked by the students. Andi realised the situation in his class at that time and decided to report his friends' dishonesty to the lecturer.

### Scenario 2: Plagiarism

Last week, the lecturer in Mia's class gave a paper writing assignment based on a comprehensive literature review. However, one day before the deadline, Mia had not started working on it. She was aware that she would need to read enough literature to complete the assignment, but it seemed impossible in just one day. Mia tried to borrow her friend's paper and said that she just wanted to get an idea of the assignment. Since the deadline was almost due, Mia decided to copy and paste some portions of that paper. To make her paper not look exactly the same as her friend's paper, Mia used a different font and made some additions to the content of the paper and the list of references. Mia submitted paper on the lecturer's desk on schedule. The lecturer had determined that this assignment was submitted in hardcopy. However, a friend found out about the dishonesty and decided to report it to the lecturer.

### Set of instruments

The events in the illustration contained ethical problems							
Disagree	<input type="checkbox"/>	Agree					
I find peer reporting as described in the illustration is :							
Fair	<input type="checkbox"/>	Unfair					
Just	<input type="checkbox"/>	Unjust					
Morally right	<input type="checkbox"/>	Not morally right					
Acceptable to my family	<input type="checkbox"/>	Not acceptable to my family					
How likely are you to report the dishonesty of your peers if you are in a situation as described in the illustration?							
Very likely	<input type="checkbox"/>	Unlikely					
Possible	<input type="checkbox"/>	Impossible					
Certain	<input type="checkbox"/>	No chance					

*Note.* Two sets of instruments were used for the exam cheating and plagiarism scenarios.

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