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Academic Dishonesty in Online Learning During the COVID-19 Pandemic: The Role of Gender, Moral Self-Concept, and Academic Self-Efficacy

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Abstract. This study aimed to examine the role of gender, moral self-concept, and academic self-efficacy on academic dishonesty among students during periods of online learning. Participants were 305 students aged 18 - 24 (male = 65, female = 240) who underwent online learning during the COVID-19 pandemic. This study used a survey method conducted online. The measuring instruments used were the Academic Dishonesty Scale to measure academic dishonesty, the Academic Self-Efficacy Scale to measure academic self-efficacy, and the Moral Self-Concept Scale to measure moral self-concept. Males indicated a higher tendency to commit academic dishonesty than females. The initial results of regression analysis showed that moral self-concept predicted academic dishonesty in a negative direction, while academic self-efficacy did not showed a significant contribution toward academic dishonesty. Follow-up regression analysis was conducted by entering the two aspects of academic self-efficacy separately into the model, and it was found that while course efficacy did not show a significant contribution toward academic dishonesty, social efficacy contributed significantly in a positive direction.

Keywords: academic dishonesty; academic self-efficacy; gender; moral self-concept; online learning

The rise of academic dishonesty is one of the major problems in the field of education (Macdonald & Carroll, 2006). Academic dishonesty is a critical issue because it indicates a decline in the quality of education, including at higher education institutions. Academic dishonesty threatens the reputation of higher education institutions and can even trigger questions about the quality of the education system in the country (Olafson et al., 2014; Thomas, 2016). Academic dishonesty is a significant problem because educational environments should uphold moral and ethical values, not a place for developing dishonest behavior (Ampuni et al., 2019).

On a micro level, academic dishonesty can also indicate the quality of students, both during their studies and after they graduate and enter the workforce. Students who engage in unethical behavior

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during their education are likely to do the same in the workplace (Crown & Spiller, 1998). Supporting these findings, research by (Nonis & Swift, 2001) on students who had at least worked part-time or full-time in the past five years found that students involved in dishonest behavior in college tend to engage in dishonest behavior in the workplace.

The incidence of academic dishonesty at the higher education level is consistently concerning worldwide. Over the past three decades, the prevalence of students in the United States who have engaged in cheating ranges from 13% to 95% (McCabe & Trevino, 1997). A study in Iran revealed 62.3% of participants engaged in plagiarism due to the lack of attention from universities to detect plagiarism (Rezanejad & Rezaei, 2013). In China, academic dishonesty occurs not only among students but also among lecturers and researchers (Xueqin, 2010).

In Indonesia, research by Ampuni et al. (2019) with 574 student participants found that at least 98.78% of students had engaged in academic dishonesty during their studies. On a scale of 0 (never) to 4 (very often), the prevalence of unauthorized collaboration was found to be M = 2.12 (SD = 0.71), plagiarism was M = 1.86 (SD = 0.66), and cheating was M = 1.65 (SD = 0.68). Based on the study, the most common form of academic dishonesty among students in Indonesia is unauthorized collaboration (such as working with friends on individual assignments), which may be related to the collectivist culture of Indonesian society.

In this digital era, online learning has become a common practice, especially triggered by the COVID-19 pandemic in 2020 - 2022. Banack et al. (2020) stated that online learning will possibly become even more common in the future as people become more comfortable with the online culture. In addition, future technological advancements will increasingly enable higher education activities to be conducted remotely.

Although it offers many conveniences, online learning presents many challenges that need to be addressed by related parties (Elsalem et al., 2021). One of the biggest concerns is in terms of assessment (Dermo, 2009). Online-based exams can pose various problems, such as internet network issues (Adit, 2020) and academic dishonesty (Chirumamilla et al., 2020; Dendir & Maxwell, 2020; Golden & Kohlbeck, 2020). Dendir and Maxwell (2020) proposed reasons why online learning can increase the likelihood of academic dishonesty. First, the testing process often occurs in unsupervised conditions. Second, it is difficult for examiners to confirm the identity of test participants. Third, online test participants can use unauthorized resources (e.g., cheat sheets, books, or materials from the internet) during the assessment. Lastly, the online environment can encourage unauthorized collaborative (group) work with other students due to the lack of adequate supervision.

Research conducted by Herdian et al. (2021), involving 150 students in Indonesia, found that at least 51.9% of students had engaged in academic dishonesty during online learning during the COVID-19 pandemic. Consistent with the research by Ampuni et al. (2019), this study unveiled that the most common form of academic dishonesty among students is unauthorized collaboration.

Given that online learning will become a widely adopted mode in the future, the issue of academic dishonesty related to this learning mode needs to be anticipated. Therefore, research on academic dishonesty and aspects that may contribute to it is important to provide input for

intervention strategies to reduce its prevalence (Thomas, 2016), especially in online learning. This study examined the role of internal factors that can influence academic dishonesty, focusing on aspects of the self, namely moral self-concept and academic self-efficacy. The self refers to the individual's understanding of who I am, including their identity, values, desires, and beliefs (Santrock, 2023). The self is a complex concept formed by the interaction between internal factors (e.g., personal experiences, thoughts, and emotions) and external factors (e.g., social and cultural influences). According to Santrock, the self determines a person's behavior through the process of self-understanding, identity recognition, and self-adjustment to changes in the environment and individual life.

This research was conducted during the COVID-19 pandemic in 2021 when online learning was still novel for students, lecturers, and higher education institutions. Therefore, the data analyzed in this study might be unique. However, the researchers believe that the results of this study will still serve as a reference for online learning in general in the future. This study is expected to complement previous research that has found that academic dishonesty is influenced by various factors, including moral integrity, moral disengagement, moral foundations (Ampuni et al., 2019), and religiosity (Ridwan & Diantimala, 2021).

Academic Dishonesty

Academic dishonesty is defined as acts of cheating that provide unauthorized advantages to students during academic assessments or task completion (Bleeker, 2008). McCabe and Trevino (1993) identified 12 forms of academic dishonesty, namely: using notes discreetly during exams; copying answers from peers during exams; using unauthorized methods to learn exam content beforehand; copying answers from peers without their knowledge; helping others cheat during exams; finding other ways to cheat during exams; copying material and claiming it as one's own work; falsifying bibliographies; submitting work done by others; receiving unauthorized assistance on a task; collaborating with peers on individual assignments; and copying several sentences from published sources without citation.

Colnerud and Rosander (2009) categorized three forms of academic dishonesty officially recognized in Sweden. The first is cheating, which can involve secretly looking at notes during exams. The second is unauthorized collaboration, such as working together when asked to complete individual assignments. Lastly, plagiarism and fabrication can mean taking part or all of a text written by someone else without giving credit to the original author or falsifying information.

Past research has identified various predictors that can increase the prevalence of academic dishonesty, both external and internal. Externally, it was found that a less active learning atmosphere, where lecturers continuously provide materials while students receive lessons passively, tends to be associated with increased academic dishonesty (Thomas, 2016). Internally, several variables were found to be related to high academic dishonesty, including students' mindset that their skills and abilities are innate and unchangeable (Thomas, 2016); low learning motivation (Thomas, 2016); various personality aspects, e.g., impulsivity and negative emotions like depression and anxiety (Baran & Jonason, 2020; Tindall & Curtis, 2019); attitudes and values, e.g., positive perceptions of cheating, hedonistic values, and conformity (Koscielniak & Bojanowska, 2019; Tindall & Curtis, 2019); moral

disengagement (Ampuni et al., 2019).

Similarly, there are factors found to inhibit academic dishonesty, both external and internal. External factors, such as an individualistic learning atmosphere where students prioritize individual goals over group goals, are found to be related to a lower prevalence of academic dishonesty (Thomas, 2016). According to Thomas, internal student factors, such as high learning motivation and a growth mindset over skills and abilities, can reduce the prevalence of academic dishonesty. Research by Ampuni et al. (2019) found that aspects of morality, namely moral integrity, can reduce the incidence of academic dishonesty. Additionally, self-efficacy generally negatively correlates with academic dishonesty in higher education (Baran & Jonason, 2020).

Moral Self-Concept and Academic Dishonesty

Moral self-concept is defined as an individual's assessment of their own morality, i.e., whether they are a good or bad person (Christensen et al., 1994). According to Haynes (1990), moral self-concept involves a sense of right and wrong and good and bad within oneself. Operationally, Stake (1994) translated moral self-concept as an individual's assessment of themselves in six adjectives: loyal, truthful, law-abiding, faithful, trustworthy, and honest. In Stake's concept, moral self-concept is part of self-concept, which consists of six components: likeability, morality, task accomplishment, giftedness, power, and vulnerability.

Moral self-concept can predict whether a person will continue to engage in moral actions and avoid cheating (Perugini & Leone, 2009). In the educational context, moral self-concept contributes to determining student behavior in school. Haynes (1990) argued that moral self-concept is one of the strongest predictors in determining student behavior in the classroom, student participation in groups, and adherence to school rules. Moral self-concept also plays a role in inhibiting academic dishonesty (Baran & Jonason, 2020; Tee & Curtis, 2018).

The argument regarding the role of moral self-concept in reducing the tendency to engage in academic dishonesty can be explained through the mechanism of self-fulfilling prophecy. According to this theory, subjective views about a particular situation can evoke new behaviors and make those subjective views self-fulfilling and become reality (Gentrup et al., 2020; López, 2017). For example, if someone views themselves as a moral person, they will tend to avoid losing their self-concept as a moral person, even if that self-concept is inaccurate. The effort to maintain the view of oneself as a moral individual will be realized (self-fulfilled) through moral actions, such as avoiding academic dishonesty (Mazar et al., 2008; Perugini & Leone, 2009; Tee & Curtis, 2018).

Academic Self-efficacy and Academic Dishonesty

The concept of academic self-efficacy originates from the theory of self-efficacy (Bandura, 2010). According to Bandura, self-efficacy is an individual's belief in their ability to produce certain levels of performance in events that affect their lives. Self-efficacy determines how people feel, think, motivate themselves, and behave (Bandura, 2010).

Malkoc and Kesen Mutlu (2018) defined academic self-efficacy as a reflection of students'

personal beliefs in their own capacity to achieve educational tasks at the expected level. In line with this definition, Solberg et al. (1993) described academic self-efficacy as the level of students' confidence in their own ability to perform academic tasks.

Academic self-efficacy plays an important role in various indices of academic performance (Multon et al., 1991). Previous research has found that academic self-efficacy is a crucial component of self-regulation success in the learning process (Lee et al., 2014; Pintrich, 1999). Therefore, students with strong academic self-efficacy are also better independent learners (Bandura, 1991). Additionally, academic self-efficacy is also a predictor of individual academic achievement (Lee et al., 2014).

Owen and Froman (1988) categorized academic self-efficacy into three dimensions: a) overt, social situations, b) cognitive operations, and c) technical skills. Efficacy in overt, social situations refer to students' efficacy to participate in class discussions. Cognitive operations are the dimension of academic self-efficacy related to students' ability to attentively listen to lecture topics even if they find them difficult. Lastly, technical skills refer to the technical abilities that support students' learning.

Solberg et al. (1993), in their research in the United States, categorized academic self-efficacy into three forms: course efficacy, social efficacy, and roommate efficacy. Course efficacy is a form of academic self-efficacy related to writing papers, performing well in class, and managing time during academic activities. Social efficacy is a type of academic self-efficacy related to various social aspects and interpersonal adjustments, such as speaking in front of the class and integrating into peer environments. Roommate efficacy is related to interpersonal aspects in communal living and resolving issues with roommates.

Several studies have proven that academic self-efficacy plays a role in academic dishonesty, including a study by Finn and Frone (2004). Furthermore, a study on high school students found a role for academic self-efficacy in cheating behavior (Murdock et al., 2001). Research by Miller et al. (2007) found that academic dishonesty occurs more frequently when students have low academic self-efficacy.

The mechanism by which academic self-efficacy can inhibit academic dishonesty is by increasing students' control over external factors, such as environmental influences on the tendency to engage in academic dishonesty (Thomas, 2016). Bandura (2016) and Fida et al. (2016) found that academic self-efficacy plays a role in resisting peer pressure and unethical actions in the academic realm, such as cheating during exams.

The influence of academic self-efficacy in reducing the tendency for academic dishonesty is also possible through self-confidence. Students with high levels of academic self-efficacy tend to be more confident in their ability to achieve academic goals. They are also more resilient in facing academic burdens (Pajares, 1996). Miller et al. (2007) found that students who lack confidence in their ability to complete tasks are more likely to cheat.

Gender Differences in Academic Dishonesty

Gender differences in determining attitudes and behaviors can be explained through the gender socialization theory popularized by Gilligan (1993). According to Gilligan, due to differences in socialization experiences during childhood, gender plays a significant role in the process of moral

decision-making. Women's moral reasoning is oriented towards relationships with others. As a result, women are considered more ethically sensitive, rule-abiding, and concerned about the consequences of their behavior for others. Conversely, men's moral reasoning is oriented towards justice and driven by self-achievement; therefore, men tend to be more individualistic, competitive, and likely to take risks. Furthermore, Gilligan explained that because women are assumed to be more rule-abiding and men more competitive and risk-taking, women may be more sensitive to punishment compared to men.

Research by Finn and Frone (2004) and McCabe and Trevino (1993, 1997) found that the incidence of academic dishonesty, particularly cheating, tends to be higher in men compared to women. Furthermore, women tend to have stronger negative attitudes towards academic dishonesty compared to men (Whitley et al., 1999). In line with previous findings, research by Zhang et al. (2017) found similar results, that men have a higher positive attitude towards cheating, which manifests in more frequent cheating compared to women.

Based on the above explanation, it can be concluded that academic dishonesty can be influenced by various individual factors, including gender, moral self-concept, and academic self-efficacy. This study tested the following hypotheses: 1) gender influences the tendency to engage in academic dishonesty; men are more likely to engage in academic dishonesty than women, 2) moral self-concept and academic self-efficacy influence academic dishonesty; an increase in moral self-concept and academic self-efficacy leads to the decrease in academic dishonesty.

Methods

The participants in this study were active Diploma and Bachelor's students, aged 18 - 24 years (M = 20.32, SD = 1.38), who had attended online classes during the COVID-19 pandemic. Recruitment was conducted by disseminating announcements through the researcher's social media, including Facebook, Twitter, WhatsApp, Instagram, and LINE. Additionally, the snowball sampling method was employed by asking participants to share recruitment information within their social networks. A total of 354 people responded to this survey, but only 305 participants were included in the analysis because the rest had questionable responses, such as choosing the same responses to all items (usually the lowest or highest choices). The demographic characteristics of the participants can be seen in Table 1. Participation in this study was voluntary, and participants' willingness to participate was indicated by signing the informed consent included in the questionnaire. This study procedure was approved by the Ethics Committee of the Faculty of Psychology UGM with approval number 5317/UN1/FPSi.1.3/SD/PT.01.04/2021.

Table 1

Sociodemographic Characteristics of Participants (N= 305)

Characteristics		Frequency (%)	Percentage (%)	Total (%)
Sex	Male	65	21.3	100
	Female	240	78.7	
Level of Education	Diploma	32	10.5	100
	Bachelor's	273	89.5	
Year of Study	Before Final Year	163	53.4	100
	Final Year	121	39.7	
	Beyond Final Year	21	6.9	
Types of Higher Education Institutions	Public	248	81.3	100
	Private	57	18.7	
Locations of Higher Education Institutions	Yogyakarta	197	64.6	
	Provinces Other than Yogyakarta in Java Island	102	33.4	100

Design and Procedure

This study employed a quantitative research design using a survey method. Data collection was conducted by distributing an online questionnaire via https://www.surveymonkey.com/. Prospective participants who were interested and met the criteria were directed to access the survey through a link provided in the recruitment announcement.

The research questionnaire included three scales: the Academic Dishonesty Scale, the Moral Self-Concept Scale, and the Academic Self-Efficacy Scale. There were also items aimed at recording participants' demographic variables, e.g., age, gender, level and year of study, type, and location of the university.

The instrument used to measure academic dishonesty was developed by Ampuni et al. (2019), based on scales developed by McCabe and Trevino (1993) and Stone et al. (2010). This scale consists of 14 items representing three forms of academic dishonesty: cheating (5 items), unauthorized collaboration (5 items), and plagiarism (4 items). The items on this scale describe academic dishonesty behaviors that students might engage in (e.g., Copying a friend's answers during a test.). Participants were asked to indicate whether they had engaged in these behaviors during online classes by choosing one of five responses measuring the frequency of academic dishonesty, ranging from never (score = 1) to very often (score = 5). Higher scores on the Academic Dishonesty Scale indicate higher levels of academic dishonesty. In the study by Ampuni et al. (2019), this scale demonstrated high reliability (Cronbach's α = 0.87), with each aspect indicating moderate to high Cronbach's α (cheating = 0.84; unauthorized collaboration = 0.72; plagiarism = 0.67).

The researchers conducted a Confirmatory Factor Analysis (CFA) to test the construct validity of the Academic Dishonesty Scale (Table 2). This test yielded CFI and TLI values of 0.781 and 0.731, respectively, indicating a reasonably good model fit (Montoya & Edwards, 2020). Further reliability

testing showed that the Academic Dishonesty Scale had a Cronbach's α value of 0.87 (cheating = 0.84; unauthorized collaboration = 0.74; plagiarism = 0.63).

Table 2

CFA on the Academic Dishonesty Scale (N = 305)

Factor	Indicator	Estimate
Factor 1 (Plagiarism)	1. Copying a material and claiming it to be my own.	0.3685
	2. Copying several sentences from a published source without credit to the original writer.	0.5720
	3. Submitting a task done by others.	0.0994
	4. Plagiarize a part of or an entire work from the internet.	0.5305
Factor 2 (Cheating)	1. Using dishonest methods to learn the test materials before the test.	0.4091
	2. Copying peer's answers during a test.	0.3404
	3. Cheating during a test with any mode.	0.5513
	4. Checking the textbook or notes during tests without authorization from the lecturer/supervisor.	0.5378
	5. Using unauthorized tools to complete a task.	0.3002
Factor 3 (Unauthorized Collaboration)	1. Helping others cheat during a test.	0.4494
	2. Collaborating on a task that is supposed to be an individual task.	0.6391
	3. Receiving assistance on individual tasks without the lecturer's permission.	0.4222
	4. Not contributing to group work where my name is listed as a group member.	0.0277
	5. Letting friends copy my answers during a test.	0.6533

* All scale items were presented to participants in Bahasa Indonesia.

Moral Self-Concept Scale

The moral self-concept is measured using the Moral Self-Concept Scale, adapted from an aspect of the Self-Concept Scale developed by Stake (1994). The original Self-Concept Scale includes six factors to measure self-concept: likeability, morality, task accomplishment, giftedness, power, and vulnerability. This study used the morality factor only.

The Moral Self-Concept Scale is a unidimensional scale with six items containing adjectives which are: loyal, truthful, law-abiding, faithful, trustworthy, and honest. Participants were asked to rate how well these adjectives describe themselves. There are seven response options to measure moral self-concept, ranging from very inappropriate (score = 1) to very appropriate (score = 7). The higher an individual's score on the Moral Self-Concept Scale, the higher their moral self-concept.

Table 3 summarizes the CFA results conducted to test the construct validity of the Moral Self-Concept Scale. This model shows CFI and TLI values of 0.933 and 0.888, respectively, indicating an optimum model fit (Montoya & Edwards, 2020). Additionally, the Cronbach's α coefficient of the scale is 0.82.

Table 3

CFA on the Moral Self-Concept Scale (N = 305)

Factor	Indicator	Estimate
Factor 1	1. Loyal	0.378
	2. Truthful	0.682
	3. Law-abiding	0.460
	4. Faithful	0.583
	5. Trustworthy	0.589
	6. Honest	0.709

* All scale items are presented to participants in Bahasa Indonesia

Academic Self-Efficacy Scale

Academic self-efficacy was measured using the Academic Self-Efficacy Scale, which was developed based on two scales: the College Self-Efficacy Inventory (CSEI) (Solberg et al., 1993) and the College Academic Self-Efficacy Scale (CASES) (Owen & Froman, 1988). This scale consists of 20 items, with two dimensions: course efficacy (11 items) and social efficacy (9 items). Course efficacy measures students' confidence in their academic performance (e.g., actively participating in group assignments). Social efficacy measures students' confidence in their ability to communicate with others and integrate into peer environments within the academic context (e.g., making new friends on campus).

Participants were asked to provide responses that best represent their confidence levels on these tasks. Five response options were provided, ranging from 1 (very unconfident) to 5 (very confident). The higher an individual's score on this scale, the higher their academic self-efficacy.

The results from the CFA (Table 4) indicated that the 20 items of the Academic Self-Efficacy Scale produced an appropriate multidimensional model with two factors and satisfactory index coefficients; the first factor being course efficacy, and the second factor being social efficacy. This model showed CFI and TLI values of 0.796 and 0.771, respectively, indicating a fairly good model fit (Montoya & Edwards, 2020). Reliability testing yielded a Cronbach's α of 0.88 (course efficacy = 0.81; social efficacy = 0.84).

Table 4

CFA on Academic Self-Efficacy Scale (N = 305)

Factor	Indicator	Estimate
Factor 1 (Course Efficacy)	1. Conducting literature study for assignment purposes.	0.371
	2. Writing papers	0.417
	3. Doing well on test.	0.471
	4. Taking notes properly.	0.622
	5. Looking for up-to-date information about assignments.	0.504
	6. Managing study time effectively.	0.648
	7. Understanding learning materials from reference sources.	0.490
	8 Studying diligently to fully understand the learning materials.	0.629
	9. Understanding materials presented in the classroom.	0.412
	10. Paying attention to the class despite difficult or boring lessons.	0.462

Table 4 (Continued)

CFA on Academic Self-Efficacy Scale (N = 305)

Factor	Indicator	Estimate
	11. Attending classes regularly.	0.330
Factor 2 (Social Efficacy)	1. Actively participating in group assignments.	0.243
	2. Answering questions in the classroom.	0.678
	3. Asking questions in the classroom.	0.733
	4. Joining student organizations.	0.595
	5. Maintaining communication with lecturers.	0.779
	6. Being recognized by lecturers.	0.916
	7. Maintaining communication with campus staff.	0.729
	8. Asking questions to the lecturers.	0.839
	9. Forming new friendships on campus.	0.490

* All scale items are presented to participants in Bahasa Indonesia

Data Analysis

This study used multiple regression analysis to test the proposed research hypotheses, namely examining the roles of gender, moral self-concept, and academic self-efficacy (consisting of course efficacy and social efficacy) on academic dishonesty. The data analysis was conducted using IBM SPSS Statistics version 26.

Results

Data Description

Table 5

Data Description and Correlation Between Variables (N = 305)

Variable	*M*	*SD*	Pearson's Product Moment Correlation				
			AD	MSC	ASE	ASEC	ASES
AD	1.55	0.40	-	-.163**	-.030	-.088*	.030
MSC	5.68	0.64		-	.300**	.272**	.256**
ASE	3.5	0.55			-	.865**	.890**
ASEC	3.61	0.54				-	.542**
ASES	3.37	0.72					-

*Correlation is significant at the 0.05 level (1-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

AD: Academic Dishonesty, MSC: Moral Self-Concept,

ASE: Academic Self-Efficacy, ASEC: Academic Self-Efficacy (Course),

ASES: Academic Self-Efficacy (Social).

Table 5 summarizes the descriptive data and intercorrelations of the four variables. It can be seen that, compared to the midpoint, moral self-concept, and academic self-efficacy, both course efficacy and

social efficacy, tend to be high. Meanwhile, the level of academic dishonesty tends to be low (M = 1.55, SD = 0.4). It should be noted that the academic dishonesty score indicates frequency, ranging from 1-5 as follows: never, occasionally, sometimes, often, very often. Given the average score, the most frequently reported frequency is occasionally.

The percentage of students who have engaged in academic dishonesty is seen from the number of respondents who responded occasionally at least once across the entire scale. It was found that 91.9% of students admitted to having engaged in academic dishonesty during online classes. A total of 81% of students reported having engaged in unauthorized collaboration, 81% reported having cheated, and 68.9% reported having committed plagiarism. Based on Bonferroni's post hoc analysis, the most frequent form of academic dishonesty committed by students is unauthorized collaboration (M = 1.64, SD = 0.53), followed by cheating (M = 1.55, SD = 0.52), and plagiarism (M = 1.50, SD = 0.50).

Hypothesis Testing

The first hypothesis test using an independent-samples t-test found that the tendency to engage in academic dishonesty among male students (M = 1.69, SD = 0.48) was higher than in females (M = 1.51, SD = 0.36), $t(303) = 3.12$, $p = 0.002$. A more detailed look reveals that significant differences were only seen in unauthorized collaboration, while in the other two forms, gender differences were not significant.

Table 6

Differences in Academic Dishonesty Based on Gender (N = 305)

Variable	Sex	*M*	*SD*	*t*	*p*
Academic dishonesty (14 items)	Male	1.69	0.48	3.12	0.002
	Female	1.51	0.37		
Plagiarism (4 items)	Male	1.58	0.56	1.49	0.138
	Female	1.48	0.49		
Unauthorized collaboration (5 items)	Male	1.85	0.63	3.69	<0.001
	Female	1.58	0.48		
Cheating (5 items)	Male	1.65	0.58	1.71	0.089
	Female	1.52	0.50		

Note: The items on the academic dishonesty scale have response options ranging from 0 (never) to 4 (very often). The mean scores displayed in this table are the mean scores of participants. The scoring process involves calculating the average of the 14 scale items

The second hypothesis was tested using multiple regression analysis. It was found that the predictive model of academic dishonesty with two predictors, namely moral self-concept and academic self-efficacy, was significant ($R^2 = 0.027$, $F = 4.17$, $p = 0.016$), but it only explained 2.7% of the variance in academic dishonesty. Table 7 shows that only moral self-concept (β = -0.169, t = -2.8, $p = 0.005$) showed a significant role in academic dishonesty, with a negative direction as hypothesized. Meanwhile, academic self-efficacy (β = 0.021, t = 0.355, p = 0.723) did not show a significant role in academic dishonesty.

Table 7

The Role of Moral Self-Concept and Academic Self-Efficacy in Academic Dishonesty (N = 305)

Model	*B*	Std. Error	*β*	*t*	*p*
Constant	2.096	0.221	9.473	<0.001	
Moral Self-Concept	-0.105	0.037	-0.169	-2.842	0.005
Academic Self-Efficacy	0.015	0.044	0.021	0.355	0.723

A follow-up analysis on the non-significant role of academic self-efficacy was then conducted. In the studies by Ampuni et al. (2019) and Herdian et al. (2021), unauthorized collaboration was the most common form of academic dishonesty among Indonesian students, which is suspected to be related to the collectivist culture of the Indonesian society (Ampuni et al., 2019). In one section of their book titled Psychology of Academic Cheating, Anderman et al. (2007) also argued that social efficacy positively influences academic dishonesty. This led to the assumptions that: 1) these two dimensions might measure different things, and 2) social efficacy might support academic dishonesty. Following these assumptions, we analysed course efficacy and social efficacy dimensions separately in a multiple linear regression.

The regression analysis with this second model significantly predicted academic dishonesty (R^2 = 0.041, F = 4.34, p = 0.005), although the variance in the dependent variable explained remained small at 4.1%. Table 8 shows that independently, the role of moral self-concept (β = -0.166, t = -2.802, p = 0.005) was significant. Course efficacy (β = -0.117, t = -1.718, p = 0.087) did not show a significant role in academic dishonesty, but social efficacy (β = 0.136, t = -2.010, p = 0.045) indicated a significant positive role in academic dishonesty.

Table 8

The Role of Moral Self-Concept, Course Efficacy, and Social Efficacy in Academic Dishonesty (N = 305)

Model	*B*	Std. Error	*β*	*t*	*p*
Constant	2.199	0.225		9.765	<0.001
Moral Self-Concept	-0.103	0.037	-0.166	-2.802	0.005
Course Efficacy	-0.087	0.051	-0.117	-1.718	0.087
Social Efficacy	0.075	0.037	0.136	2.010	0.045

Discussion

This study provides an overview of the incidence of academic dishonesty in the context of online learning period during the pandemic, as well as the role of self-aspects, namely moral self-concept and academic self-efficacy and its two dimensions (course efficacy and social efficacy), in the tendency to engage in academic dishonesty. Initial hypothesis testing showed that: (1) Male students had a higher tendency to engage in academic dishonesty than females. (2) Moral self-concept played a role in academic dishonesty behavior, while academic self-efficacy did not. Follow-up analysis demonstrated that when the two dimensions of academic self-efficacy were tested separately, social efficacy actually played a positive role in academic dishonesty behavior, while course efficacy did not. Although significant, the contributions of moral self-concept and social efficacy in academic dishonesty were

very small, at 4.1%.

Regarding the first hypothesis, the higher tendency of males to engage in academic dishonesty is consistent with previous studies (Ampuni et al., 2019; Finn & Frone, 2004; McCabe & Trevino, 1993, 1997; Whitley et al., 1999; Zhang et al., 2017). This difference can be explained through gender socialization theory (Gilligan, 1993) which states that women are more sensitive to ethics, while men are more competitive. This finding implies that male students may require more socialization and supervision than their female counterparts in terms of adherence to academic honesty rules.

Regarding the second hypothesis, the finding that moral self-concept negatively influences academic dishonesty behavior is consistent with previous studies (Baran & Jonason, 2020; Perugini & Leone, 2009; Tee & Curtis, 2018). Individuals with a strong moral self-concept will strive to maintain that moral self-concept by maintaining a positive self-view as honest individuals (Mazar et al., 2008) and avoiding behaviors that violate morals, such as academic dishonesty.

The role of moral self-concept, although small, can be an indicator of how an individual's self-concept about morality influences the tendency to commit academic dishonesty. Therefore, in line with Tee and Curtis (2018) findings, moral self-concept is a variable within the individual that needs to be developed in addressing academic dishonesty among students. The formation of moral self-concept does not occur by itself but can be continuously encouraged by instilling moral education from an early age because moral self-concept in young children seems to greatly influence their behavior in school (Borhani et al., 2015; Haynes, 1990). The role of educators who make a sincere effort to develop the moral self-concept of their students is also needed. A strong education system also needs to be developed efficiently and widely in schools, colleges, organizations, and communities to instill a good moral self-concept (Kim et al., 2002).

In contrast to previous research (Bandura, 2016; Fida et al., 2016; Miller et al., 2007), course efficacy was found not to play a significant role in academic dishonesty, and social efficacy was found to actually play a role in increasing academic dishonesty. This positive role may be explained through the mechanism of academic dishonesty according to Anderman et al. (2007). Anderman et al. explained two mechanisms for why students with high social efficacy tend to commit academic dishonesty. The first one is that these students receive direct pressure from peers to cheat to gain acceptance within a larger friendship circle. Second, passive academic dishonesty, such as working with friends on assignments or allowing classmates to copy someone's work, is done to strengthen friendships among students. McCabe and Trevino (1997) also argued that the high tendency to commit academic dishonesty is influenced by the behavior of classmates who provide some normative support for such actions. Furthermore, research by Herdian et al. (2021) in Indonesia found that during online lectures, technology played a major role in students' efforts to engage in unauthorized collaboration with classmates, such as creating special chat groups together to discuss exam answers. This explains why social efficacy actually increases the likelihood of academic dishonesty, especially the unauthorized collaboration aspect. As for course efficacy, it does not play a role in academic dishonesty possibly because of the lack of knowledge about academic dishonesty, both in students with high and low course efficacy. No data has been found regarding students' knowledge about academic dishonesty,

therefore further research is needed to map it.

This research data shows that when viewed from the number of those who admit to having committed forms of academic dishonesty at least once, the incidence rate of academic dishonesty was quite high, namely 91.9%. A total of 81% of students reported having engaged in unauthorized collaboration, 81% reported cheating, and 68.9% reported plagiarism. This data is consistent with the research of Ampuni et al. (2019) in Indonesia. According to Akbar and Picard (2019), this may be due to the lack of regulations that provide clear sanctions related to academic dishonesty behavior. Ampuni et al. (2019) added that the high prevalence of academic dishonesty may be due to the lack of clear rules and sanctions regarding academic dishonesty within the scope of higher education. Based on the researchers' search on several Indonesian university websites (e.g., https://www.ugm.ac.id, https://www.ui.ac.id), indeed the socialization of academic dishonesty remains lacking. In other words, there is a possibility that students commit academic dishonesty because they do not know that the behavior is unethical. Therefore, education and socialization regarding academic dishonesty should be carried out to ensure that the academic community has awareness and knowledge about this issue. Blau et al. (2018) explained that educators can play an important role in reducing student academic dishonesty behavior by informing students at the beginning of the academic year about the serious consequences for them. University policies and the way sanctions are imposed can also influence students' decisions to commit academic dishonesty. Educators must also show students the broad consequences of academic dishonesty, not only during their studies but also in their future professional work.

The most common form of academic dishonesty committed by students during online lectures is unauthorized collaboration, which is consistent with the findings of Ampuni et al. (2019) and Herdian et al. (2021) in the Indonesian context. The online environment can encourage collaborative work (group work) with other students due to the lack of close relationships and interaction with exam supervisors (Dendir & Maxwell, 2020). Ampuni et al. (2019) argued that this may be related to the collectivist culture of Indonesian society, which encompasses a high level of conformity among peers. In line with the opinion of McCabe and Trevino (1997), we speculate that the high tendency to commit academic dishonesty, especially unauthorized collaboration, is not only learned from observing the dishonest behavior of classmates but is also influenced by the classmates' normative support for such actions. In a high academic dishonesty environment, those who do not cheat feel disadvantaged, so committing academic dishonesty is seen as a reasonable way to reach certain achievements.

Conclusion

Male students demonstrated a higher tendency to engage in academic dishonesty compared to female students. Moral self-concept negatively influenced academic dishonesty. After separating the dimensions of academic self-efficacy into course efficacy and social efficacy, it was found that social efficacy positively influenced academic dishonesty, while course efficacy did not play a role in academic dishonesty behavior.

Recommendation

This study has several limitations. First, the results show that the contribution of moral self-concept and social efficacy is still very small, only 4.1%. This finding highlights the urgency to further investigate which variables have a greater role in academic dishonesty. Previous studies have identified several factors that can significantly predict academic dishonesty, such as the learning environment, student's mindset, learning motivation, personality, and attitudes and values held by students (Koscielniak & Bojanowska, 2019; Thomas, 2016; Tindall & Curtis, 2019). In Indonesia, moral integrity and moral disengagement have been found to predict academic dishonesty (Ampuni et al., 2019). Religious aspects such as knowledge of religion and religious activities have also been found to reduce the prevalence of academic dishonesty behavior (Ridwan & Diantimala, 2021). Future research is recommended to investigate other independent variables that may have a greater role in the prevalence of academic dishonesty.

Second, this study is very limited to participants from universities located on Java Island (98%). On the other hand, previous research (Ampuni et al., 2019) indicates differences in the prevalence of academic dishonesty between students in Java and outside of Java. According to Ampuni et al. (2019), this is possible because academic institutions outside Java are generally less competitive compared to those in Java. Additionally, more limited resources may cause these institutions to be unable to give full attention to behavioral issues, particularly academic dishonesty. Therefore, future research is recommended to expand this study to all regions of Indonesia.

Third, due to the pandemic conditions, data collection for this study was conducted only online and participant recruitment was done through social media. Therefore, sampling bias may occur, as it is possible that only students active on social media filled out this survey. Moreover, recruitment announcements through the researchers' social media may potentially only attract participants with characteristics similar to the researchers; for example, participants in the study were dominated by female students from public universities. Furthermore, we did not collect data on study programs, resulting in less detailed and comprehensive data. Finally, this study used an open survey method with a snowball sampling approach, so participants might fill out the survey more than once. A number of participants filled out the survey carelessly and only entered the same responses on most scale items. Future research is recommended to recruit participants in more varied ways, expand recruitment reach, and anticipate the possibility of participants filling out the survey more than once.

Declarations

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Author's Contributions

INI and SA designed the research. INI organized the data collection, performed data analysis, and wrote the draft of the manuscript. SA supervised data collection, processing, and analysis, reviewed the manuscript, and approved the final version of the manuscript. SBSB assisted with data collection, processing and analysis.

Conflict of Interest

The authors declare no potential conflicts of interest concerning this article's research, authorship, and/or publication.

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