Predicting Academic Dishonesty Based on Competitive Orientation and Motivation: Do Learning Modes Matter?

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Abstract: Previous studies suggest that competition and motivation are reliable predictors of academic dishonesty. However, little is known about the role of situational factors in predicting academic dishonesty. Some studies have found that online learning is more prone to academic dishonesty, but others have found the opposite. This study focuses on academic dishonesty, how it relates to competitive orientation and motivation, and how that differs in two class modes (online vs offline). This study was conducted in Indonesia during early 2022, transitioning from online learning due to the Covid-19 pandemic to normal-offline learning. A total of 404 university students participated in this study. Most participants (74.2%) reported they cheated more frequently in online than in offline learning. The independent sample t-test indicated that students in the online learning group showed higher academic dishonesty than students in the offline learning group. Latent regression analysis showed that amotivation, hypercompetitive orientation, and learning mode are significant predictors of academic dishonesty. These findings imply that transitioning from offline to online learning during the pandemic negatively affected academic integrity.
Keywords: academic dishonesty, hyper-competition, motivation, online learning.

Introduction

The covid-19 pandemic has changed many things, including student learning behaviour. One issue that educators and researchers often ask is whether the mode of learning has an impact on students' academic dishonesty. At the beginning of the pandemic, all learning processes had to be switched to online. Many researchers have investigated the effect of switching learning to online on academic dishonesty (e.g., Erguvan, 2021; Janke et al., 2021; Jose, 2022; Malik et al., 2023). Most studies found an increasing number of academic dishonesty when learning mode had to switch to online. Two years after the first outbreak, several universities have returned to normal in-person learning. This study aimed to examine the academic dishonesty of university students in Indonesia during early 2022, transitioning from online learning due to the Covid-19 pandemic to normal-offline learning. At that time, some universities had returned to offline learning while others were still conducting online learning.

Academic dishonesty refers to any behaviour that intentionally violates academic rules for personal gain (Janke et al., 2021). This term is often used interchangeably with the term cheating. However, the term academic dishonesty was used in this study because it covers a broader range of behaviours, such as plagiarism, cheating on exams, or lying. Academic dishonesty is firmly attached to students. Previous studies have consistently reported that most students admit to having committed academic dishonesty during their studies (Bernardi et al., 2004; Teixeira and Rocha, 2010). These findings have prompted researchers to investigate what internal or external factors influence students' academic dishonesty behaviour.

The effect of learning methods on academic dishonesty has been studied by several researchers (for a review, see Holden, Norris and Kuhlmeier, 2021). Some studies found that online learning increased the risk of academic dishonesty (Janke et al., 2021; Khan and Balasubramanian, 2012; King and Case, 2007; Lanier, 2006). Some other studies found that online learning reduced the risk of academic dishonesty (Grijalva and Kerkvliet, 2006; Peled et al., 2012), while others found no difference between online and offline learning (Spaulding, 2009; Spaulding, 2009). These findings are not conclusive and, therefore,

interesting for further study.

Several methodological and conceptual reasons explained these different findings. Watson and Sottile (2010) suggested that operational differences in academic dishonesty among studies were the main cause of inconclusive results. In addition, the context of learning is also essential. For example, Janke et al. (2021) suggested that when learning is changed from offline to online due to compulsion (e.g., Covid pandemic, which limits face-to-face interactions), the motivation that arises from students is extrinsic motivation or even amotivation. It led to high levels of academic dishonesty. Several finding supports this claim and found a significant increase in academic dishonesty during the Covid-19 pandemic timeframe (Comas-Forgas et al., 2021; Jenkins et al., 2023; Malik et al., 2023). One factor contributing to cheating, which is linked to decision-making, is that cheating takes place based on the presence of opportunities (Adzima, 2020). The matter of opportunity has gained increased attention, especially with the expansion of online education within higher education. From the perspective of the theory of planned behaviour (TPB, Ajzen, 1991), perceived control behaviour is a crucial aspect that encourages people to cheat. When students perceive a sense of anonymity and a lack of sufficient monitoring in an online class, they might believe that the chances of getting caught while cheating are low, leading to a higher likelihood of engaging in academic dishonesty (Kajackaite and Gneezy, 2017). However, if learning is conducted online because of the student's choice, intrinsic motivation emerges, which reduces academic dishonesty. In this context, replication needs to be performed to examine the impact of these situational factors. Nowadays, a combination of in-person and online classes is more prevalent without any compulsion. The findings of this study could be a basis for making policies related to online learning.

Individual differences in internal factors are also essential for predicting academic dishonesty. Internal factors to be investigated further in this study are motivation and competitive orientation. In literature, competition has been associated with academic dishonesty. For example, Taylor, Pogrebin and Dodge (2002) stated that the pressure of competition encourages dishonest behaviour in order to get the best grades. Two dimensions of competitive orientation influence academic dishonesty most: self-development and hypercompetitiveness (Orosz, Farkas and Roland-Lévy, 2013). Self-development refers to self-growth, not considering competitors as enemies, and enjoying and learning from the competition process. In contrast, hypercompetitive individuals try to win at any cost. They see their competitors as enemies and can be aggressive towards them. Self-development is assumed to correlate negatively with academic dishonesty, while hypercompetitiveness positively correlates with academic dishonesty.

Motivation is also consistently cited in the literature as a predictor of academic dishonesty (Krou, Fong and Hoff, 2021; Orosz, Farkas and Roland-Lévy, 2013). Vallerand et al. (1992) explained that intrinsic motivation arises when individuals engage in activities for their own sake and for the satisfaction that comes from it. Extrinsic motivation occurs when individuals engage in activities to achieve goals, not for their own sake. When individuals do not feel causality between their actions and the results, this can be labelled as amotivation. Individuals with amotivation have neither extrinsic nor intrinsic motivation and usually feel incompetent. The role of motivation in predicting academic dishonesty was briefly summarized in a meta-analysis study conducted by Krou, Fong and Hoff (2021). Academic dishonesty correlated negatively with intrinsic motivation and positively with extrinsic motivation and amotivation.

Study objectives

Most previous studies investigated internal and situational factors separately in predicting academic dishonesty. However, academic dishonesty cannot be separated from these two factors. Therefore, this study aimed to investigate the role of internal factors (i.e., motivation and competitive orientation) and situational factors (i.e., learning mode) in predicting academic dishonesty simultaneously. This study was conducted during the transition period from online learning due to the Covid-19 pandemic to normal-offline learning. With the varied learning mode in Indonesia at that time, this research can contribute scientifically to answering disagreements over previous research results. In addition, this research is also helpful in providing practical considerations for formulating policies to reduce academic dishonesty.

In the first step, we established a measurement model for all constructs and analyzed their interrelations. The present study intended to resolve methodological issues in previous studies by investigating the measurement invariance of the instrument across learning modes (online vs offline). In the next step, we conducted latent regression analyses to predict academic dishonesty with motivation, competitive orientation, and learning mode as predictors. Specifically, our research questions were as follows:

1. Do motivation and competitive orientation explain students' academic dishonesty?

2. Does learning mode explain students' academic dishonesty beyond motivation and competitive orientation?

Based on previous research (Krou, Fong and Hoff, 2021; Orosz, Farkas and Roland-Lévy, 2013), we hypothesized that academic dishonesty correlates negatively with intrinsic motivation and positively with extrinsic motivation and amotivation. In addition, self-development is hypothesized to correlate negatively with academic dishonesty, while hypercompetitiveness positively correlates with academic dishonesty. Regarding the context of the learning mode, since online learning was conducted due to compulsion, we hypothesized that students in online learning have higher levels of academic dishonesty, in line with the previous study (Janke et al., 2021).

Materials and Methods

Participants
Participants of this study were active students who took part in both online and offline learning. A total of 404 students (55% were women) participated in this study. Participants ranged from 18 – 47 years old (M = 21.41, SD = 3.41). Participants consisted of undergraduate students (89%), Master's students (7%), and Doctoral students (3%). A total of 193 students (48%) took offline learning, and 211 (52%) took online learning. Data was collected using an online survey in early 2022, where learning modes still varied. Some students took online classes, while others attended face-to-face classes.

Instruments
Academic dishonesty questionnaire
The academic dishonesty questionnaire is a measure specifically developed for this study. This questionnaire consists of 11 items, which are behavioural indicators indicating academic dishonesty relevant to online and offline learning situations. Participants were asked to rate how often they did the following activities this semester (e.g., "Copying material from the internet, books, or articles without citing the source" or "Making up false excuses for being late to turn in assignments"). Participants answered with a response scale ranging from 1 (never) to 5 (always). Please see the appendix for detailed items. Cronbach's alpha for this measure was 0.77. After being presented with the questionnaire, participants were given one question read as follows: "In which learning mode do you do the activities mentioned earlier, online or offline?".

Academic Motivation Scale (AMS)
AMS is a multidimensional scale for measuring three dimensions of motivation: intrinsic motivation, extrinsic motivation, and amotivation. This scale was developed by Vallerand et al. (1992). Natalya (2018) translated the scale into Indonesian, validated it and made a short-form version. The instructions read as follows: "Why do you go to college?". This scale consists of 15 items. Intrinsic motivation consists of seven items, with the following sample item: "Because I experience pleasure and satisfaction while learning new things". The extrinsic motivation subscale consists of six items, with the following sample item: "In order to obtain a more prestigious job later on". The amotivation subscale consists of two items, with the following sample item: "Honestly, I don't know; I really feel that I am wasting my time in school". Participants rated all items on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). For detailed items, readers are encouraged to read the original paper by Natalya (2018) . The Cronbach's alpha reliability of these items was 0.86 for intrinsic motivation, 0.83 for extrinsic motivation, and 0.76 for amotivation.

Multidimensional Competition Orientation Inventory (MCOI)
MCOI is a multidimensional scale to measure the four competitive orientations. This scale was developed by Orosz et al. (2018). We translated the scale from English into Indonesian using the translation back-translation method. Only two subscales were used in this study: self-development and hypercompetitive, as previous findings indicated that these two dimensions were related to academic dishonesty. Self-development subscale consists of three items, with the following sample item: "Competitive situations allow me to bring the best out of myself". The hypercompetitive subscale consists of three items, with the following sample item: "The most important is winning, no matter what". Participants rated all items on a 6-point Likert-type scale ranging from 1 (Not true of me at all) to 6 (Completely true of me). Readers are encouraged to read the original paper by Orosz et al. (2018) for detailed items. The Cronbach's alpha reliability for the self-development was 0.84 and 0.68 for hyper-competitive.

Procedures

Participants were recruited using various strategies, including social media advertisements (e.g., Facebook, Instagram, WhatsApp). Participants who were willing to participate in the study completed the online survey programmed in PsyToolkit (Stoet, 2017). Participants received no monetary incentives for participating in this study. After reading the research description, participants gave their consent to be able to move to the questionnaires. All participants gave their informed consent for inclusion before participating in the study. The study was conducted following the Declaration of Helsinki.

Data analysis

Confirmatory Factor Analysis (CFA) and latent variable regression analysis were performed using the 'lavaan' package (Schermelleh-Engel, Moosbrugger and Müller, 2003) in the R program (R Core Team, 2012). First, the measurement model of all constructs was specified and tested using CFA. The measurement invariance of the instruments across learning modes (online vs offline) was investigated to ensure that the instruments used in this study have similar meanings for the two groups. Three levels of measurement invariance were investigated: configural, metric, and scalar. At the configural level, loadings and intercepts were freely estimated. At the metric level, loadings were constrained to be equal across learning modes, and the intercepts were freely estimated. At the scalar level, both loadings and intercepts constrained to be equal across learning modes. Measurement invariance analysis is met if: ΔCFI < -.01, ΔRMSEA < .015, ΔSRMR < .010 (Chen, 2007) for each level of the model.

Following the CFA, statistic descriptive and intercorrelation among variables were examined then. We compared the score of all variables between the online and offline groups using an independent sample t-test. Finally, we conducted latent regression analyses to predict academic dishonesty with motivation, competitive orientation, and learning mode as predictors. There were two models specified: 1) model with internal factors as predictors and 2) model with internal factors and situational factors as predictors.

In CFA and latent regression analyses, we used weighted least squares means and variance adjusted (WLSMV) estimation because it is better suited to ordinal data (Beauducel and Herzberg, 2006). We evaluated model fit using several fit indices, including the χ^2, comparative fit index (CFI), the standardized root-mean-squared residual (SRMR), and the root mean squared Error of approximation (RMSEA). The following parameters were used to assess the models' adequacy: CFI >.90, TLI > 0.90, SRMR.10, and RMSEA.08 were deemed adequate, and CFI >.95, TLI > 0.95, SRMR.05, and RMSEA.05 were considered an excellent fit (Schermelleh-Engel, Moosbrugger and Müller, 2003).

Results

Measurement model of the instruments

CFA was performed to examine whether the measurement model for all variables studied fit the data. The results of the initial analysis showed that the model had χ^2 = 751.69, df = 449, p <0.01, CFI = 0.951, TLI = 0.946, RMSEA [90% CI]= 0.044 [0.039, 0.049] and SRMR = 0.071. Although the initial model had shown satisfactory indicators in terms of CFI, TLI, RMSEA, and SRMR values, the academic honesty measurement model had one item with a very low loading factor (λ < 0.30). The model was then modified by removing that item. The final measurement model had χ^2 = 708.87, df = 419, p < 0.01, CFI = 0.953, TLI = 0.948, RMSEA [90% CI]= 0.046 [0.040, 0.051], and SRMR = 0.071. This final model displayed an acceptable fit. The omega reliability (ω) of each variable was 0.78 for academic dishonesty, 0.56 for amotivation, 0.89 for extrinsic motivation, 0.83 for intrinsic motivation, 0.68 for hypercompetitive, and 0.85 for self-development.

Measurement invariance

Measurement invariance analysis was performed to examine whether the measurement model applies equally to groups of students with online and offline classes. Measurement invariance has several levels. If the metric invariance is met, then the regression analysis comparison can be performed between groups. If the scalar invariance is satisfied, then the latent means can be compared across groups meaningfully. The summary of the results of the invariance analysis can be seen in table 1. Table 1 indicates that the model accuracy indices (i.e., χ^2, CFI, RMSEA, SRMR) of each model are almost unchanged compared to other model fit indices. All three models (M1 to M3) did not show a significant decrease in model fit, indicating that all constructs achieved scalar invariance between the online and offline groups. Therefore, the variable measurement model proved invariant between groups of learning

modes, and the latent means could be compared meaningfully across learning modes.

Table 1.
Invariance of measurement models based on learning mode groups

Model	Model fit				Model comparison		
	χ2 (df)	CFI	RMSEA	SRMR	ΔCFI	ΔRMSEA	ΔSRMR
Configural (M1)	914.74 (838)	.987	.021	.077			
Metric (M2)	994.56 (863)	.978	.028	.079	-0.000	0.006	0.002
Scalar (M3)	1021.26 (888)	.978	.027	.080	0.000	0.000	0.001

Descriptive statistics of studied variables

Participants generally reported relatively low academic dishonesty levels (M = 1.76, SD =0.51). Table 2 shows that motivation and competition orientation do not differ in online and offline groups. However, academic dishonesty in the two groups was statistically significant, with students in online classes having higher levels of academic dishonesty than students in offline classes. The Pearson's correlation analysis among variables indicated that academic dishonesty was positively correlated with amotivation and hypercompetitiveness and negatively correlated with extrinsic motivation. Surprisingly, there was no correlation between academic dishonesty and internal motivation. For the single question about the tendency to cheat in two learning modes, as many as 300 participants (74.2%) reported committing academic dishonesty when learning online.

Table 2.
Descriptive statistics and intercorrelation of studied variables

Variable	Online (N=211)	Offline (N=193)	d	1	2	3	4	5
	Mean (SD)	Mean (SD)						
1. Extrinsic motivation	5.66 (0.93)	5.66 (1.06)	0.01					
2. Intrinsic motivation	5.65 (1.05)	5.62 (1.15)	0.03	.57***				
3. Amotivation	1.88 (1.05)	1.95 (1.04)	0.06	-0.35***	-.19***			
4. Self-development	4.52 (0.89)	4.46 (1.12)	0.05	.53***	.34***	-.20***		
5. Hypercompetitive	2.79 (1.07)	2.77 (1.08)	0.02	.10	.22***	.13**	.32***	
6. Academic dishonesty	1.84 (0.50)	1.69 (0.52)	0.28**	-.19***	-.04	.31***	-.10	.25***

Note: * p < 0.01, *** p < 0.001.

Motivation, competitive orientation, and learning mode as predictors of academic dishonesty

Two latent regression model was performed. In the first model, we regressed academic dishonesty on extrinsic motivation, intrinsic motivation, amotivation, self-development, and hypercompetitive. In the second model, we added learning modes as the sixth predictor. The results for both models are shown in Table 3.

In model 1, only amotivation and hypercompetitive orientation were significant predictors of academic dishonesty. Both amotivation and hypercompetitive have positive effects on academic dishonesty. All predictors together explained 25% of the variance in academic dishonesty. In model 2, the learning mode significantly affected academic dishonesty. Adding learning mode as a predictor increased the variance explained to 28%. The negative effect size indicated that students in the online class have higher academic dishonesty than students in the offline class. To summarize, in line with our assumptions, internal and situational factors were related to academic dishonesty. However, contrary to our expectations, only amotivation and hypercompetitive were related to academic dishonesty, while the effect of intrinsic-extrinsic motivation and self-development were not significant.

Table 3.
Regression of academic dishonesty on motivation, competitive orientation, and learning modes

Predictor	Model 1			Model 2		
	B	SE	β	B	SE	β
Extrinsic motivation	-0.01	0.11	-0.01	0.02	0.12	0.01
Intrinsic motivation	0.01	0.07	0.01	-0.01	0.07	-0.01
Amotivation	0.47	0.11	0.41***	0.50	0.12	0.42***
Self-development	-0.14	0.08	-0.12	-0.15	0.08	-0.13
Hypercompetitive	0.24	0.07	0.20***	0.25	0.07	0.21***
Learning mode	-	-	-	-0.21	0.05	-0.18***
R^2	0.25			0.28		
χ2 (df)	708.87 (419)			735.65 (444)		
CFI / TLI	0.953 / 0.948			0.953 / 0.947		
RMSEA / SRMR	0.041 / 0.071			0.040 / 0.070		

Note: *** $p < 0.001$, B=unstandardized coefficient, SE = Standard Error, β = standardized coefficient, learning mode was coded as 0 for online and 1 for offline class. A negative regression coefficient indicated that online classes showed higher academic dishonesty.

Discussions

This study aimed to examine whether internal factors (i.e., motivation and competitive orientation) and situational factors (i.e., learning mode) predict academic dishonesty. The main findings in this study indicate that motivation, competitive orientation, and learning mode contribute to academic dishonesty. Specifically, amotivation and hypercompetitiveness are two internal factors that significantly influence academic dishonesty. Amotivation, characterized by a lack of interest in academic pursuits, can lead students to resort to unethical practices to circumvent their disinterest in learning (Deci and Ryan, 1985). Research has demonstrated that amotivated students are more likely to cheat, perceiving these behaviours as shortcuts to coping with academic responsibilities (Murdock, Hale and Weber, 2001). On the other hand, hypercompetitiveness, which reflects an intense desire to outperform others at any cost, is associated with a higher propensity for academic dishonesty. In academic contexts, hypercompetitive individuals may view academic success as a zero-sum game, leading them to resort to unethical actions to gain a competitive edge over their peers, even if it involves undermining their fellow students (Anderman and Danner, 2008). In addition, the learning mode also plays a role; students who study online tend to show higher academic dishonesty. Most students also reported committing academic dishonesty when learning online. However, it is important to note that not all students engage in academic dishonesty. Some might even have higher levels of academic integrity in online learning environments.

Our findings provide evidence to resolve the debate about whether learning modes contribute to academic dishonesty. The results of this study support several previous researchers who found that dishonesty in online learning is higher than in offline learning (Janke et al., 2021; Khan and Balasubramanian, 2012; King and Case, 2007). Several reasons explain the inconsistency of previous findings, including methodological reasons. The instruments used as comparisons can have different operations, which may also be irrelevant for the two types of learning modes. For example, the indicator "Participate in class while doing other activities during learning" may be more easily agreed upon by respondents who are in online classes. In this study, we first tested for measurement invariance of the instruments before comparing academic dishonesty between online and offline groups. Thus, the instrument used has the same meaning and is not biased when used to compare the two groups.

Another explanation regarding the inconsistency of previous findings is explained by Janke et al. (2021). They stated that when learning is changed from offline to online due to compulsion (e.g., Covid pandemic, which limits face-to-face interaction), the motivation that arises from students is extrinsic motivation or even amotivation. This has led to high levels of academic dishonesty. This explanation seems relevant to the findings of this study because students who take online classes are mostly out of compulsion.

Several studies also suggested that the theory of planned behaviour (TPB, Ajzen, 1991) can explain academic dishonesty in online learning (Ababneh, Ahmed and Dedousis, 2022; Chudzicka-Czupała et al., 2016). TPB proposes that people's attitudes, subjective norms, and perceived behavioural control shape their intentions and, ultimately, their behaviour. Students may perceive online learning as less important

or less rigorous, or they may be concerned about the quality of instruction. It results in a low attitude towards online learning, which can contribute to a greater willingness to engage in academic dishonesty. The academic norms may be different in online learning. Students may feel less social pressure to behave honestly in an online setting. Finally, students' perceived behavioural control in online learning may be influenced by factors such as distractions in the home environment or technical difficulties. These factors can contribute to a greater lack of control, increasing the likelihood of cheating.

Of the five predictors in the model, only two played a significant role: amotivation and hypercompetitiveness. Although this finding aligns with previous findings (Krou, Fong and Hoff, 2021; Orosz, Farkas and Roland-Lévy, 2013), it is still intriguing because previous research examined motivation and competitive orientation separately. We examined motivation and competitive orientation simultaneously. These findings show two unique faces of "cheaters". Academic cheaters have two possibilities. First, they have low motivation to study, or second, they consider excessive competition, so they want to justify any means to win.

Limitations

This research has several limitations that need to be considered. First, we only differentiated online and offline groups. We classified students who took blended learning as offline because they had started face-to-face learning. However, students with blended learning might have different time frames to reflect on themselves when completing surveys. Second, this study is limited to a sample of university students. University students are assumed to be more familiar with technology than elementary-high school students. Thus the generalization of this research for elementary-high school students may be different. Third, the study relied on self-reported measures of academic dishonesty, which may be subject to social desirability bias. Future studies could use more objective measures of academic dishonesty, such as plagiarism detection software.

Conclusions

Overall, this study contributes to the growing body of literature on academic dishonesty and its predictors. This research shows that the higher the amotivation and hypercompetitive orientation, the greater the tendency for students to commit academic dishonesty. In addition, the learning mode also plays a role; students who study online tend to show higher academic dishonesty. Most students reported they cheated more frequently in online than in offline learning.

This research has several implications for the practice of education in universities. First, face-to-face learning is still essential not only for the transfer of knowledge but also for the transfer of values. Educators need to adjust the design of online learning as a proactive method to reduce academic dishonesty. Second, educators are encouraged to implement interventions that promote student motivation and reduce hypercompetitive orientation, such as using collaborative learning. Finally, more research is needed to better understand the complex relationship between motivation, competitive orientation, learning mode, and academic dishonesty in different cultural contexts.

Appendix

Academic dishonesty questionnaire

Please indicate how often you do the following activities / Tunjukkan seberapa sering Anda melakukan halhal ini.

1 = never / tidak pernah, 2 = rarely / jarang, 3 = sometimes / kadang-kadang, 4 = often / sering, 5 = always / selalu

1. Logging into a course and engaging in other activities during course time / Ikut kelas sambil mengerjakan kegiatan lainnya selama pembelajaran

2. Solving tasks together with other students that were meant as individual assignments / Mengerjakan tugas dengan teman lainnya meskipun itu adalah tugas individu

3. Writing references in papers even though I have never read the references / Menulis referensi di makalah yang saya tulis meskipun referensi tersebut tidak pernah saya baca

4. Copying material from the internet, books, or articles without writing down the source / Menyalin materi dari internet, buku, atau artikel tanpa menuliskan sumbernya

5. Having others do individual assignments and handing them in as own work / Meminta tugas individu milik teman untuk saya kumpulkan sebagai pekerjaan saya

6. Making false excuses for being late in submitting assignments / Membuat alasan palsu karena terlambat mengumpulkan tugas

7. Letting someone else sign a course attendance sheet to cover up not being present in the course / Meminta teman untuk mengabsenkan saya saat saya tidak hadir dalam pembelajaran

8. Trying to bribe an instructor to get deadline extensions or better grades / Merayu dosen agar mendapat tambahan waktu deadline atau nilai yang lebih baik

9. Paying others to do my own learning assignments / Membayar orang lain untuk mengerjakan tugas saya

10. Solving exam questions by using additional materials or the internet without permission / Menjawab pertanyaan ujian dengan mencari materi di internet tanpa izin

11. Exchanging ideas with others about possible answers during an examination / Berdiskusi dengan teman tentang kemungkinan jawaban pertanyaan ujian

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Conceptualization, H.A. and R.F.; Resources, H.A. and H.A.; Methodology, H.A.; Investigation, H.A. and R.F.; Data curation, H.A.; Formal Analysis, H.A.; Writing – original draft, H.A.; Writing – review & editing, H.A and R.F.. All authors have read and agreed to the published version of the manuscript.

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