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The Relationship among Academic Dishonesty, E-learning Readiness, and Procedural Justice

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Abstract

There has been a recent growth in the use of e-learning in response to rapid changes in higher education. With this switch to online learning, there has been a growing concern over students' ethical behavior concerning academic matters. The purpose of this study was to understand the relationships between academic dishonesty (cheating on exams) and the independent variables of e-learning readiness, procedural justice (fairness in the classroom), gender, major, and class level. From a sample size of *N* = 112, descriptive analysis and multiple regression were employed to understand the relationship between the dependent variable of academic dishonesty and the study's other variables. Descriptive statistics found that the participants disagreed with academic dishonest behaviors; however, senior students agreed more with these behaviors when compared to freshmen. Similar differences were found in procedural justice, with freshmen perceiving the teaching as fairer compared to seniors. The relationship among the variables was weak, with only a significant relationship between academic dishonesty and procedural justice. Understanding student views of ethical behavior in the context of e-learning in a non-Western context provides an opportunity to present findings from an underrepresented group.

Keywords: *e-learning, academic dishonesty, regression, procedural justice*

Introduction

Among higher education institutions, there has been a strong embrace of e-learning. Moving to e-learning has meant developing assessments for this new context. As e-learning has grown in popularity, academic dishonesty has also become a problem. Students have a general disinterest in taking exams online (Elsalem et al., 2021). One concern that students have is that they do not want to participate in online assessment unless they think it is fair (Kaufmann & Tatum, 2018).

Within Asia, there are concerns with e-learning, academic dishonesty, and fairness (Abusafia et al., 2018; Olivier, 2017). If students lack the skills needed to participate online, and believe that the teacher is unreasonable in their expectations, there may be some temptation to resort to dishonest academic practices (Kaufmann & Tatum, 2018; Lemons & Seaton, 2011). Furthermore, within some parts of Southeast Asia, there is a permissiveness towards cheating that makes it more of a pressing problem (Bokosmaty et al., 2019).

Therefore, the purpose of this study was to examine the relationship between e-learning readiness, classroom procedural justice, and academic dishonesty. Investigating these constructs within the context of Southeast Asia will help bring insights to teachers and administrators searching for information and analysis of the problem of academic dishonesty in the context of e-learning. Moreover, understanding student views of ethical behavior in the context of e-learning in a non-Western context provides an opportunity to present findings from an underrepresented group.

E-Learning Readiness

E-learning is training and knowledge acquisition through an electronic medium, primarily a computer or other internet-capable device (Ungaretti & Tillberg-Web, 2016). There are several forms of e-learning based on the manner of interaction with the teacher. For example, some forms of e-learning are fully online and asynchronous, which means there is no real-time interaction with the teacher or other students that is required (Roskvist et al., 2020). Synchronous e-learning involves learning online with real-time interaction with the teacher and or other students. Blended learning involves asynchronous and/or synchronous learning while also providing a traditional face-to-face learning experience in a classroom (Dziuban et al., 2018).

Online assessment is one of many challenges educators face when it is necessary to move to e-learning. Students prefer exams or quizzes to more authentic assessments such as reports or written assignments (Elsalem et al., 2021). However, traditional exams in the e-learning context are often plagued with academic dishonesty. Measures have been taken, such as online proctoring, multiple exams of the same content, and test preparation, yet these have not been found to fully alleviate this problem (Elsalem et al., 2021; McDonald et al., 2018).

Despite the shortcomings of assessment in the e-learning context, several studies have found that e-learning has helped students to become self-evaluators, that multimedia use boosts thinking skills, and that e-learning can be beneficial for low-performing students in rural areas (Kwangmuang et al., 2021; McDonald et al., 2018; Panyajamorn et al., 2018). The current challenge involves the complexity of academic dishonesty as students can initiate this behavior with a reduced likelihood of the teacher determining that dishonest acts took place.

Readiness of the students and institution could be a factor in academic dishonesty as students who believe they are unprepared for e-learning may commit academic dishonesty as a coping mechanism (Al-araibi et al., 2019; Kaufmann & Tatum, 2018). Several studies indicate that culture, identity, and social media practices play a role in e-learning readiness of students (Njenga, 2018; Salloum et al., 2019). Students are often blamed when academic dishonesty occurs; however, if the teacher and institution are not providing the quality, support, teaching, and maintaining ease of use, students may develop frustration with their e-learning experience (Al-Fraihat et al., 2020).

Within Thailand, e-learning has been found to boost thinking skills (Kwangmuang et al., 2021). In addition, students have shared that they feel uncomfortable studying online with direct guidance from the teacher as they lack self-discipline for e-learning and prefer working in groups (Olivier, 2017). Furthermore, Faderogaya and Chantagul (2019) found a relationship between learning style and attitudes toward e-learning. However, what is missing from the current body of research is an examination of academic dishonesty and its relationship with e-learning. This aspect is explored here.

Procedural Justice

Classroom procedural justice is defined in terms of the fairness of the distribution of outcomes, the process of outcome distribution, the quality of interpersonal relationships, and the communication of rules and policies in the classroom that shape the ideas of fairness (Rasooli et al., 2019). These concepts are critical in that if students have a perception that assessment in the classroom is unfair, they will search for means to overcome this (Lemons & Seaton, 2011). What is unique in the context of e-learning is the need to communicate all these concepts electronically rather than in a traditional classroom meeting. Kaufman and Tatum (2018) have already found that students do not want to take online courses if they believe they are unfair.

When students perceive that there is procedural injustice, the reactions are often in the form of anger, disappointment, and challenging authority in ways that may include academic dishonesty (Chory, 2007; Rasooli et al., 2019). When the classroom is perceived as fair, there is often greater engagement (Rasooli et al., 2019). However, these studies refer again to the traditional classroom and not to an e-learning context.

The teacher is one of the strongest factors in the student's view of classroom procedural justice in that when the students have some trust in the teacher, there is often a more positive perception of justice in the classroom (Argon & Kepekcioglu, 2016). The teacher's actions and behaviors are associated with justice in the classroom (Sabino et al., 2019). If a teacher is unjust in their classroom management, it can also lead to a decrease in respect the students have for the teacher (Ehrhardt-Madapathi et al., 2018). When students have contempt for the authority of a teacher, there could be issues with obedience to rules during exams. However, how these complex relations happen online is not as clearly studied as discussed with literature from a traditional classroom context.

Several studies indicate differences based on gender regarding classroom procedural justice (Sabino et al., 2019; Varela et al., 2020). Studies conducted in China found that students' procedural fairness was associated with their perception of the fairness of their scores, and students who

perceive injustice may resort to knowledge hiding behaviors (Ghani et al., 2020; Wallace & Qin, 2021). In the Philippines, the students who thought a teacher was fair positively associated this attitude with how the teacher treated them (Clemente, 2018).

Academic Dishonesty

Academic dishonesty is often defined in terms of concrete behaviors such as cheating, plagiarism, falsification of academic assignments, and deception in completing various assessments (Bashir & Bala, 2018). Plagiarism is more narrowly defined as taking credit for the works of others and often happens when a student fails to cite sources when authoring a paper (Pecorari, 2018). Cheating comes in many different forms. Examples include independently planned cheating, such as when a student brings notes to an exam, socially active and socially passive, involving a student actively helping another student cheating or unknowingly allowing a student to cheat (Garavalia et al., 2007).

Major factors in motivating students to commit academic dishonesty include poor time management, opportunity, and a lack of understanding of the seriousness of academic dishonesty (Harji et al., 2017; Khathayut et al., 2020). Studying online often leads to difficulty with time management, and there are often many opportunities for academic dishonesty, given the unmonitored nature of online assessment. Culture has also been found to play a role in admitting plagiarism, as individualism mediates the association between cultural background and admitting plagiarism (Kasler et al., 2020).

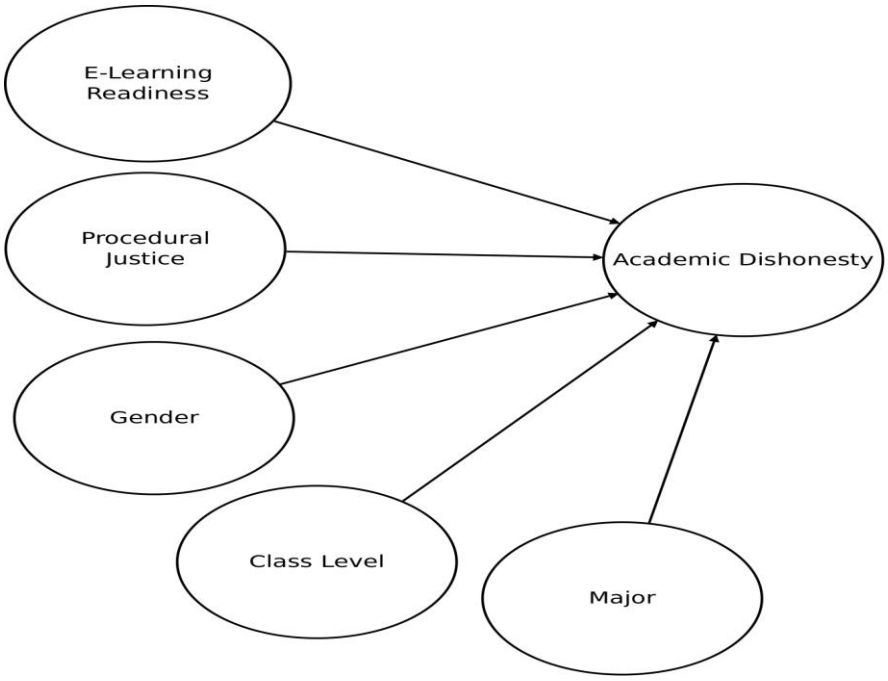
There is conflicting research involving differences by gender for academic dishonesty. Bokosmaty et al. (2019) found no difference, while Zhang et al. (2018) found some difference when accounting for gender. However, looking at academic dishonesty differences by gender in the context of e-learning should be looked at as the studies cited were all in a traditional context of face-to-face teaching and learning.

Studies in Asia have indicated that the punishment for academic dishonesty is often insignificant to discourage the behavior, at least in China (Zhang et al., 2018). A study conducted in Southeast Asia found that almost 100% believed academic dishonesty was wrong, yet half had committed at least one act of dishonest academic behavior (Bloomfield et al., 2021). Studies in Malaysia and Indonesia indicate that most Malaysian nursing students have committed academic dishonesty, and among Indonesian students, there was a relationship between moral integrity and acts of academic dishonesty (Abusafia et al., 2018). Lastly, inconsistencies have been found between policies and practice in Thailand when dealing with academic dishonesty (Bowen & Nanni, 2021). For example, due to poor English skills, there sometimes is tolerance of Thais copying from the Internet to complete assignments (Nagi & John, 2020).

Based on the review of literature, the following research questions were investigated. Figure 1 provides the conceptual framework that guided this study.

1. What are participants' perceptions of academic dishonesty, classroom procedural justice, and e-learning use?
2. What are the relationships of classroom procedural justice, gender, major, class level, and e-learning use with academic dishonesty?

Figure 1 *Conceptual Framework*



Methodology

Sample/Setting

The setting of this study was a university located in Thailand that utilized a full online learning approach. Stratified sampling was used based on gender as the criterion. The sample size was *N* = 112 drawn from a population of approximately 1,000 undergraduate students. Demographic results indicate the following within the sample: 50% were male, and 50% were female. For class level, 35% were freshmen, 21% were sophomores, 25% were juniors, and 19% were seniors. For major, 19% studied business, 31% studied education, 19% were English majors, 10% studied Information Technology, 4% were nursing majors, 10% were enrolled as religion majors, and 6% were science majors.

Research Design

A cross-sectional survey design was employed in this study. The two-part survey consisted of a demographics section which as the respondents indicated their major, class level, and gender. The second section consisted of 41 Likert items using a five-point scale 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neutral*, 4 = *Agree*, and 5 = *Strongly Agree*. The researcher at the site performed data collection. Surveys were given to students and collected. The reliability scores reported below were derived from the data that was collected.

The academic dishonesty scale was developed by Bolin (2004). This scale measures respondents' perceptions towards dishonest academic actions. Sample items included "It's fine to copy from another student during a test" and "It's okay to turn in work done by someone else." The 12-item scale had a Cronbach alpha of .93.

The e-learning readiness scale was developed by Alem et al. (2016). This scale measures respondents' perceptions of their readiness for e-learning. Sample items included "Using online learning enhances my effectiveness in my studies" and "Even in the face of technical difficulties, I am certain I can learn the material presented in online learning." The 14-item scale has a Cronbach alpha of .85.

The classroom procedural justice scale was developed by Chory-Assad and Paulsel (2004). This scale measures respondents' perceptions of the fairness of the teacher. Sample items included "The

grading scale for the course is fair" and "The types of questions on exams are fair." The 15-item scale has a Cronbach alpha of .94.

Data Analysis

Percentages were calculated to describe the categorical variables of the sample. Means, standard deviations, and confidence intervals were calculated for the continuous variables taken from the responses to the survey. Correlation and regression were also calculated to explain the relationship between academic dishonesty, e-learning use, and classroom procedural justice. The dependent variable academic dishonesty was found to be strongly left-skewed and thus violate the assumption of normality. To rectify this concern with normality, a log transformation of academic dishonesty was performed.

Results

For academic dishonesty, students indicated that they disagree with actions that demonstrate the practice of duplicitous scholarly behavior (*M* = 1.73, *SD* = 0.72, 95%CI [1.61-1.86]). For example, students indicated that they strongly disagree that "It's fine to copy from another student during a test." Moreover, students also indicated that they disagree that "It's OK to turn in work done by someone else." However, students only disagreed that "It's all right to collaborate on an assignment when the instructor asked for individual work." Table one provides the descriptive data for academic dishonesty and the items mentioned in this paragraph.

For e-learning readiness, students indicated they were neutral in terms of the perception of their readiness to study online (*M* = 3.52, *SD* = 0.51, 95%CI [3.42-3.62]). For example, students shared that "[They are] confident with computers." Students also mentioned that "[They] feel confident in [their] knowledge and skills of how to manage software for online learning." Table one provides the descriptive data for e-learning readiness and the items mentioned in this paragraph.

For procedural justice, students stated that they agree with items indicating fairness in the classroom (*M* = 3.70, *SD* = 0.55, 95%CI [3.60-3.81]). For example, the students shared that "the course's schedule of topics" was fair. In addition, students also mentioned that "the course attendance policy for online lectures" was also fair. However, students also shared that they were neutral towards the late work policy. Table 1 provides the descriptive data for procedural justice and the items mentioned in this paragraph. The items in this table provide an overview of responses to each scale, though not all items are shown. Table 2 provides summary statistics for all items in each scale.

Table 1 *Descriptive Statistics*

	M	***SD***	**95%CI**
Academic Dishonesty	1.73	0.72	1.61–1.86
It's fine to copy from another student during a test	1.49	0.8	1.34–1.63
It's okay to turn in work done by someone else	1.44	0.8	1.30–1.58
It's all right to collaborate on an assignment when the instructor asked for individual work	2.35	1.11	2.14–2.57
E-learning Readiness	3.52	0.51	3.42–3.62
I am confident with computers	3.49	0.83	3.33–3.65
I feel confident in my knowledge and skills of how to manage software for online learning	3.43	0.91	3.25–3.61
Procedural Justice	3.7	0.55	3.60–3.81
The course attendance policy for online lectures is fair	3.86	0.69	3.73–4.00
The course schedule of topics is fair	3.93	0.62	3.81–4.05
The late work policy is fair	3.4	0.72	3.26–3.54

Table 2 shares the correlation among the variables of this study.

Table 2 *Means, Standard Deviations, and Correlations with Confidence Intervals*

Variable	*M*	*SD*	1	2
1. Academic Dishonesty	1.78	0.72		
2. E-learning Readiness	3.53	0.51	.02 [-.17, .20]	
3. Procedural Justice	3.72	0.55	-.10 [-.28, .08]	.26** [.08, .42]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

Table 3 provides the regression analysis. The results indicated that there was a difference at the class level between seniors and freshman. If a student was a senior there is a 22% increase in the geometric mean of academic dishonesty in comparison to freshman ($b = 0.20$, $t(96) = 2.10$, $p < .10$). This indicates that seniors agree more with academically dishonest actions compared to freshmen. Another difference was found among majors. If a student was an education major there was a 16% decrease in the geometric mean of academic dishonesty when compared to business majors ($b = -0.16$, $t(96) = -1.76$, $p < .10$). This means that business majors agree more with academically dishonest actions when compared to education majors. Lastly, there was a 15% decrease in academic dishonesty for every one-unit increase in procedural justice. This implies that when the classroom is perceived as being fairer there, academic dishonesty is less acceptable.

Table 3 *Regression Results Using the Log of Academic Dishonesty as the Criterion*

Predictor	*b*	*b* 95% CI [LL, UL]	sr^2
(Intercept)	1.44**	[0.80, 2.08]	
E-Learning Readiness	-0.10	[-0.23, 0.03]	.02
Procedural Justice	-0.16*	[-0.28, -0.03]	.05
Class Level: Junior	0.02	[-0.16, 0.20]	.00
Class Level: Senior	0.20*	[0.01, 0.39]	.04
Class Level: Sophomore	0.07	[-0.12, 0.25]	.00
Gender: Male	0.03	[-0.11, 0.18]	.00
Major: Education	-0.17	[-0.35, 0.02]	.03
Major: English	-0.06	[-0.28, 0.15]	.00
Major: Info Tech	-0.17	[-0.41, 0.07]	.02
Major: Nursing	-0.15	[-0.52, 0.21]	.01
Major: Religion	-0.11	[-0.35, 0.13]	.01
Major: Science	-0.13	[-0.42, 0.17]	.01
		R^2 = .218* 95% CI[.01,.27]	

Note. A significant *b*-weight indicates the semi-partial correlation was also significant. *b* represents unstandardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively. * indicates $p < .05$. ** indicates $p < .01$.

The group means for class level are recorded in Table 4. The results indicate that there was an increase in the acceptance of academic dishonesty by class level. There was also a decline in procedural justice, with freshmen having the most positive views of fairness followed by a decline when compared to seniors. The values for e-learning readiness showed no trend.

Table 4 *Group Means*

Class	Academic Dishonesty	Procedural Justice	E-learning Readiness
Freshman	1.56	3.81	3.50
Sophomore	1.85	3.75	3.60
Junior	1.66	3.68	3.43
Senior	2.08	3.52	3.51

Discussion

Several conclusions can be made from the results of this study. First, the participants disagreed with behaviors associated with academic dishonesty. This could be due to the study context, as the data were collected from a Christian university. In this context, an emphasis is placed on morals and values that support honesty, and discourage deceitful and other morally questionable behaviors (Abusafia et al., 2018). However, most, if not all universities, are united in condemning academic dishonesty, which means the religious setting of the school may not have mattered (Thomas, 2020). In an academic setting, students are expected to avoid academic dishonesty and to condemn such behavior. Therefore, there may be a normative pressure to indicate on a survey that academically dishonest behaviors are bad when a student may not agree (Nagi & John, 2020).

Second, the relationships between the variables were weak. E-learning readiness was not related to academic dishonesty, but it did have a weak relationship with procedural justice. This implies that preparation for the online context does not matter when addressing challenges with academic dishonesty, but it does matter in terms of how students perceive the fairness of their learning experience. In addition, the relationship between academic dishonesty and procedural justice was weak, implying that fairness is not associated with how students perceive academic behaviors that are questionable (Rasooli et al., 2019). Literature indicates that if a classroom is unfair, students will respond through dishonesty to try and rebalance the perceived injustice (Lemon & Seaton, 2011). In this study, this concept was not corroborated (Elsalem et al., 2021).

A third finding was that senior students agreed more with academic dishonesty behaviors and perceived the school as less fair when compared to freshmen who disagreed more with dishonest academic behaviors and thought the classroom was fairer. The conclusion that these behaviors change over time cannot be made because this was not a longitudinal study. However, it is interesting that older, more experienced students show a decline in their perception of morally accepted academic behaviors when they have been under the guidance of the university for a longer period of time. This implies a breakdown in the moral training as students appear to be more open to questionable behavior even though they have been guided longer by the institution, or it may mean that older students are less prepared to study online (Al-araibi et al., 2019). The connection may be procedural justice. After negative experiences in the fairness of the classroom, students become more jaded and search for ways to return the balance of fairness academically through accepting questionable academic behaviors (Wallace & Qin, 2021). This implies a loss of optimism in the fairness of the academic system.

Recommendations

The results of this study lead to the following recommendations. First, schools should support fairness or procedural justice in the classroom through clear policies and consistent enforcement of those policies. When students are aware of the expectations and that they will be held to them, this can help in developing a climate of fairness (Ghani et al., 2020).

The second recommendation flows out of the first one. Schools need to define academic dishonesty in the local context and explain the expectations for acceptable behaviors and the consequences for dishonest academic behaviors (Harji et al., 2017; Khathayut et al., 2020). Communication of norms of behavior is critical in most organizations, and an academic setting is generally not any different regarding this matter.

For further study, exploring the differences between freshmen and seniors regarding the changing perceptions of academic dishonesty and procedural justice is worthy. The question to consider is whether the difference noted was because there were different students in each group, or if one group were tracked for several years, would this change still be present. The cross-sectional nature of this study prevents this question from being answered, but a longitudinal study would help clarify this.

A second study should explore religion in the context of academic dishonesty. This study was conducted at a Christian institution but comparing the results here to a secular institution can help develop a conclusion as to whether religion affects moral actions regarding academic dishonesty.

Limitations

The sample size for this study was adequate but still small (N = 112) given the number of variables involved. In addition, the cross-sectional nature of the research design means that longitudinal conclusions are not possible. There is also an assumption of truthfulness in terms of the responses. Topics such as academic dishonesty deal with ethical issues, and since respondents were aware that such behavior is unacceptable, this could have influenced their responses. Lastly, correlation does not imply causation. The relationship of academic dishonesty with procedural justice does not mean that one causes the other.

Conclusion

This study aimed to explore the relationship between academic dishonesty, e-learning readiness, and procedural justice. The results indicated that the relationship among these variables were non-existent or weak. Differences were found in terms of class level for academic dishonesty. It was also found that there was a decline in rejecting academically dishonest behaviors over time, while there was also a decline in perceptions of procedural justice.

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