

Applying the Cheating Triangle Model in Researching Students' Cheating Behavior: The Case of Vietnam

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Abstract

Cheating is a common type of misconduct in academia but not much research has been done on this subject, including in Vietnam. It is the responsibility of educational institutions both to transfer knowledge and to build their character and values of integrity. Increasing student academic cheating becomes essential and background for research. The research method uses a survey questionnaire to discover students' behavior in the cheating triangle framework. The obtained results will be analyzed using SPSS program, including reliability test (Cronbach's alpha), verify the value of the scale (EFA) and multiple linear regression. The result shows that there are 4 major factors affecting students cheating behavior. Understanding students' cheating behavior in academia will be beneficial for institutions to make long-term solutions to exhaust the tendency towards cheating.


Keywords: Behavior, cheating, cheating triangle model, Vietnam


Article Publication


 Published Online: 20-Feb-2022

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 [10.31305/rrjim.2022.v07.i02.012](https://doi.org/10.31305/rrjim.2022.v07.i02.012)

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Introduction

The study's rationale

The covid-19 pandemic has caused many transforms in the education system when school had to be shut down and switch to online learning. However, the digital gap is huge, especially for students in remote areas who both lack learning equipment and materials, the chances of cheating are becoming easier and easier. All of university in every region of our country is facing a serious challenge - Academic cheating. Therefore, it is indeed necessary to understand and prevent this behavior in time. In the book "Cheating on Tests: How to Practice, Detect, and Prevent," Cizek (1999) presents data showing an increase in student academic dishonesty over the past few decades. Cressey (1953) introduced the fraud triangle model in finance and it is now widely used in other research subjects. A clear understanding of the reasons that influence behavior helps in finding long-term solutions to prevent it. A clear understanding of the causes that influence behavior will help institutions find long-term solutions to prevent such behavior.

Purpose statement

This research hope to explore the factors in the cheating triangle model that have an impact on students' academic cheating behavior. Also study how to measure each factor influencing this attitude. Furthermore, the author synthesizes sub-components in the model's elements and validates the model on the impact of these factors on students' cheating behavior.

Research questions

To achieve the goals, we need to find answer these questions:

1. How do four parts of pressure influence students' behavior towards cheating?
2. How do two parts of opportunity influence students' behavior towards cheating?
3. How do four parts of rationalization influence students' behavior towards cheating?

Literature Review

Academic cheating behavior

Cheating is a popular problem and also is misunderstood due to the lack of knowledge and awareness. According to Burke and Sanney (2018), "Academic dishonesty, sometimes generically referred to as cheating, typically is defined under each institution's academic integrity policy but generally includes plagiarism (representing another's work as one's own), fabrication (falsifying information in an academic exercise), facilitation (helping another student commit academic dishonesty), and general misconduct (using unauthorized materials or engaging in unauthorized communication)".

Many different studies have given factors that influence on cheating tendency. Smith et al. (2007) divided into six factors: "lack of awareness, personal attitudes, availability of internet facilities, lack of competence, pressure and institution". L.P.Widianingsih (2013) used fraud scale with three factors: incentive, opportunity, and rationalization. Amiri and Razmjoo (2015) proposed two factors contributing to cheating: Major factors and minor factors. Major factors include individual, academical, cultural, technological and minor factors include curriculum demands, parental issues, personal characteristics. Base on cheating triangle model by Cressey (1953), my research decided to consider three factors which have influence on students' cheating behavior. They are: pressure, opportunity and rationalization.

Pressure

Burke and Sanney (2018) said that pressure in an academic environment comes from economic (loss of economic support from family), social (not meeting employer requirements), achievement (loss of scholarship) or time (not completing exercise in time). Therefore, it is thought that cheating was the only way to pass the course, the graduation goal replaced the goal of honesty. Sometimes pressure comes from peers, when seeing everyone cheating, even good students who don't intend to cheat will feel pressured and forced to cheat to stay competitive.

Opportunity

Opportunity has two parts: by the internet and by the institution. In the first part- by the internet, there are many avenues for cheating in the context of the strong growth of the Internet. In the traditional classroom, there may appear technology devices to assist cheating such as smartphones, bluetooth headsets, paper documents, etc. Besides, online classes have enabled students to cheat more easily when the control of the instructor is limited.

In the remaining part- by institution, students are more likely to cheat when their institution does not have the resources to detect and combat cheating. Sometimes chances of cheating are higher because lecturers are too busy and do not have enough time to verify whether students have plagiarism or not. The consequences of academic cheating are often mentioned, but without severe punishment mechanisms, cheating is still the worth risk. On the other hand, researchers assess that the environment creates opportunities for fraud to be carried out, such as no controls, ineffective controls or controllability beyond the ability of the organization (Ramos, 2003).

Rationalization

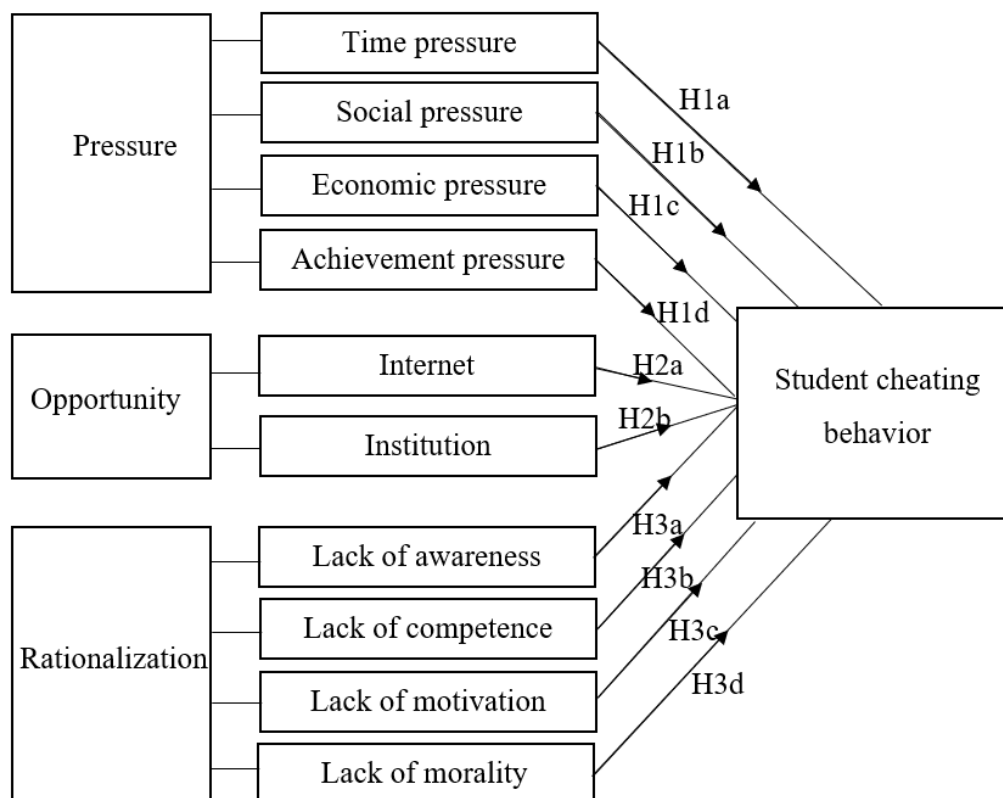
Kock & Davinson (2006) reveal that students justify cheating when they face unfair competition or when they believe their actions are still within the limits of acceptable behavior. It is also consistent with the opinion of Ramos (2003) that some individuals locate an attitude, personality or set of moral values that enables them to know and commit fraud strongly. The rationalization mechanism used by students can be known through "the

moral agency theory of moral disengagement”. Some cognitive mechanisms of moral indulgence include short of awareness, short of competence, short of motivation and morality.

Proposed model

The model given by Cressey (1953) explained the impact of three factors including pressure, opportunity and rationalization on students' cheating behavior. From the original model, the study synthesizes the small factors of the three main factors and examines the straight impact of these factors on students' cheating behavior.

Figure 1. Proposed model



Hypotheses

- H1a: Time pressure has a positive impact on students' cheating behavior
- H1b: Social pressure has a positive impact on students' cheating behavior
- H1c: Economic pressure has a positive impact on students' cheating behavior
- H1d: Achievement pressure has a positive impact on students' cheating behavior
- H2a: Internet have a positive impact on students' cheating behavior
- H2b: Institution have a positive impact on students' cheating behavior
- H3a: Lack of awareness has a positive impact on students' cheating behavior
- H3b: Lack of competence has a positive impact on students' cheating behavior
- H3c: Lack of motivation has a positive impact on students' cheating behavior
- H3d: Lack of morality has a positive impact on students' cheating behavior

Method

Research instruments

The Likert scale of 5 points are used for both dependent and independent variables based on the scale listed in Table 1. (From 1- Absolutely not agree to 5- Absolutely agree)

Table1: Variables

Pressure	Time pressure		Burke and Sanney (2018), Smith et al. (2007) and Amiri et al. (2015)
	Pr1	I have limited time to finish too many assignments	
	Pr2	I have too many subjects in a semester	
	Pr3	I have poor time management skill	
	Social pressure		
	Pr4	My parents expect too much from me	
	Pr5	I feel pressure from peers	
	Pr6	I fear failure in the future	
	Economic pressure		
	Pr7	I cannot apply for grants from organizations if my score is low	
	Pr8	I'm afraid I'll be cut off from my parents if I get a low score	
	Pr9	I'm afraid of losing money to learn a subject again because of not passing	
Achievement pressure			
Pr10	I want a good scoreboard		
Pr11	I feel pressured when my friends score higher		
Oppor-tunity	By the Internet		Burke and Sanney (2018) and Smith et al. (2007)
	Op1	I find documents easily on websites	
	Op2	I find that there are too many website that give me how to cheat	
	Op3	Modern equipments devices help me cheat undetected	
	Op4	Online learning makes it easy for me to cheat	
	By the Institution		Smith et al. (2007) and Husian et al. (2017)
	Op5	Normal lecture method does not make me acquire new knowledge that leads to cheating	
	Op6	Lectures are too busy so usually do not respond to develop my writing	
	Op7	Universities do not have many resources to prevent cheating	
	Op8	I passed the school's anti-cheat software easily with tricks	
Op9	Punishment for cheating is too light		
Op10	Instructors are too tolerant and easily forgive our cheating		
Rationali- zation	Lack of awareness		Smith et al. (2007) and Husian et al. (2017)
	Ra1	I do not understand what constitutes cheating	
	Ra2	I don't understand that learning is about promoting independent and critical thinking	
	Ra3	I do not see cheating as a problem	
	Lack of competence		
	Ra4	I do not have the confidence about my knowledge to prepare a good assignment	
	Ra5	I have poor research skills	
	Ra6	I have difficulty in studying abouts subjects	
	Lack of motivation		
	Ra7	I do not have the desire to learn	
	Ra8	I do not feel the need for knowledge in the future	
	Ra9	I am lazy and used to delaying work	
	Lack of morality		
	Ra10	Cheating is not a big deal in students' mind	
Ra11	Cheating is not against my morals		
Ra12	I can get special points for cheating so not cheating will cost me		
Cheating behavior	CB1	I am willing to cheat in my studies if I am under pressure	Lefebvre et al. (2011)
	CB2	I am willing to commit academic cheating if I has the opportunity	
	CB3	I am willing to cheat in my studies if I have the ability to defend	

Because this study seeks to explore how the 10 factors of pressure, opportunity, and rationalization affect students' cheating behavior, we used a sample of universities in all three regions in Vietnam. These universities are representative for economics, engineering and other subjects students in Vietnam. To achieve the aims, this study conducted a survey by sending questionnaires to students of all universities, received the answers and analyzed data using SPSS 20.0 software with 4 specific steps:

- Firstly: Do statistics describing the observable variables of the scale.
- Secondly: Assess the reliability of the scale- Cronbach's alpha.
- Thirdly: Verify the value of the scale by means of exploratory factor analysis - EFA.
- Fourthly: Analyze correlation and multiple regression.

Result

“Cronbach's Alpha”

Although the independent variable “By the Institution” has Cronbach's Alpha coefficient of 0.793 (the scale is linked together and measures well), the fifth observed variable is excluded because the total variable correlation coefficient is 0.186 (less than 0.3).

All other independent variables are relatively good scales because Cronbach's Alpha coefficients are all more than 0.75.

After eliminating inappropriate observational variables, we conducted a test to check reliability again. The result showed that the scales were good, reasonable and consistent (Table 2).

Table 2: Reliability

Variables	Cronbach's alpha	Number of variables
Time pressure	0.765	3
Social pressure	0.806	3
Economic pressure	0.756	3
Achievement pressure	0.756	2
By the Internet	0.815	4
By the Institution	0.793	5
Lack of awareness	0.838	3
Lack of competence	0.778	3
Lack of motivation	0.769	3
Lack of morality	0.762	3
Cheating behavior	0.759	3

Thus, the scale is reliable and can be used in next analysis.

“Exploratory factor analysis (EFA)”

The purpose of exploratory factor analysis is to remove the scales that are not sufficiently reliable and retain the scales with high adhesion, which can be grouped into factors that accurately reflect the variables measured in the model. First time conducting factor analysis, from the results of testing the appropriateness of the scale, the author rejected 5 variables including: Pr4, Pr5, Pr6, Op4, Op8 (The difference between the factor loading coefficients of these observed variables among the factors is less than 0.3). After removing the variables, continue to repeat the above procedure to obtain the second EFA analysis results and the following results.

Table 3. Exploratory factors analysis - EFA

KMO Measure of Sampling Adequacy.		.869
Bartlett's Test of Sphericity	Approx. Chi-Square	3111.342
	df	351
	Sig.	.000

“The KMO coefficients are greater than 0.5, indicating that factor analysis is appropriate. Bartlett's test is statistically significant at the 5% significance level, indicating that the observed variables are correlated in magnitude”. Table 3 showed that all the factor load of the observed variables satisfies the condition (factor load > 0.5) and had 9 factors is created (less than the number of factor in the beginning). They are “time pressure”, “economic pressure”, “achievement pressure”, “by the Internet”, “by the Institution”, “lack of awareness”, “personal attitudes”, “lack of competence”. The analysis also shows that the cumulative of variance is 68,716% (greater than 50%), it means there are 68,716% changes in cheating behavior explained by the observed variables.

“When analyzing dependent variables, the factor load of all observed variable satisfies the condition that the factor load is greater than 0.5”. Therefore, the scales selected with 27 observed variables for 9 variables in the model are guaranteed to be required after conducted EFA second.

“Correlation analysis”

Pearson correlation coefficient is used to evaluate the correlation between variables in the model. “The results of correlation analysis of variables had sig. <0.05 and showed that the correlation coefficient (r) has a value of $r > 0$, indicating that the variables are positively correlated”.

Table 4: correlation coefficient

	CB	TP	EP	AP	IT	Ins	LA	LC	LM1	LM2
CB	1	.507	.369	.482	.517	.519	.506	.463	.345	.454
TP		1	.291	.337	.307	.317	.340	.329	.355	.367
EP			1	.369	.212	.341	.253	.310	.266	.264
AP				1	.287	.265	.267	.259	.267	.255
Ins					1	.283	.302	.374	.319	.371
IS						1	.394	.363	.320	.361
LA							1	.320	.336	.270
LC								1	.298	.318
LM1									1	.363
LM2										1

The "cheating behavior" variable is strongly correlated with the “time pressure” variable, “by the internet” variable, “by the institution” variable and “lack of awareness” variable, and the coefficients are 0.507, 0.517, 0.519 and 0.506 respectively. The correlation between the “economic pressure” variable, “achievement pressure” variable, “lack of competence” variable, “lack of motivation” variable and “lack of morality” are 0.369, 0.482, 0.463, 0.345 and 0.454, so these five variables have a relatively correlation.

Because most of the independent variables in each model are quite close correlated, they can be analysed next step.

“Regression analysis and hypothesis testing”

Table 5: Regression between nine factors and students cheating behavior

Coefficients ^a								
Model	Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	.011	.278		.038	.969		
	TP	.164	.038	.177	4.275	.000	.716	1.397
	EP	.043	.054	.032	.799	.425	.762	1.312
	AP	.138	.027	.201	5.032	.000	.768	1.302

IT	.164	.030	.220	5.392	.000	.739	1.353
Ins	.154	.033	.198	4.740	.000	.702	1.424
LA	.158	.033	.193	4.729	.000	.739	1.353
LC	.131	.050	.107	2.600	.010	.727	1.376
LM1	-.052	.043	-.049	-1.199	.232	.741	1.349
LM2	.162	.062	.108	2.620	.009	.717	1.394
a. Dependent Variable: HV							

The results of the regression analysis in table 5 showed that there are two factors including "economic pressure" and "lack of motivation" have sig values are 0.425 and 0.232 (more than 0.05) so they do not impact on students' cheating behavior. We can conclude that the H1c and H3c were rejected. Statistical results of the regression analysis resulted that "time pressure", "achievement pressure", "by the internet", "by the institution", "lack of awareness", "lack of competence" and "lack of morality" all have sig values less than 0.05. That means these seven factors have impact on dependent variable so the hypotheses H1a, H1d, H2a, H2b, H3a, H3b, H3d were improved.

From the above result, there is regression model:

$$CB = 0.011 + 0.164*TP + 0.138*AP + 0.164*IT + 0.154*Ins + 0.158*LA + 0.131*LC + 0.162*LM2$$

Discussion and Conclusion

Reducing and preventing academic cheating is the responsibility of each institution and ourselves. To do that, we need to understand what factors have influence on this behavior. It is also the goal of this study. To find the answer, we carry out by both qualitative and quantitative research.

The author gives management implications to reduce the components of the 3 groups of pressure, opportunity, rationalization of the cheating triangle and student cheating behavior in Vietnam. Accordingly, there are three managerial implications given based on three groups of factors: (1) "Minimize the pressure students face" (including "time pressure" and "achievement pressure"); (2) "Controlling opportunities for students to cheat" (including "by the Internet" and "by the Institution"); and (3) "Preventing rationalization of fraud" (including "lack of awareness", "lack of competence" and "lack of morality"). Besides, the author has summarized and proposed some solutions for institutions and related subjects to refer.

(1) "Minimize the pressure students face" (including "time pressure" and "achievement pressure")

Firstly, students need to know how to balance the time to complete assignments with time spent on other things. If the time management skill is not good, it is necessary to use tools to help you manage your time well such as Todolist, Google calendar,... Students also need to limit the number of clubs they participate in and time for extracurricular activities should not exceed the study time. We should not work too soon because the student's task is to acquire knowledge methodically.

Secondly, the institution can also help students reduce time pressure by not setting too high their extracurricular goals, setting the maximum number of clubs that students can join and not pass that number. Besides, university should teach students basic time management skills.

Thirdly, university and teacher need to create justifiable expectations about grades, establish a culture of recognition and reinforce that getting an "A" on a course is not the norm. Focusing on real knowledge rather than grades should be at the forefront of the teaching and learning process; holding discussions about future workplace expectations in terms of competencies, qualities, and emphasis that score is not everything.

Fourthly, each university should have an anonymous information page to support and advice on pressure problems that students are facing.

(2) “Controlling opportunities for students to cheat” (including “by the Internet” and “by the Institution”)

Basically, the opportunity control process should have 4 steps:

- First step, make cheating more difficult;
- Second step, change the atmosphere to help students not accept dishonest behavior;
- Third step, increase the probability of being caught and punished;
- Final step, increase punishment.

(3) “Preventing rationalization of fraud” (including “lack of awareness”, “lack of competence” and “lack of morality”)

Instructors can reduce cheating by supplying comprehensive instructions information so students understand what to expect, and examples of standard behavior. Ensure that students understand regulatory requirements against academic cheating, knowing how to respect academic integrity.

To help students be confident with their knowledge, the teacher should create a mini game to list the knowledge that students need to remember. At the end of each chapter, it would be interesting if the lecturer systematized the knowledge by giving students practical case studies, building a Mind map of the key knowledge.

The university instructs students to do the right thing or to penalize themselves for doing a wrong thing, thereby weakening the third component of the cheating triangle. Students recognize the importance of having a code of self-respect to defeat the reasons why students cheat; and institutions also need to join hands to support students in forming personal ethics.

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