

Detection of Academic Dishonesty: A Perspective of the Fraud Pentagon Model

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This study examines the dimensions of Crowe's Fraud Pentagon Theory such as pressure, opportunity, rationalisation, capability and arrogance to detect students conducting academic dishonesty. This study also examines the influence of pressure, opportunity, rationalisation, capability and arrogance on academic dishonesty. The data collection method uses a questionnaire with a purposive sampling method. Research samples were 222 students of the Accounting Study Program at the Faculty of Economics and Business, University in Indonesia. The regression model used in this study is a multiple linear regression model with the help of SPSS version 25.0. The results of this study indicate that pressure, opportunity, rationalisation and capability have a significant positive effect on academic dishonesty. However, arrogance does not significantly influence academic dishonesty.

Key words: *Academic dishonesty, fraud pentagon, arrogance*

Introduction

Education plays a vital role in the growth of a country and becomes one of the benchmarks of the country's progress. A good educational process then produces a generation that is ready to face all changes in the era of globalisation as it is today. Higher education is expected to be able to produce professional, qualified, knowledgeable staff and possess morals, both morally and professional ethics (Bujaki et al., 2019). However, academic dishonesty can hamper the process of development. When students are accustomed to committing academic fraud, then when in the world of work, it is likely also to commit fraud (Tuanakotta, 2010).

The interesting phenomenon of higher education right now, there are many fraud practices which are called academic dishonesty. Although academic dishonesty has been investigated,

nevertheless until now, academic dishonesty remains an interesting topic in the world of education, the biggest topic on campuses throughout (Cronan, 2018). The high level of academic dishonesty by students is an important issue to be followed up. The values they hold now can carry over into professional life or the world of work (Alleyne & Phillips, 2011). Research by Malgwi and Rakovski (2009) found 740 students, 55% participated when academic fraud occurred, 36% felt, and only 15% reported other students who committed fraud. In line with the study of Taradi and Dogaš (2012), the 662 students (97%) claimed to use several methods of fraud, 78% claimed to have been involved in at least one fraud method and to commit fraud six times was 50%. Only 2% of students reported fraud on other students. More than 18,000 students in 61 colleges in the United States and Canada, who commit academic dishonesty around 70% (Stone et al., 2010). 75% of the total of 5000 respondents on campuses in the USA are involved in academic dishonesty (Tonasa & Setyorini, 2019).

University has a variety of appropriate methods on how to overcome and prevent academic dishonesty (Sari et al., 2020). The interesting thing to get attention in the context of academic dishonesty control efforts is related to behavioural issues. Not only related to fraud patterns, but also related to questions about how and the causes student behave fraudulently in the academic process. Academic dishonesty needs to be followed up by promoting preventive strategies or prevention efforts. In general, academic dishonesty can easily occur if there is no early prevention and detection. To be able to minimise the behaviour of academic dishonesty, efforts are needed to study various factors that cause an individual to do the academic dishonesty. Academic dishonesty is caused by human behaviour so to prevent academic dishonesty from happening, it must first be identified various factors that cause the behaviour. Academic Dishonesty is truly a cause for concern and is of particular concern to be immediately minimised, eradicated and terminated.

This research contributes knowledge by explaining the factors that influence students to commit academic dishonesty. Individual factors and situational factors are able to influence the intensity of academic dishonesty carried out by students. Tonasa and Setyorini (2019), Ellahi et al. (2013), Malgwi and Rakovski (2009), Marsden et al. (2005) stated that academic dishonesty was carried out because it was based by fraud triangle theory namely pressure, opportunity and rationalisation. Three elements why a person commits fraud, namely pressure, opportunity, and rationalisation, these three elements are often called the Fraud Triangle Theory (Yendrawati, 2019). Furthermore, fraud diamond theory is the addition of capability (Pamungkas et al., 2018; Wolfe & Hermanson, 2004). There is a theory that explains someone fraud, namely Crowe's Fraud Pentagon Model that was raised by Marks, (2012) adding elements of competence and arrogance as factors that contribute to encouraging someone to commit fraud (Irwandi et al., 2019; Pamungkas., 2018; Yusof, 2016).

Literature Review and Hypothesis Development

Fraud Pentagon Theory

Crowe's fraud pentagon theory is a refinement of the fraud diamond theory put forward by Wolfe & Hermanson, (2004) mentioning five factors influence academic dishonesty, namely pressure, opportunity, rationalisation, capability and arrogance. In 2010, Jonathan Marks, a partner-in-charge at Crowe Horwath LLP, developed the pentagon fraud theory, which was an extension of the fraud triangle theory previously proposed by Cressey in 1953. Marks added two elements that were the drivers of fraud. In this theory, Marks develops competence and arrogance as factors that play a role in encouraging someone to commit fraud (Pamungkas et al., 2018; Wahyudi et al., 2019; Yusof, 2016). Marks (2012) saw the difference between the perpetrators of fraud in the Cressey era and the perpetrators of fraud in his own time. According to Marks (2012), the perpetrators of fraud have more information and access to information and are increasingly independent-minded.

Pressure on Academic Dishonesty

Artani (2018), Pamungkas and Utomo (2018) stated pressure could come from those closest to him, such as his parents, relatives, or friends. Students who commit academic dishonesty behaviour are influenced by pressures such as difficulties in understanding lecture material, the presence of many deadline assignments at one time, poor management of time. One of the most fundamental factors of a person or student doing academic dishonesty is due to a lot of internal pressure and even external pressure from students. Thus, the higher the pressure, the academic dishonesty will also be higher. McGregor et al. (2016) analysed 598 Midwestern University students in Chicago to find out academic dishonesty behaviour by students. Research conducted by Alviani et al., (2019); Bujaki et al., (2019); Firdaus and Solicha, (2018), Malgwi and Rakovski, (2009), Marsden et al. (2005), McGregor et al. (2016), Mustikarini et al. (2017) found that pressure variables influenced academic dishonesty behaviour. The higher the pressure felt by students, the greater the possibility of choosing shortcuts by fraud. Someone who has many pressing demands tends to break the existing rules. But on the contrary, if someone in a situation does not have a lot of pressing demands, then that person tends to obey the rules.

H1: Pressure has a positive effect on academic dishonesty

Opportunity on Academic Dishonesty

Becker et al. (2006) explains that opportunity is a driving factor for academic fraud. Someone can commit fraud because of the opportunities and benefits that come from other sources.

This is consistent with the findings of Alviani et al. (2019) that opportunities influence the academic dishonesty behaviour of students. According to Abbasi (2012), the opportunity for fraud can occur when there is a lack of control and examination in the detection and prevention of various crimes that create opportunities. Abbasi (2012), conducted a study of more than 590 students at Midwestern University that there was an influence of opportunity on academic dishonesty. Opportunities are generally characterised by aspects of supervision, weak internal control, and low compliance with an internal control (Tuanakotta, 2010; Wahyudi et al., 2019). High opportunity to improve academic dishonesty behaviour is also higher (Abbasi, 2012; Firdaus & Solicha, 2018; Malgwi & Rakovski, 2009; McGregor et al., 2016; Trautner & Borland, 2013).

H2: Opportunity has a positive effect on academic dishonesty

Rationalisation on Academic Dishonesty

Rationalisation is a self-justification or a wrong reason for a wrong behaviour (Albrecht et al., 2019). Academic dishonesty is not a wrong action but has become a habit of every student. This assumption is what convinces students to commit academic fraud. The higher one's capability to rationalise wrong behaviour, the greater the decision to commit academic fraud. A student who has a high rationalisation of fraud or is accustomed to making excuses will consider fraud behaviour that he did is right. Alviani et al. (2019) found that rationalisation influences student academic dishonesty behaviour. Firdaus and Solicha (2018) state that rationalisation has a positive effect on academic dishonesty behaviour. In academic dishonesty rationalisation factors have a positive effect on student fraud behaviour (Becker et al., 2006; Malgwi & Rakovski, 2009; Trautner & Borland, 2013). Rationalisation of academic dishonesty behaviour is a condition that makes academic dishonesty behaviour from wrong or improper behaviour become right by giving reasonable reasons or justification for fraud behaviour to be carried out. Fraudsters has a variety of ways to rationalise the actions they take to commit fraud is considered acceptable (Albrecht et al., 2019).

H3: Rationalisation has a positive effect on academic dishonesty

Capability on Academic Dishonesty

Wolfe and Hermanson (2004) state that a lot of fraud does not occur if someone does not have the capability of fraud. This opinion is reinforced by the results of research conducted by Byrne and Trushell (2013) with a sample of 292 FEB University of Brawijaya Accounting Department students, found that the capability had a positive influence on the academic dishonesty behaviour of accounting students. According to Wolfe and Hermanson (2004), perpetrators of fraud also have the characteristics and abilities needed to be the right people

to do it, and that person recognises that certain opportunities exist and can turn them into reality. Wolfe and Hermanson (2004) said that the perpetrators of fraud had the skills needed so that the person could commit fraud in this case; students were able to conduct academic dishonesty. Furthermore, the perpetrators believe that the opportunities that exist can be exploited to commit the crime or cheat. This is consistent with the results of this study conducted by (Firdaus & Solicha, 2018). Thus, this study suspects that the higher the abilities of students, the higher the level of fraud or academic dishonesty.

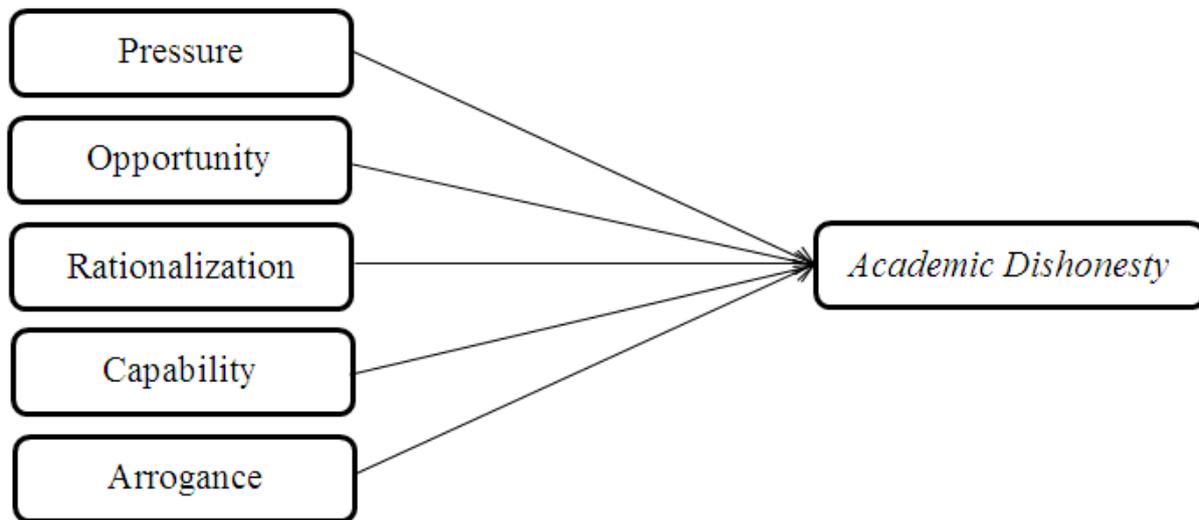
H4: Capability has a positive effect on academic dishonesty

Arrogance on Academic Dishonesty

According to Marks (2012), arrogance is the superiority or greediness possessed by perpetrators of fraud. Fraudsters believe that the existing regulations or organisational policies do not apply to them. The perpetrators of this fraud completely ignored the consequences of the actions they had taken. Muhsin et al. (2018) and Pamungkas et al. (2018) argue that arrogance is an exaggeration that is shown by someone and is a reflection of pride because it has more capability than other people. Kakati (2019) argues that the perpetrators of fraud are selfish but smart, experienced and understand internal control well, but he has low ethics. Brunell et al. (2011) conducted research on narcissism and academic dishonesty. Research conducted on 199 introductory psychology class students shows that students who feel themselves are superior to other students and want to be admired tend to be more likely to commit academic dishonesty. Marks (2012) explains that arrogance is an attitude of superiority and greed from the part of someone who believes that internal control does not apply to him. Antawirya et al., (2019) arrogance are shown by someone who feels himself more than anyone else and can arise when someone feels superior in themselves or is able to commit fraud. Theoretical Framework in this study is presented in Figure 1.

H5: Arrogance has a positive effect on academic dishonesty

Figure 1. Theoretical Framework



Methodology

The research approach uses mixed methods, namely, quantitative and qualitative approaches. The mixed-methods design used concurrent embedded as a mixed-method strategy that implements one stage of collecting quantitative and qualitative data at one time (Creswell, 2012). Quantitative methods as primary methods in the form of questionnaires to obtain main data and qualitative methods as secondary methods to obtain supporting data. The primary concurrent embedded method with a quantitative approach aims to examine and analyse the influence of the pentagon theory fraud dimensions, namely pressure, opportunity, rationalisation, capability and arrogance on academic dishonesty behaviour. Data collection techniques in the primary method of the quantitative approach using questionnaires and secondary methods with qualitative approaches are used to describe the results of quantitative analysis using interview techniques.

Population and Research Samples

This study has a population of all undergraduate students in the management and accounting program who were active in the odd semester of 2019/2020 at University in Indonesia. This study uses sampling-based on certain criteria to obtain representative samples. The purposive sampling method of this research completed some criteria, namely management and accounting undergraduate students in the odd semester of 2019/2020. Students were doing their final assignments/thesis, and the students were active/not on leave.

Research Variables and Operational Definitions

The variables in this study are academic fraud, pressure, opportunity, rationalisation, capability and arrogance are presented in Table 1.

Table 1: Operational Research variables

Variable	Definition	Indicator	Reference
Academic Dishonesty (Y)	Dishonest behaviour that violates ethics in the academic sphere at the level of students, lecturers, and administration which is detrimental to other parties.	<ol style="list-style-type: none"> 1. Copy other people's tasks. 2. Quoting without entering information in the bibliography. 3. Buy other people's scientific work/ assignments. 4. Make notes for fraud during exams. 5. Copy other people's answers during the exam. 6. Helping others cheat. 	Malgwi dan Rakovski, (2009).
Pressure	Encouragement or motivation to achieve goals which are limited by the inability to achieve them, causing someone to commit acts of fraud	<ol style="list-style-type: none"> 1. Student academic rank. 2. Student academic failure. 3. Academic competition between students. 4. Academic dissatisfaction with students 	Albrecht (2012)
Opportunity	Conditions when someone is in situations and conditions that make it possible to commit fraud and avoid the risk of being caught by someone due to committing such fraud.	<ol style="list-style-type: none"> 1. Lack of control to prevent and detect violations. 2. Inability to judge the quality of an outcome. 3. Failure to discipline the perpetrators of fraud. 4. Lack of access to information. 5. Ignorance, apathy or indifference, and inadequate capacity of the injured party. 6. Lack of inspection. 	Albrecht (2012)
Rationalisation	Self-justification for a wrong behaviour as an attempt to justify fraud behaviour committed	<ol style="list-style-type: none"> 1. Fraud is often done. 2. The perpetrators commit fraud only when they are pressed. 	Albrecht (2012)

		<ul style="list-style-type: none"> 3. Unfair treatment from campus. 4. There is no aggrieved party. 5. The results of fraud to protect the good name of their parents and himself. 	
Capability	Personal traits and abilities, which play a major role in committing fraud, most fraud will not occur without the right person with the right capability to commit fraud.	<ul style="list-style-type: none"> 1. There is no guilt Being able to find a gap 2. Able to use illegal tools 3. Choose a strategy 	Wolfe dan Hermanson (2004)
Arrogance	Superiority or greedy nature of the perpetrators of fraud. Frauders believe that the existing regulations or organisational policies do not apply to them. The perpetrators of this fraud completely ignored the consequences of the actions they had taken.	<ul style="list-style-type: none"> 1. Feel superior 2. Protect self-esteem 3. Need recognition 	Mark (2012)

Result and Discussion

Respondents used in this study were active students of S1 Accounting and Management, Faculty of Economics and Business, University in Indonesia from 2017 to 2018 with a total of 226 questionnaires. Data collection for more than one month by distributing in person or interviewing. Questionnaires were filled out and returned to the researchers as many as 224, and two respondents did not return the questionnaire. After checking the questionnaire, there were 222 questionnaires because two questionnaires could not be used. The questionnaire is categorised cannot be used if the questionnaire is not complete in its filling, positive and negative sentences are filled with the same value so that the respondent is considered not serious in filling it. Based on the explanation above, it can be seen that 222 questionnaires can be processed as samples in this study so that the usable response rate is 99.10%.

Table 2: Hypothesis Test

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.924	.083		7.888	.000		
	Pressure	.062	.025	.189	3,760	.001	.950	1.178
	Opportunity	.074	.046	.095	1,856	.040	.810	1.087
	Rationalisation	.032	.025	.084	1,644	.036	.907	1.116
	Capability	.050	.026	.139	2,185	.047	.992	1.135
	Arrogance	.034	.023	-.099	-0,271	.078	.898	1.127

Based on the statistical test results in Table 2, the regression model equation is obtained as follows:

$$Y = 1,924 + 0.62 X_1 + 0.74 X_2 + 0.032 X_3 + 0.050 X_4 + 0.034 X_5 + \varepsilon$$

Pressure on Academic Dishonesty

Based hypothesis test, it can be seen that the pressure can significantly influence academic dishonesty seen 3.760 with a significance level of $0.001 < 0.05$. Partial test (t) on the research results showed that there was a significant positive effect of academic pressure on academic dishonesty; the second hypothesis was accepted. This research is in line with Rusdi et al. (2019) pressure exerts a significant influence on the occurrence of academic fraud. This shows that the pressure felt by students during college has an impact on academic dishonesty behaviour. Albrecht et al. (2019) that academic pressure influences the level of fraud behaviour. People who feel pressured because of the various burdens they have can do things that tend to ignore the existing rules so that the person is a fraud. These results support research conducted by Malgwi & Rakovski, (2009) who concluded that pressure could affect academic dishonesty. The high level of competition with friends also causes respondents to be less motivated to get a very high achievement index.

In this study has nine questions to respondents to find out the types of pressures that influence accounting students in committing fraud. The results of the study obtained three questions with the highest average, namely the desire to get a high-paying job, family members are very hopeful of the success of students and the existence of competition with friends. Based on the results of the interview, it can be concluded that academic pressure that appears to get good grades is still a dominant factor in a pressure that is often faced by students. This is found in the statement "I must get good grades on individual assignments in order to get a

good ranking by fraud". When students face difficulty understanding material or questions on an exam, and they are required to pass the exam, the pressure felt by students will increase. This is in line with Tonasa & Setyorini, (2019) stating that students who cannot do assignments or questions and are required to get good grades will feel pressured so that they will eventually commit academic dishonesty.

Opportunities on Academic Dishonesty

Based on the results of the hypothesis test, it can be seen that the opportunities can significantly influence academic dishonesty seen 1.856 with a significance level of $0.040 < 0.05$. Partial test (t) on the results of the study showed that there was a significant positive influence of the opportunity on academic dishonesty, the third hypothesis was accepted. The results of this study are consistent with research by Houdek, (2017) who stated that there was a significant influence of the opportunity to commit fraud on academic dishonesty behaviour. The theory in this study is the pentagon fraud theory which is able to verify the effect of opportunity on academic dishonesty. Students who are in class and who have broad opportunities will tend to feel free to commit academic dishonesty. For example, when the class supervisor does not supervise well students will feel they have ample opportunity to commit academic fraud. So, the opportunity to do academic dishonesty is a combination of time and situation owned by someone to commit academic dishonesty.

Researchers give questions to respondents to determine the pressure in what form they feel based on existing questionnaires. Based on the results obtained by researchers, found three items that have the highest score, namely; "My lecturer is not concerned about how our group gets data/presentation material that is important when the presentation is good". "I copied the answers of my friends' individual assignments because I did not understand the work to be done" and "I cheated when the exam supervisor was busy playing laptop or with his own business". The exam supervisors neglect to carry out their duties, namely to supervise well and carefully, and the exam supervisors who do not take strict action against students who commit fraud can easily commit academic fraud. This makes an opportunity that is used by students to commit fraud. Based on the statements above an opportunity to commit fraud will be present when there are weaknesses in a system, lack of access to information, and lack of supervision.

Rationalisation on Academic Dishonesty

Based on the results of hypothesis testing, it can be seen that rationalisation can significantly influence academic dishonesty seen 1.644 with a significance level of $0.036 < 0.05$, then H3 is accepted. These results prove that the rationalisation factor influences academic dishonesty. These results support the research of Alviani et al. (2019) because the rationalisation is done

by the perpetrators of fraud to reduce guilt in themselves and to justify their acts of fraud. In addition, in terms of norms and ethics of fraud, it is indeed not justified, but for students who are oriented to the value of an act of fraud, it becomes perfectly natural to do. The theory in this study is the pentagon fraud theory which is able to verify the effect of rationalisation on academic fraud. Supported by previous research, Hamid et al. (2017), Houdek, (2017), Wong and Carducci (2016) and the theory on which this research is based is fraud theory pentagon, the results of this study reinforce previous research that a person's rationalisation can influence to commit academic fraud.

Based on the results obtained by researchers, three-question items get the highest total score, namely: 1) in the indicator "fraud results to protect the good name of parents and themselves" and the question "I let my friend copy the answers to my assignments as a form of solidarity"; 2) in the indicator "no party is harmed" and the question "I do not harm anyone when I search the internet when there are individual tasks or group assignments"; and 3) in the indicator "the perpetrator fraud only in a state of urgency" and the question "I cheat my friend's answers during the exam and only when pressed". These three questions make the strongest reason why students at the Faculty of Economics and Business University in Indonesia rationalised the academic fraud committed. Alviani et al., (2019); Widianingsih, (2013) which states that there is a significant effect of rationalisation of academic dishonesty.

Capability on Academic Dishonesty

Based on the results of the hypothesis test, it can be seen that rationalisation can significantly influence academic dishonesty seen 2.185 with a significance level of $0.047 < 0.05$, then H4 is accepted. In academic dishonesty, the perpetrators of fraud must have adequate characteristics and abilities to commit fraud. Students who commit fraud tend to have the capability to know situations and conditions and take advantage of the weakness of the existing supervision so that they can control themselves so as not to be detected in committing fraud. The theory in this study is the pentagon fraud theory which is able to verify the effect of capability on academic fraud. Pentagon fraud theory states that one of the factors that cause someone to commit academic fraud is because of the capability of individuals. Without one's capability, students will not commit academic dishonesty. The results of this study are the same as those of Drye et al. (2018), Meitriana et al. (2019) and Rusdi et al. (2019). This research can provide a theoretical contribution in the form of empirical evidence about the factors that influence student behaviour in committing academic fraud by using the concept of pentagon fraud.

Arrogance on Academic Dishonesty

According to Marks (2012), arrogance is the superiority or greediness possessed by perpetrators of fraud. They believe that existing internal regulations or policies do not apply to them. The perpetrators of this fraud completely ignored the consequences of the actions they had taken. The test is carried out through the significance of the arrogance variable regression coefficient. From the test, it was found that the negative coefficient value was -0.271 and sig-t was 0.078. Muhsin et al., (2018), that arrogance has no effect on student academic dishonesty behaviour because students have low arrogance. The results of this study do not support the Pentagon Fraud theory. The results also show that among the five elements of pentagon fraud such as pressure, opportunity, rationalisation, and capability, which will be considered as the most influential potential, namely: expensive tuition fees so that students are entitled to graduate, students feel they are not harming anyone.

Based on the results of an interview with one of the students, it was found that busy playing basketball made him neglectful of studying. Academic dishonesty becomes an easy thing to do in this situation. Researchers found several things and the same conditions occur because of busy events outside of college to make a student commit academic dishonesty. The effect of inviting friends to cheat also often when doing assignments and exams is the beginning of fraud, as said by one student informant. Based on information from interviews, most respondents answered that they only use 1-2 hours of study time per day. Twelve hours is relatively short to study the many courses taken. Busy events outside of lectures that are quite time-consuming are also a pressure factor for students to commit academic dishonesty.

The results of observations and interviews that have been made known that the types of academic dishonesty that are often done or often encountered by students of Accounting and Management in the classroom during exams include: using electronic aids, such as smartphones to browse exam answers or to take notes, take notes small notes at certain places, such as a calculator, a ballpoint pen, or on a limb, ask questions or see a friend's answer. Next, give a cheat sheet or show answers to the exam to a friend, cooperate with friends during the exam, manipulate attendance and deadlines for assignments and examinations and in assigning assignments and take-home exam, the type of fraud that often occurs is plagiarism. Hypothesis Testing Results in this study are presented in Table 3:

Table 3: Hypothesis Testing Results

Hypothesis	Relationship Between Variables	Conclusion
H1	Pressure → Academic Dishonesty	Accepted
H2	Opportunity → Academic Dishonesty	Accepted
H3	Rationalisation → Academic Dishonesty	Accepted
H4	Capability → Academic Dishonesty	Accepted
H5	Arrogance → Academic Dishonesty	Rejected

Conclusion and Recommendations

Family members are very hopeful of the success of students and of the five elements of pentagon fraud, including pressure, opportunity, rationalisation, capability and arrogance that most influence on academic dishonesty is rationalisation. However, arrogance does not significantly influence academic dishonesty. Practical contributions can be input for students about the importance of upholding ethical values and the application of discipline in carrying out their duties and responsibilities. The limitation of this study is that researchers only took research samples from undergraduate students in Accounting and Management from two universities in Indonesia so that they could not represent academic fraud that occurred in S2 or S3 students at other universities in Indonesia.

Suggestions for further researchers are expected to add more research samples from S2 and S3 students, faculties and other departments and other universities. Further research can add and develop factors or research variables by finding other indicators that can be used as variables that influence students in academic dishonesty so that faculty and postgraduate managers are more effective in reducing the level of student academic dishonesty.

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