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The Influence of Artificial Intelligence on Student's Intention to Commit Academic Fraud with Family Culture as a Moderating Variable

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Abstract

The rapid advancement of artificial intelligence (AI) has reshaped learning processes while increasing the risk of academic misconduct. This study examines the influence of artificial intelligence on students' intentions to engage in academic fraud, with family culture as a moderating variable. A quantitative survey was conducted involving 120 Accounting students from four higher education institutions in Batam City, Indonesia, using purposive sampling. Data were analyzed through moderated regression analysis. The findings indicate that artificial intelligence significantly affects students' intentions to commit academic fraud, while family culture moderates this relationship in a context-dependent manner. These results suggest that family culture does not consistently function as a moral constraint and may become permissive under certain conditions. This study contributes by integrating artificial intelligence and micro-level socio-cultural factors into the analysis of academic misconduct.

Keywords: Artificial Intelligence, Academic Fraud, Family Culture

1. Introduction

The fast advancement of Artificial Intelligence (AI) has had a wide-ranging impact, encompassing both positive and negative aspects across society, particularly in the field of education. Education, as a crucial pillar in shaping character and academic achievement, now faces new challenges and opportunities in the AI era. The ease of access to information facilitated by technology, such as ChatGPT, certainly supports learning and information acquisition. However, on the other hand, the sophistication of this technology also poses a threat to educational integrity through the potential rise in academic fraud.[1]

On Thursday, April 24, 2024, Prof. Chan T. Basaruddin, a member of the National Accreditation Board for Higher Education's Executive Board (BAN-PT), stated that the advancement of AI, especially Generative AI (GenAI), has proven to improve students' understanding of learning materials and is expected to benefit all parties in the education sector. Despite these significant benefits, challenges such as students' low learning capacity, limited technological understanding among lecturers, and inadequate access to technology—particularly in remote, frontier, and underdeveloped areas (3T)—remain significant obstacles. The enforcement of regulations regarding AI usage is also essential in preventing academic violations, with a need for more comprehensive national regulations. According to Prof. Dr. Sri Suning Kusumawardani from Education, Culture, Research, and Technology Ministry, a national policy on AI usage is expected to be released

[1] Available at: *"Mengatasi Peluang Mencontek Mahasiswa yang Kian Besar"* (Kompas.id, 2023)

in 2024, although the exact date has yet to be announced.[2]

As reported by osc.medcom.id, the progress of AI has brought many positive effects, including improved productivity in human resources, advancements in healthcare, increased security in various aspects of life, and convenience in managing tasks through smart home devices. Nevertheless, AI also poses negative effects that raise public concern, such as the replacement of human jobs by intelligent machines, data privacy and security breaches, biased information, and excessive dependence on technology. [3] Another negative impact of easily accessible and often free AI technology is the emergence of academic fraud, which threatens to undermine the quality and integrity of the academic system. If this continues, it may endanger the quality of the nation's human resources (Limbong & Novianti, 2021).

One of the initiatives to raise the caliber of human resources is through higher education. Universities serve as formal institutions that aim to expand students' knowledge in their chosen fields as preparation for the workforce. Therefore, higher education institutions must emphasize the importance of quality learning processes to help students achieve optimal outcomes. However, in reality, many students tend to focus only on results, prompting them to commit fraud in pursuit of academic success. This behavior is known as academic fraud (Limbong & Novianti, 2021).

Academic Fraud (AF) refers to unethical or dishonest behavior in the academic process. This act clearly contradicts established ethical norms and includes behaviors such as cheating, falsification, plagiarism, and copying during assignments or examinations. As a result, the grades obtained do not reflect individual effort. Many students still believe that academic success is primarily measured by GPA, which is determined on a scale of 0.00 to 4.00 at the conclusion of each semester using the cumulative scores of all subjects (Limbong & Novianti, 2021). Common forms of academic fraud during exams include cheating, plagiarism, forging signatures, preparing hidden notes, copying from peers or the internet without citing sources, asking and sharing answers, and other dishonest practices. However, this study focuses not on the actual behavior of academic fraud, but rather on students' willingness to engage in academic fraud.

Intention is a critical component in the formation of behavior. According to According to the Theory of Planned Behavior (Ajzen, 1991), attitude, subjective standards, and perceived behavioral control all have an impact on intention, which comes before behavior. Consequently, knowing the elements that affect students' propensity to engage in academic fraud, especially in the context of AI usage, is a vital first step in preventing academic violations.

As stated by the Indonesian Ministry of Health, the family, as the smallest unit in the social structure, plays an essential role in preserving shared cultural values. The influence of artificial intelligence on academic fraud has become increasingly concerning, as it can affect interaction and communication within families. Nevertheless, with proper understanding and management, families are expected to continue playing a key role in upholding shared values and counteracting the negative effects of technological advancement. [4]

Family Culture (FC) serves as a foundational element in a child's development. Early education typically begins within the family, making parental roles vital to a child's academic success. Family conflicts that lead to separation can negatively impact a child's mental and academic development. Children from broken families often display lower motivation, poor discipline, and may even engage in undesirable behaviors to gain attention. [5] However, this assumption is not always accurate. For instance, as

[2] Available at: "*3 Tantangan Terbesar Penggunaan AI di Dunia Pendidikan Indonesia, Apa Saja?"* (detikedu, 2024)

[3] Available at: "*Dampak Positif dan Negatif dari Kecerdasan Buatan (AI) dalamKehidupan"* (osc.medcom.id, 2023)

[4] Available at: "*International Family Day, Ini Pengertian Keluarga, Fungsi, serta Perannya"* (detik.com. 2023)

[5] Available at: "*Pengaruh Keluarga Broken Home terhadap Prestasi Belajar Siswa"* (kumparan.com, 2018)

reported by binus.ac.id, Florensia, an alumna of Binus University who came from a broken home, graduated with the highest honors (Summa Cum Laude).[6] This example shows that Family Culture plays a critical role in a child's development and can positively influence both academic and psychological outcomes.

According to Pratama et al., (2023) in their study The results of the Impact of Artificial Intelligence and the Fraud Diamond Perspective on Indonesian College Students' Academic Dishonesty showed that pressure, opportunity, capability, and rationalization had a beneficial effect on academic fraud. Additionally, AI influences these dimensions, enhancing the potential for academic dishonesty.

Heriyati et al., (2020), in according to a study on academic dishonesty and moral reasoning, academic dishonesty is influenced by pressure, opportunity, and rationalization. Djaelani et al., (2022), in student academic fraud During the COVID-19 Era: The Pentagon's Fraud Dimension test revealed that academic fraud is impacted by opportunity rather than personal ethics in terms of capability, pressure, and justification. Warni et al., (2021), in their research Information technology abuse, pressure, opportunity, rationalization, and capacity all have a beneficial impact on academic fraud behavior, according to The Effect of Fraud Diamond Dimensions and the Misuse of Information Technology on Academic Fraud Behavior. Firmansyah et al., (2023), in the Impact of Academic Fraud's Hexagon Fraud Theory Components on Accounting Department Students with Gender as a Control Variable, found that capability, arrogance, and collusion influence academic fraud, although the overall effect of academic fraud remains unaffected. Kurniawati et al., (2023), in their studies on the effects of information technology misuse and fraud pentagon dimensions on academic fraud, concluded that opportunities and pressure have no effect on academic fraud, whereas rationalization, capability, arrogance, and technology misuse do.

Oktarina et al., (2023), in accounting Students' Academic Fraud Behavior: Aspects of the Fraud Hexagon Theory, found that pressure, rationalization, and arrogance have negative effects, while opportunity, capability, and collusion have positive effects. Irsutami et al., (2024), in their research on the relationship between academic fraud and integrity, religion, and family culture, found that religiosity and integrity negatively affect academic fraud, while family culture has a positive effect. Muchminiin et al., (2024). investigated AI's impact on students' learning interest. Their analysis revealed that the use of AI significantly impacts students' engagement and learning interest, with several factors contributing to students' involvement in the learning process.

The diversity of previous research findings and the current phenomena have encouraged this study will reexamine how artificial intelligence affects students' intentions to commit academic fraud in light of family culture as a moderating factor. Since the implementation of online learning methods, students' opportunities to engage in academic misconduct have become increasingly open, while the use of artificial intelligence has become more widespread and difficult to control. Therefore, family culture plays a crucial role in mitigating the likelihood of academic fraud committed by students.

Although the literature on the impact of artificial intelligence on academic fraud continues to expand, existing studies predominantly emphasize technological factors, while the role of family culture remains insufficiently examined. Furthermore, empirical research that integrates artificial intelligence and micro-level sociocultural factors within a single behavioral framework to explain students' intention to engage in academic fraud is still limited. Accordingly, this study investigates family culture as a moderating variable in the relationship between artificial intelligence and students' intention to commit academic fraud.

[6] Available at: "*Florensia Jeselin: Keluarga Broken Home Bukan Halangan Raih Prestasi Summa Cumlaude dan Lulusan Terbaik"* (binus.ac.id, 2022)

2. Theoretical Review and Literature Review

Integrity Theory of Fraud Triangle and Theory of Planned Behavior

According to Sihombing et al., (2020), The Theory of the Fraud provides an explanation for academic fraud. Triangle, which consists of three elements: pressure, related to individual factors; opportunity, representing situational factors; and rationalization, reflecting human personality factors. Later, this notion evolved into the Diamond Fraud notion by Wolfe et al., (2004), by adding a fourth element, competency, referring to the perpetrator's ability to systematically design fraudulent acts. Subsequently, the Pentagon Fraud Theory emerged with the addition of the arrogance element, introduced by Crowe Howarth as cited in (Dewi, 2021), which reflects a disregard for rules or conceptual factors.

Meanwhile, according to the Theory of Planned Behavior (TPB) by (Ajzen, 1991), intention is a key factor that precedes the formation of behavior. This subjective norms, attitudes toward the activity, and perceived behavioral control all affect intention. Within the framework of academic fraud, especially involving technology such as Artificial Intelligence (AI), understanding the elements that affect students' propensity to commit academic dishonesty (AF) is a crucial first step in preventing such violations. By integrating the perspectives of the Fraud Triangle (and its developments into the Diamond and Pentagon models) and TPB, a more comprehensive understanding can be gained—namely, that fraudulent behavior is the outcome of how situational, intellectual, individual, and personality-related elements interact.

Artificial Intelligence Theory

According Probovury (2015), Artificial Intelligence (AI) is a computer-based science that has experienced significant growth and plays an important role in the academic world. AI enables users, including students, to access and process information anytime and anywhere efficiently. The use of AI in the educational context encompasses three main dimensions: knowledge, technological advancement, and the duration of AI usage.

The knowledge dimension reflects students' skills in appropriately utilizing AI-based information technology. The technological advancement dimension assesses how AI can assist students in searching for, storing, and disseminating information, including in situations such as remote examinations. Meanwhile, the duration of AI usage refers to the length of time students have been using AI, which influences their understanding and accuracy in operating the technology.

McMaster Model of Family Functioning

Epstein et al., (1978) through The Model of McMaster of Family Functioning (MMFF**)**, developed the concept of family culture by emphasizing the significance of family functioning in supporting the well-being of each member. This model explains that a family is considered to function optimally when it is able to perform its tasks and roles effectively while prioritizing the physical, social, and psychological well-being of all its members.

According to the MMFF, there are six main dimensions that represent family functioning:

a. Problem Solving

This dimension describes the family's capacity to identify and address everyday life problems. A well-functioning family is able to work together to manage conflict and stress in a constructive manner.

b. Communication

Communication within the family involves the exchange of information that is open, direct, and mutually understood. Families with effective communication patterns are better able to avoid misunderstandings and foster emotional closeness among members.

c. Role

This dimension describes the degree to which family roles are clearly distributed and carried out according to each member's responsibilities. Functional role distribution indicates structure and order in the management of family life.

d. Affective Responsiveness

This dimension reflects family members' capacity to react emotionally to a range of circumstances, both good and bad. Families that demonstrate empathy and affection contribute to a healthy emotional climate.

e. Affective Involvement

This dimension describes Family members' level of emotional involvement in one another's life. Healthy involvement is characterized by attentiveness and concern without being overly controlling or neglectful.

f. Behavior Control

This refers to the regulation of behavior within the family through rules, boundaries, and discipline that are adapted to situational contexts and developmental stages. Balanced behavior control supports emotional stability and discipline within the family.

By examining these six dimensions, the McMaster Model offers a comprehensive theoretical framework for understanding family dynamics and functional effectiveness. A healthy family culture not only has a significant impact on how people behave, but also acts as a foundation for optimal social and psychological development.

Hypothesis Development

The Influence of Artificial Intelligence on Students' Intention to Commit Academic Dishonesty

Students' intention to engage in academic fraud is shaped by various internal and external factors. According to the Theory of Planned Behavior (Ajzen, 1991), Perceived behavioral control, attitudes toward the activity, and subjective norms all affect intention. When it comes to academic fraud, this goal can arise due to academic The Fraud Triangle, Diamond, and Pentagon Theories describe pressure, opportunity, rationalization, capability, and conceit. Additionally, technology such as Artificial Intelligence (AI) has now become a new influencing factor. AI allows students to access and complete assignments instantly, which may inadvertently lower ethical boundaries and reinforce the perception that fraudulent behavior is easy to commit and low in risk.

Findings from several studies support this notion. Pratama et al., (2023) claimed that the application of AI affects opportunity, pressure, and capability in committing academic fraud. Warni et al., (2021) and Kurniawati et al., (2023) also showed that the abuse of technology, including AI, is positively related to fraudulent behavior. Muchminiin et al., (2024) found that AI affects students' learning interest, which can impact deviant motivation. However, AI is not the only factor. Family culture and moral values also play a significant role. Irsutami et al., (2024) found that family culture can influence the intention to commit fraud under certain conditions.

In a multicultural setting like Batam, students' cultural backgrounds become an important factor to consider. Demographic data indicate the ethnic diversity of students—such as Javanese, Batak, Malay, Minang, and others—who have different values and parenting patterns. Referring to the McMaster Family Functioning Model (Epstein et al., 1978), differences in family functioning can influence students' responses to the pressure and opportunity to commit fraud. Therefore, examining the influence of the impact of AI on academic fraud intent is significant because AI can act as a trigger, especially when not balanced with strong self-control or ethical values. Supported by theory and empirical evidence, it is concluded that AI has the potential to increase the intensity of academic fraud among students.

H1: Artificial Intelligence has a positive influence on students' intention to commit academic fraud

The Moderating Role of Family Culture on the Relationship between Artificial Intelligence and Students' Intention to Commit Academic Dishonesty

Artificial Intelligence (AI) has become a powerful tool in supporting students' academic processes. However, the convenience provided by AI can also be misused for deviant acts such as academic fraud. Several studies, such as those by Pratama et al., (2023), Warni et al., (2021), and Kurniawati et al., (2023) show that AI can influence students' pressure, opportunity, and ability, which are known triggers for fraud. This indicates that without strong moral values

and self-control, the use of AI may actually increase the intention to engage in academic dishonesty.

Nonetheless, there has been limited research specifically examining the relationship between AI and academic fraud intention, especially involving family culture as a moderating variable. Family culture plays a significant role in shaping perceptions and attitudes toward academic ethics. The McMaster Model of Family Functioning claims that (Epstein et al., 1978), amilies that function well—particularly in communication, behavioral control, and emotional involvement—can strengthen self-regulation and reduce the tendency to commit fraud. The findings of Irsutami et al., (2024) also support that family culture can have a favorable or unfavorable impact on the desire to perpetrate fraud, based on the family's beliefs and roles.

In a multicultural context like Batam, the ethnic diversity of respondents reflects varying family cultural values, which may moderate the influence of AI on fraud intention. Students from families with strong cultural values are more likely to have better self-control, weakening the negative impact of AI on fraud intention. Conversely, students from families with poor parenting functions may experience an amplified effect of AI on their intention to cheat. Therefore, family culture has significant potential as a moderating factor in the connection between students' intention to commit academic fraud.

H2: Family Culture moderates the influence of Artificial Intelligence on students' intention to commit academic fraud

Based on the research framework developed from previous studies on the influence of artificial intelligence on students' intention to commit academic fraud as well as studies showing the moderating effect of family culture on that relationship, this study includes family culture as a moderating variable. The research model is displayed in Figure 01.

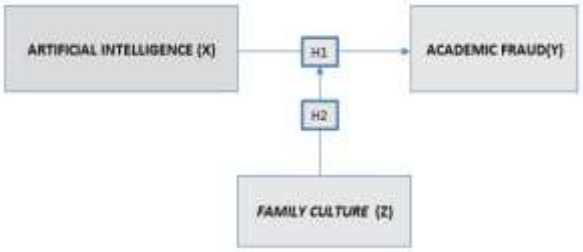

Figure 1: Research's Model
Source : Self-Processed, 2025

3. Research Method

Population and Sample

The population of this study comprises all active students of the Accounting Study Program at higher education institutions in Batam City that have implemented online and/or digital technology–based learning methods in their instructional processes. The institutions included in the population are Universitas Ibnu Sina, Universitas Putera Batam, Politeknik Negeri Batam, and Universitas Riau Kepulauan.

The sample was determined using a non-probability sampling method, namely purposive sampling, as this study aims to obtain respondents with specific characteristics relevant to the research focus, particularly those related to the use of artificial intelligence in academic activities and students' understanding of academic ethics. The sampling criteria include students from the 2021 and 2022 cohorts who were enrolled in the 6th and 8th semesters during the Odd Semester of the 2024–2025 Academic Year, regardless of their employment status.

Based on data obtained from the Higher Education Database (PDDIKTI), the total number of accounting students across the four institutions is 1,413 students. The sample size was initially determined using the Slovin formula, resulting in a minimum sample of 93 respondents. However, to enhance the representativeness and reliability of the research findings, the sample size was increased to 120 respondents, which were then allocated proportionally across the four higher education institutions.

Data Collection Technique

The researcher collected information utilizing an online and offline survey tool. The Likert scale is used as the measurement scale in the survey, and it includes a series of questions that reflect three variables.

Data Processing Technique

The data obtained from the questionnaires were assessed for accuracy and reliability through checks for reliability and validity during the pilot test stage. Next, IBM SPSS version 26 was utilized to analyze the data.

Data Analysis Technique

The study's goals were in line with the statistical techniques used to examine the data. The statistical techniques used included partial determination coefficient (R^2) and partial hypothesis testing.

4. Result and Discussion

Respondent Characteristics

The characteristics of respondents from four higher education institutions are shown in Table 1.institutions—Accounting students from Politeknik Negeri Batam, Universitas Ibnu Sina, Universitas Putera Batam, and Universitas Riau Kepulauan—with a total of 120 respondents. In terms of gender, 104 respondents (87%) were female, while 16 respondents (13%) were male. Regarding employment status, 50 respondents (42%) were employed, while 70 respondents (58%) were not yet employed. Based on institutional affiliation, the majority of respondents were from Politeknik Negeri Batam with 35 respondents (29%), followed by Universitas Riau Kepulauan with 33 respondents (28%), Universitas Putera Batam with 29 respondents (24%), and Universitas Ibnu Sina with 23 respondents (19%). In terms of ethnic background, the largest group of respondents identified as Batak, totaling 29 respondents (24%), followed by Javanese with 32 respondents (27%). Other significant ethnic groups included Malay and Minangkabau, each with 20 respondents (17%). Smaller ethnic groups identified among the respondents included Acehnese (2%), Banjar (1%), Betawi (1%), Bugis (1%), Butonese (1%), Flores (1%), Lampung (1%), Madura (1%), Nias (4%), and Sundanese (2%).

Table 1

Respondent Characteristics

Respondent Characteristics	Frequency	Percent (%)
Gender		
Male	16	13%
Female	104	87%
Status		
Working	50	42%
Not Working	70	58%
Campus/Institution		
Politeknik Negeri Batam	35	29%
Universitas Putera Batam	23	19%
Universitas Ibnu Sina	29	24%
Universitas Riau Kepulauan	33	28%
Tribe		
Acehnese	2	2%
Banjar	1	1%
Batak	29	24%
Betawi	1	1%
Bugis	3	3%
Butonese	1	1%
Flores	2	2%
Javanese	32	27%
Lampung	1	1%
Madura	1	1%
Malay	20	17%
Minangkabau	20	17%
Nias	5	4%
Sundanese	2	2%

Source: Processed Data, 2025

Descriptive Statistical Analysis

The findings of the descriptive statistical analysis of the research variables are shown in Table 2. The descriptive statistics of these variables include the minimum (lowest) value, maximum (highest) value, and mean (average) value of the data used in this study.

Table 2

Results of Descriptive Statistical Analysis

Descriptive Statistics				
	N	Minimum	Maximum	Mean
Artificial Intelligence	120	14	45	34,22
Academic Fraud	120	10	50	21,38
Family Culture	120	15	65	34,93
Valid N (listwise)	120			

Source: Processed Data, 2025

Validity Test

Before being used in the study, all items listed had exceeded the significance threshold, with the computed r value (r-count) being greater than the r table value. Consequently, the validity test findings revealed that the r-count values for the variables artificial intelligence, academic fraud, and family culture were all higher than the 0.3061 r table value. This shows that the majority of the things were legitimate, with the exception of X3, Z1, Z2, Z3, Z5, Z7, Z13, and Z20, which did not meet the validity threshold.

Reliability Test

The reliability test's findings demonstrate that the values of the Cronbach's Alpha coefficient exceeded the cutoff of 0,70: 0,792 for variable X (Artificial Intelligence)**,** 0,918 for variable Y (Academic Fraud)**,** and 0,889 for variable Z (Family Culture)**.** Therefore, all responses were declared to be reliable**.**

Classical Assumption Test

Normality Test

Verifying that the data distribution is normal was the aim of the normality test. The findings demonstrate that the distribution of the study data is normal because the Asymp. Sig (one-tailed) value is 0.071, which is greater than 0.05. Table 3 displays the findings – Normality Test Results.

Table 3

Normality Test Results

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		120
Normal Parameters [a,b]	Mean	0,0000000
	Std. Deviation	6,46592800
Most Extreme Differences	Absolute	0,078
	Positive	0,078
	Negative	-0,043
Test Statistic		0,078
Asymp. Sig. (2-tailed)		**0,071**

Source: Processed Data, 2025

Multicollinearity Test

According to the multicollinearity test results, each variable's tolerance values are higher than 0.10 and its VIF (Variance Inflation Factor) values are lower than 10,00—specifically, 0,969 and 1,032 for variable X, and 0,969 and 1,032 for variable Z. Therefore, it can be concluded that multicollinearity is not present, as shown in the table below.

Table 4

Multicollinearity Test Result

Variabel	Collinearity Statistics	
	Tolerance	VIF
Artificial Intelligence	0,969	1,032
Family Culture	0,969	1,032

Source: Processed Data, 2025

Heteroscedasticity Test

The results of the heteroscedasticity test indicate that there is no heteroscedasticity in the data because each variable possesses a relevance value greater than 0,05—specifically**,** 0,662 for variable X and 0,134 for variable Z. These results confirm that heteroscedasticity is not present. Table 5 displays the results of the heteroscedasticity test:

Table 5

Heteroscedasticity Test Results

Variabel	T	Sig
Artificial Intelligence	-0,040	**0,662**
Family Culture	-0,138	**0,134**

Source: Processed Data, 2025

Hypothesis Test

Multiple Linear Regression Analysis

Multiple linear regression analysis is used to examine the relationship between the independent variable (X) and the dependent variable (Y) based on the theoretical framework and research assumptions moderating variable (Z) affects the strength of the association. The multiple linear regression analysis's findings are displayed in Tables 6 and 7**.**

Tabel 6

Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		t	Sig
		B	Std. Error		
1	(Constant)	**11,560**	4,198	2,754	0,007
	Artificial Intelligence	**0,287**	0,121	2,370	**0,019**

Source: Processed Data, 2025

The regression equation is as follows, based on the multiple linear regression analysis mentioned above**:**

Y = 11,560 + 0,287X.

The interpretation of this equation is as follows**:**

a. Students' intentions to perpetrate academic fraud are demonstrated by the constant of 11,560. will still be positive if the independent variable is kept constant.
b. The coefficient of Artificial Intelligence (X) is 0,287, meaning that the higher the use of AI, the higher the students' intention to commit academic dishonesty.

Tabel 7

Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		t	Sig
		B	Std. Error		
1	(Constant)	**24,229**	11,182	2,167	0,032
	Artificial Intelligence	**-0,445**	0,306	-1,456	0,148
	Family Culture	**-0,320**	0,341	-0,937	0,351
	XZ	**0,020**	0,009	2,128	**0,035**

Source: Processed Data, 2025

The regression equation is as follows, based on the multiple linear regression analysis mentioned above**:**

Y = 24,229 + -0,445X + -0,320Z + 0,020XZ

This equation can be interpreted as follows:

a. The constant of 24,229 shows that students' intentions to commit academic fraud will still be positive if all independent variables are kept constant.
b. The coefficient of Artificial Intelligence (X) is -0,445, meaning that when Family Culture (Z) and the interaction term XZ are held constant, an increase in AI is associated with a decrease in students' intention to commit academic dishonesty.
c. The coefficient of Family Culture (Z) is -0,320, meaning that when Artificial Intelligence (X) and XZ are held constant, a higher level of family culture is associated with a lower intention to commit academic dishonesty.
d. The coefficient of the interaction term XZ is 0,020, indicating that when Artificial Intelligence and Family Culture are held constant, an increase in the interaction between them leads to a higher intention to commit academic dishonesty.

Hypothesis Test

Table 6 presents the results of the partial test (t-test) for Hypothesis 1 (H1), indicating that the hypothesis is supported. This finding shows that the Artificial Intelligence (X) variable has a positive and significant effect on students' tendencies to engage in academic fraud. At a significance level of 0.019 < 0.05, the t-table value of 1.98027 is lower than the t-count value of 2.370. These results suggest that the more frequently students use artificial intelligence in their academic activities, the higher their tendency to engage in academic misconduct. This outcome is consistent with Pratama et al.'s (2023) assertion that the use of AI affects pressure, opportunity, and capability—all of which are recognized fraud triggers

in the Fraud Triangle. Additionally, Warni et al. (2021) and Kurniawati et al. (2023) discovered a favorable association between the misuse of AI technology and fraudulent behavior, as the ease of accessing information promotes the perception that cheating is easy to commit and difficult to detect. Theoretically, this aligns according to the Theory of Planned Behavior (Ajzen, 1991), which maintains attitude, subjective norms, and perceived behavioral control all influence intention—factors that, in this case, are negatively influenced by the convenience and flexibility offered by AI.

The result for Hypothesis 2 (H2) is also supported. The interaction between Artificial Intelligence and Family Culture shows a at a significance threshold the t-count value of 2,128 is greater than the t-table value of 1,98027 at 0.035 < 0.05. This implies that the association between AI and the inclination to commit academic fraud is strongly moderated by family culture. Nonetheless, the interaction's direction indicates that under some circumstances, family culture may not be strong enough to counteract the negative effects of AI. This reveals the complexity of the relationship, such as permissive family environments, weak parental control, or a lack of awareness regarding the risks of technology misuse. These findings are supported by According to Epstein et al.'s McMaster Model of Family Functioning (1978), family functions—such as communication, behavioral control, and emotional involvement—play a critical role in shaping individual self-regulation. Irsutami et al., (2024) also emphasized that family culture can either strengthen or weaken the intention to commit fraud, depending on the values and rules applied within the household. Muchiminiin et al., (2024) added that the use of AI can reduce learning motivation and ethical commitment, and this negative effect may be intensified if not balanced with strong moral values instilled by the family. Therefore, although family culture is proven to be a significant moderator, its role does not always suppress the negative influence of AI—it depends on how the family functions and values are practiced.

It is clear from all of the results above that H1 and H2 are both acceptable. Table 8: Summary of Hypothesis Testing Results provides an overview of the findings.

Tabel 8

Summary of Hypothesis Test Results.

H1	t count > t tablel or 2,370. 0.019 < 0.05 is the significance level.	Accepted
H2	t count > t tablel or 2,128. with a significance threshold of 0.035 < 0.05	Accepted

Source: Processed Data, 2025

Coefficient of Determination

Table 9 indicates that the value of the Adjusted R Square is 0.037 based on the output below. This shows that whereas other factors represent 96.3% of the impact, variable X concurrently contributes 3.7% to the volatility in variable Y. Furthermore, Table 10 indicates that 0.309 is the Adjusted R Square value. This demonstrates that when the moderating factor is included, variable X concurrently contributes 30.9% to the variation in variable Y, with other factors accounting for the remaining 69.1%. Tables 9 and 10 present the outcomes. Findings from the Coefficient of Determination**:**

Table 9

Coefficient of Determination Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,213 [a]	0,045	**0,037**	7,583
a. Predictors:(Constant), Artificial Intelligence				

Source: Processed Data, 2025

Table 10

Coefficient of Determination Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,571 [a]	0,326	**0,309**	6,425
a. Predictors:(Constant), XZ, Artificial Intelligence, Family Culture				

Source: Processed Data, 2025

5. Conclusion and Recommendations

Conclusion

This study offers a theoretically grounded contribution to the academic fraud literature by refining, rather than replacing, established theoretical perspectives. First, within the Theory of Planned Behavior (Ajzen, 1991), the findings suggest that the role of subjective norms derived from family culture is context-dependent and conditional. While TPB posits that subjective norms generally discourage unethical behavior, this study demonstrates that such norms do not operate uniformly when students perceive high behavioral control enabled by artificial intelligence. Accordingly, this research extends TPB by highlighting boundary conditions under which family-based norms may lose their constraining effect on fraudulent intentions. Second, with respect to Fraud Theory, this study does not dispute the core elements of pressure, opportunity, and rationalization; rather, it provides empirical nuance by showing how artificial intelligence constitutes a contemporary form of opportunity that interacts with socialization processes within the family. The findings indicate that family culture may shape rationalization mechanisms, particularly in environments characterized by competing academic and non-academic demands. This contribution is incremental yet important, as it situates rationalization within a socio-cultural context rather than treating it as a purely individual cognitive process. Third, drawing on the McMaster Model, this study contributes to family systems theory by empirically supporting the view that family culture should not be conceptualized as a uniform moral safeguard. Instead, its moderating role depends on the effectiveness of family functioning, especially in communication, monitoring, and behavioral regulation. By integrating family systems theory with behavioral and fraud-based frameworks, this study provides a more theoretically coherent and parsimonious explanation of how micro-level family dynamics interact with advanced technologies in shaping academic misconduct intentions.

Overall, this research advances theory by offering a contextually bounded and integrative framework that connects artificial intelligence, family culture, and academic fraud. Rather than making universal claims, the study explicitly acknowledges contextual and theoretical limitations, thereby providing a cautious yet meaningful extension of existing theories that may inform future cross-contextual and longitudinal research. Within the context of Batam, where a considerable proportion of university students simultaneously engage in academic study and paid employment, the perceived behavioral control facilitated by artificial intelligence becomes particularly salient. These structural conditions intensify academic pressure and time constraints, thereby increasing students' reliance on technological tools to manage competing demands. Consequently, family-based subjective norms, which are theoretically expected to discourage unethical behavior, may become attenuated when students prioritize efficiency and academic outcomes over procedural integrity. This context helps explain why, among Batam students, family culture does not consistently function as a constraining force but may, under certain circumstances, interact with artificial intelligence to reinforce intentions toward academic misconduct.

Recommendations

Future research may incorporate additional socio-cultural and psychological variables, adopt comparative and mixed-method approaches, and employ longitudinal designs to better capture contextual differences and changes in students' academic fraud intentions in the context of artificial intelligence.

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