

Academic Dishonesty in the Digital Age: Toward Sustainable Educational Integrity through TPB

Ngoc-Hong Duong¹, Quoc Huy Huynh¹, Hung Long Nguyen¹,
Thanh Thao Tran¹, Ngoc Bao Thai¹

¹ School of International Business, University of Economics Ho Chi Minh City (UEH),
Ho Chi Minh City, Vietnam

Abstract – Academic dishonesty remains a critical issue within contemporary educational systems. This study investigates the factors influencing dishonest academic behavior among university students in Vietnam. The primary objective is to identify key psychological and social determinants that shape students' cheating intentions and behaviors in examination settings. A structured survey was administered to 545 university students across multiple regions nationwide. Drawing on established behavioral and ethical frameworks, the study examines the roles of attitudes, subjective norms, perceived behavioral control, vertical individualism, and moral obligation toward academic dishonesty. The empirical results reveal that attitudes, subjective norms, perceived behavioral control, and vertical individualism significantly increase students' propensity to engage in dishonest behavior. In contrast, moral responsibility does not directly promote misconduct but instead demonstrates a significant adverse moderating effect. These findings provide valuable theoretical insights and practical implications for universities in designing effective interventions, strengthening ethical awareness, and improving assessment strategies in increasingly digital learning environments.

Keywords – Academic Dishonesty, higher education, moral obligation, PLS-SEM, Theory of Planned Behavior.

1. Introduction

Acts of plagiarism, cheating, falsification, or collusion threaten the educational system and fall under Academic Dishonesty. Assessment of inequality, loss of institutional credibility, and devaluation of academic credentials all result from Academic Dishonesty [1]. Academic Dishonesty has always existed. However, its forms and underlying motivations have changed due to technological innovations and new modes of instruction and assessment. The shift to online education and assessments during the COVID-19 pandemic has made it more difficult to monitor and prevent cheating. This challenge was intensified by the rampant use of technology and artificial intelligence (AI) tools to circumvent academic policies [2], [3].

The achievement of Sustainable Development Goal 4 (SDG 4), which emphasizes fostering inclusive, equitable, and lifelong learning, hinges on upholding academic honesty across all educational institutions. However, the focus on higher education and its rampant proliferation of dishonest practices, including Vietnam, poses a direct threat to this ideal. Research has shown that academic misconduct within Vietnamese universities has not only become rampant but is also accepted as a societal norm [4], [5]. Students in metropolitan regions, including Ho Chi Minh City, often face overwhelming pressure to succeed academically and view high grades as a ticket to professional success.

In an overwhelmingly high-pressure academic environment, engaging in dishonest practices such as cheating is regarded as a survival tactic rather than an ethical violation. Cheating has become normalized. One of the most comprehensive explanations of psychological factors leading up to acts of academic misconduct is offered by the Theory of Planned Behavior (TPB).

DOI: 10.18421/TEM153-47

<https://doi.org/10.18421/TEM153-47>

Corresponding author: Ngoc-Hong Duong,
School of International Business, University of Economics
Ho Chi Minh City (UEH), Ho Chi Minh City, Vietnam
Email: hongdn@ueh.edu.vn

Received: 29 July 2025.

Revised: 09 November 2025.

Accepted: 13 January 2026.

Published: 27 August 2026.



© 2026 Ngoc-Hong Duong et al.; published
by UIKTEN. This work is licensed under the Creative
Commons Attribution-NonCommercial-NoDerivs 4.0
License.

The article is published with Open Access at
<https://www.temjournal.com/>

Product of Attitude toward the Behavior, Subjective Norm, and Perceived Behavioral Control (PBC) [6]. TPB has been reported to be the dominant predictor of students' Intention to behave dishonestly [7]. Moreover, students tend to rationalize their Cheating Behavior through academic pressure, unfair evaluations, or the fact that many of their peers cheat without facing any repercussions [8].

While useful, TPB does not fully capture cultural and moral aspects that might shape how people interpret and act upon their intentions. One of these factors is Moral Obligation, which may prevent dishonest acts even when the Intention exists. Existing evidence suggests that moral responsibility can serve as a 'psychological wall' that protects against Cheating, thus increasing the predictive power of TPB [9], [10]. Another critical, yet underexplored, construct is Vertical Individualism, a cultural orientation that emphasizes competition, status-seeking, and hierarchical differentiation. Unlike Horizontal Individualism, which values equality and independence, Vertical Individualism encourages self-enhancement even at the cost of others. In educational settings, this may manifest as strategic cheating driven by the desire to outperform peers [11]. Some students may justify Academic Dishonesty as a rational means of maintaining academic standing or securing social advantage. This highlights the need to integrate cultural values into behavioral models to fully explain the prevalence of misconduct in diverse educational environments.

While prior research has examined individual predictors of Academic Dishonesty, few studies have simultaneously considered how Moral Obligation and Vertical Individualism might moderate the relationships between Intention, Justification, and actual Cheating Behavior. Addressing this gap, the present study builds on TPB and justification theory to explore both psychological and cultural determinants of academic misconduct among university students in Vietnam. Specifically, this study proposes a model in which Justification serves as a mediator, linking Attitude, Subjective Norm, and Perceived Behavioral Control to Dishonest Behavior, while Moral Obligation and Vertical Individualism function as moderating variables within these relationships.

With the advent of digitalized technologies in learning, the emergence of AI-powered tools, such as ChatGPT, Gemini, and other generative language models, added complexity to the issue of Academic Dishonesty. While these technologies offer valuable educational support, they also present new opportunities for misconduct, particularly in online assessments.

This study addresses these evolving challenges by employing an extended TPB framework, combined with Partial Least Squares Structural Equation Modeling (PLS-SEM), to examine the psychological, social, and cultural determinants of student cheating. The findings aim to inform the design of ethically sound and technology-aware strategies for assessment and academic integrity management in higher education. By extending TPB through culturally grounded and ethically oriented constructs, this study contributes to a deeper understanding of scholastic dishonesty. It informs policy and practice aimed at fostering integrity in higher education settings, particularly in Southeast Asian contexts.

2. Literature Review and Hypotheses Development

This section reviews several relevant theories and prior studies on Academic Dishonesty. It also develops the hypotheses guiding the proposed research model. Moving forward, the research methodology followed by analyzing the proposed theoretical model is outlined. It describes the research design, measurement tools, data collection process, and analysis methods used to ensure the credibility and integrity of the study results. The adopted methodology was identified for its ability to suit the aims of the research and to test the hypotheses.

2.1. Theoretical Background

This study draws on the Theory of Planned Behavior and the individualism-collectivism framework to explain Academic Dishonesty among university students.

2.1.1. The Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), introduced as an extension of the Theory of Reasoned Action (TRA), provides a psychological framework for understanding how individual beliefs translate into behavior [6], [12]. Attitude toward the Behavior involves both affective and cognitive evaluations of acting. Subjective Norm is considered perceived normative expectations and social pressures exerted by others. The last factor that distinguishes the TPB from the TRA concerns the perceived effortfulness or ease of performing the behavior. The TPB and the TRA better predict Academic Dishonesty, as Perceived Behavioral Control reflects individuals' perceptions of their ability, opportunity, and/or available resources to engage in the behavior [13].

Moreover, Perceived Behavioral Control was found in some previous studies to be a stronger indicator of Cheating Intention and Behavior than either Attitude toward Behavior or Subjective Norm [14]. Numerous studies have investigated the efficiency of TPB in estimating various human behaviors, including socially responsible behavior [15], occupational seeking [16], [17], dieting [18], [19], and exercise [20], [21].

2.1.2. Hofstede's dimensions extend individualism-collectivism

The theoretical distinction between the Horizontal and Vertical dimensions of Individualism and Collectivism offers a nuanced lens for examining cultural influences on behavior [22], [23]. In this construct, individualism is further grouped as collectivism and divided into horizontal and vertical. Horizontal individualism (HI) focuses on self-reliance and is associated with a sociopathic form of egalitarianism; individuals exercise their freedom while remaining equal to peers. While HI claims independence, vertical individualism (VI) combines self-reliance with competition that accepts and looks forward to, as well as strives for, hierarchical differentiation [24]. Likewise, in collectivist societies, horizontal collectivism (HC) emphasizes strong connectedness combined with organizational equality. However, vertical collectivism (VC) emphasizes the importance of group coherence and a clear hierarchical order among members. These differences enable researchers to capture more refined variations in cultural values and their behaviors.

Vertical individualism is particularly salient in accomplishment-driven contexts because it underscores independence coupled with a motive for personal achievement and competitive differentiation. High VI individuals peak as social climbers who make efforts to secure social stigma and status associated with unfairness and disharmony [25]. In educational environments, this attitude can promote zero-sum thinking, in which one's success is seen as a loss by others, and create conditions in which unethical actions, such as cheating, are viewed as necessary to maintain one's standing [26]. Research has shown that in such cases, vertical individualism is associated with the justification of strategic unethical behavior, such as cheating, as a necessity for success [27]. Hence, vertical individualism is particularly useful for analyzing Academic Dishonesty, as it situates competitive achievement as a priority over ethics and closely aligns self-value with personal accomplishment. Focusing on this cultural dimension, this research explores how competitiveness and the desire for higher social standing drive students to justify and engage in various forms of Academic Dishonesty.

This study aids in a more complete understanding of the culture beneath the intention to act, refines theoretical models in need of enhancement, and advances the development of educational frameworks tailored to the specific needs of the culture.

2.2. Hypotheses Development

Earlier research has indicated that attitudes significantly relate to intentions [7]. Attitude toward behavior is emphasized as a significant factor influencing students' intention to cheat [28]. Students with negative attitudes toward academic integrity will behave unethically [29]. This corresponds with the TPB framework, indicating that a positive attitude strengthens one's intention to carry out the behavior. Attitudes toward cheating emerged as the strongest predictor of students' intention to engage in Academic Dishonesty [30]. For example, some students may experience cheating as positive or thrilling in some contexts but as negative or boring in others. Thus, a positive attitude is a strong stimulus for the formation of cheating intentions. As a result, the authors hypothesize:

Hypothesis 1: Attitude positively affects intention.

Attitude is one factor that can be mediated by those who can justify their previous cheating behavior [7]. When students perceive cheating positively due to lax policies or minimal consequences, and when opportunities to cheat are easy and low risk, their intention to cheat increases [31]. It is suggested that when students find some of their peers cheating, they have a desire to cheat [32]. On the other hand, when academic misconduct was not necessarily viewed as illegal or morally wrong by some students, this helps explain the emergence of Justification [33]. As a result, the authors hypothesize:

Hypothesis 2: Attitude negatively affects Justification.

Subjective Norm, defined as perceived social pressure from significant others, is a core element of the TPB [6]. These norms shape individuals' intentions through internalized expectations from peers, instructors, or family. When students believe that cheating is common or tolerated among peers, their own intentions to engage in dishonest acts increase [34], [35]. This aligns with the false consensus effect, in which individuals overestimate the prevalence of unethical behavior and use it to rationalize their own actions [36]. Peer behavior, especially in lax institutional environments that lack strict enforcement of honor codes, further reduces internal resistance to cheating [14], [37]. Cultural context also plays a significant role.

In collectivistic societies, students are more influenced by group expectations and peer behavior [38], [39]. When academic misconduct is perceived as normative, particularly under peer or institutional influence, the intention to cheat is reinforced. Hence, the following hypothesis is proposed:

Hypothesis 3: Subjective Norm positively affects Intention.

Justification is the process by which individuals rationalize unethical behavior to preserve a positive self-image. In academic contexts, students often justify cheating by perceiving it as a socially acceptable or necessary response under pressure [40]. Subjective Norms play a crucial role in shaping these perceptions. When students observe peers engaging in dishonest behavior without consequence, they are more likely to view such behavior as usual and morally permissible [7]. In addition, the absence of vigorous institutional enforcement and the presence of peer acceptance can lower students' internal resistance to misconduct [37]. In collectivist cultures such as Vietnam, group loyalty and social conformity further amplify this effect, encouraging students to align with peer behavior even if it conflicts with personal values [24]. Consequently, Justification thus serves as a cognitive mechanism that links Subjective Norms to students' intentions to cheat. It enables them to resolve moral conflicts and rationalize their actions based on social cues.

Hypothesis 4: Subjective Norm positively affects Justification.

Students with greater capability or prior experience in cheating are more likely to engage in dishonest behavior [37]. Academic Dishonesty is often viewed as a function of both opportunity and ability [38]. The link between Behavior and Perceived Behavioral Control was supported by evidence from an unpublished meta-analysis. In addition to attitudes and beliefs, perceived self-efficacy also significantly contributed to explaining the relationship between intentions and behaviors beyond what is expected by intentions alone [41]. Numerous studies have confirmed that Perceived Behavioral Control substantially influences students' intentions to engage in Academic Dishonesty [42], [43], [44], [45]. Thus, the following is expected:

Hypothesis 5: Perceived Behavioral Control positively affects Intention.

Perceived Behavioral Control refers to an individual's belief in their ability to engage in or avoid a behavior, shaped by internal resources such as self-discipline and external factors [6].

In the TPB, Perceived Behavioral Control influences both behavioral intentions and actions, and it also affects the degree to which individuals rationalize unethical behavior to align with their moral self-image [46]. In academic settings, Justification often emerges when students face pressure, high workloads, or perceive assessments as unfair. When cheating becomes a common practice, students may perceive it as acceptable and justify engaging in such behavior. After observing certain behaviors, low Perceived Behavioral Control can substantially deter individuals from engaging in those behaviors [47]. Similarly, students may cheat spontaneously when opportunities arise, particularly when they lack self-control [48]. Based on the belief that cheating can be carried out without being detected, students who believe they have better control over their cheating technique will be more likely to cheat. Especially in collectivist cultures like Vietnam, where academic outcomes are strongly emphasized, Perceived Behavioral Control may play an even more pronounced role.

Hypothesis 6: Perceived Behavioral Control is positively associated with Justification.

Although Moral Obligation is not a core component of the TPB [6], recent studies suggest that incorporating it enhances the model's predictive ability regarding unethical behavior. Students with a higher sense of Moral Obligation are significantly less inclined to intend to plagiarize, even when other TPB variables were considered [10]. Similarly, Moral Obligation improved predictions of cheating intention across cultural contexts [49]. Furthermore, students with stronger Moral Obligation are less likely to carry out cheating intentions, and ethical considerations play a critical role in deterring such actions [9], [50]. These findings suggest that although Intention is usually a robust predictor of behavior, a heightened sense of Moral Obligation can weaken the translation of intention into action.

Hypothesis 7: Moral Obligation negatively moderates the relationship between Intention and Cheating Behavior.

In addition to the core predictors of cheating behavior within TPB [6], Moral Obligation represents a personal ethical norm that can override rationalizations for dishonest conduct. Strong internal ethics reduce students' tendency to justify cheating [8]. When moral values are internalized, students are more resistant to peer-driven rationalizations. This suggests that Moral Obligation can buffer the effect of both Intention and Justification on actual misconduct. Furthermore, students frequently rely on perceived peer behavior as a Justification for their own dishonest actions [51].

Consistent with this perspective, students with high moral standards are less influenced by rationalizations for dishonesty, even when cheating appears widespread [9]. Collectively, these studies suggest that although Justifications can significantly explain variation in cheating behavior, the positive link between Justifications and Cheating Behavior is weakened when Moral Obligation is strong; conversely, when Moral Obligation is low, Justifications are more likely to translate into actual cheating.

Hypothesis 8: Moral Obligation negatively moderates the relationship between Justification and Cheating Behavior.

Cultural dimensions are crucial in shaping behavior and attitudes toward learning [52], [53]. Students influenced by individualistic cultures often rely on personal motivation and self-determined goals [54]. Within this framework, Vertical Individualism emphasizes competition and social status. Individuals with this orientation may feel pressure to outperform peers and may justify cheating as a necessary strategy to avoid falling behind [55]. Students who view cheating as a standard practice are more inclined to participate in it themselves [56]. Observing peers engaging in cheating can serve as a justification for similar actions [57]. The desire to get ahead, even at the expense of dishonest means, is a dominant motivator among vertical individualists [58]. While collectivist individuals tend to hold stronger ethical values [59], [60], Vertical Individualists may prioritize achievement over integrity once cheating intention has been formed. Thus, the following are expected:

Hypothesis 9: Vertical Individualism positively moderates the relationship between Intention and Cheating Behavior.

Hypothesis 10: Vertical Individualism positively moderates the relationships between Justification and Cheating Behavior.

According to the core assumptions of the TPB, behavioral Intentions are the most immediate antecedents of actual behavior [6]. Behavioral goals or intentions, in turn, are strong predictors of Behavior [61]. Recent research continues to affirm this relationship in academic settings. For instance, Intention was a strong predictor of Academic Dishonesty, reinforcing the robustness of this link in higher education contexts [33]. Similarly, among university students, higher Intentions to behave unethically correlated with increased Cheating Behavior in technology-mediated assessments [62].

Taken together, these findings support the TPB assumption that a firm's Intention to engage in cheating is a robust predictor of subsequent Cheating Behavior. Hence, the authors proposed:

Hypothesis 11: Intention positively affects Cheating Behavior.

Justification has a positive impact on a student's Cheating Behavior. Students' beliefs about peers' cheating strongly predicted their own Cheating Behavior [63]. Students tended to underestimate peers' misconduct compared with their own [36]. The same evidence further suggests that this false consensus bias is more pronounced in frequent cheaters. Hence, the notion that "everyone else does it" serves as a rationalization that aligns cognitively with Dishonest Behavior. The inclusion of Justifications is expected to explain additional variance in explaining Cheating Behavior, beyond that explained by cheating intentions. Accordingly, the following hypothesis is proposed:

Hypothesis 12: Justification has a positive impact on Cheating Behavior.

Figure 1 illustrates the proposed research model.

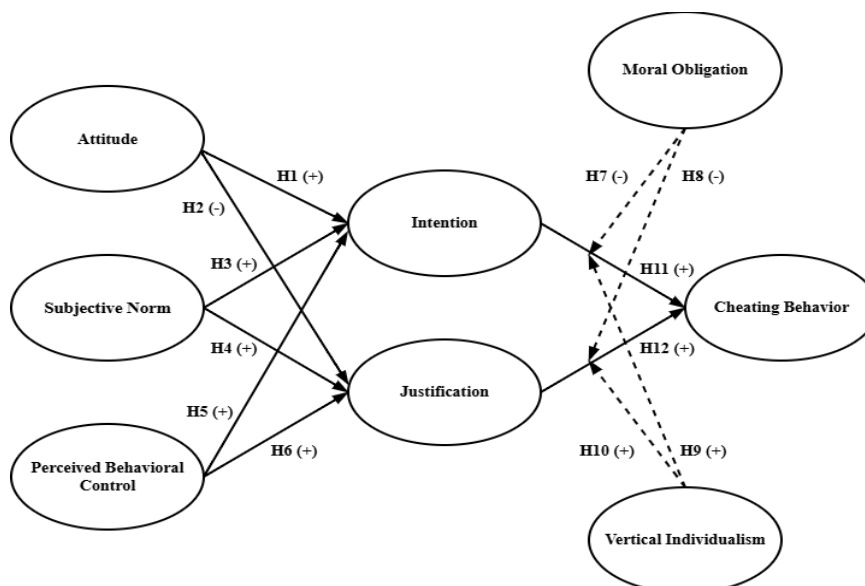


Figure 1. Proposed research model

3. Methodology

In this section, the research methodology followed by analyzing the proposed theoretical model is outlined. It describes research design, measurement tools, data collection process, and analysis methods, which were used to guarantee the credibility and integrity of study results.

3.1. Design Questionnaire and Sample Size

The questionnaire was constructed using validated measurement scales drawn from prior research on Academic Dishonesty and behavioral psychology. Specifically, the constructs of Perceived Behavioral Control, Subjective Norm, Attitude, and Intention were measured using five-item scales adapted from prior studies [64]. Moral Obligation was assessed using four items adopted from existing scales [65], while Vertical Individualism was operationalized and adapted using a four-item scale [11]. In addition, Justification was measured using six items, and Cheating Behavior was assessed using ten items, both adapted from established measurement scales [7].

The proposed research model comprised eight latent variables with 58 indicators in total. Initially, the researchers collected responses from 545 university students to achieve a sufficient sample size for PLS-SEM. After screening the responses for completeness and validity, a final sample of 528 observations was retained for data analysis.

3.2. Sampling Method

Data for this research were collected using two nonprobability sampling methods: convenience sampling and snowball sampling. The first method involved creating a structured questionnaire and sharing it via Google Forms. The link to the questionnaire was widely shared on Vietnamese social media platforms, including Facebook and Zalo, reaching students across multiple universities. In addition, snowball sampling was applied to broaden the respondent base. The initial respondents, including researchers, professors, or other acquaintances of the researchers, completed the survey and distributed it to their peers.

This snowball approach enabled greater diversity in terms of respondents' disciplines and universities. These methods were chosen for their efficiency in obtaining a large number of respondents within a short period. They demonstrated effectiveness in connecting with university students from different regions virtually, despite constrained research budgets, which is an endemic problem in social science educational research.

3.3. Data Analysis Method

This analysis used PLS-SEM as the primary method, as it is predictive in nature and performs well with complex models. The goal of PLS-SEM is to maximize the explained variance of dependent factors; thus, it is appropriate in situations where forecasting is the priority [66], [67]. The technique is nonparametric and flexible, non-discriminatory regarding the distribution of data, and non-metric [68]. PLS-SEM simultaneously computes measurements and structural models, thereby mitigating bias in parameter estimation. Furthermore, PLS-SEM excels with higher-order constructs and formative indicators while safeguarding model validity [69]. It is dependable for large, intricate models comprising many observed variables.

3.4. Participants and Data Collection

The information used in this study was gathered in 2024 through a systematic research process that included a comprehensive literature search, the development of a detailed questionnaire, and the conduct of a formal survey. Initially, 545 responses were collected from participants in various Vietnamese universities. Afterward, the dataset underwent scrutiny to maintain its quality and ensure accuracy. Through this screening process, 528 responses emerged as eligible for more detailed empirical analysis. Valid responses from these constituencies were considered adequate for capturing the target population and were subjected to rigorous statistical examinations. The remaining features of the sample are discussed in the following subsection.

Table 1. Sample characteristics

Characteristics	Frequency (n = 528)	Percent (100%)
Gender		
Male	258	48.9
Female	270	51.1
University/College		
University of Economics Ho Chi Minh City	131	24.9
Foreign Trade University, Ho Chi Minh City	42	8.0
Vietnam National University, Ho Chi Minh City	161	30.4
Vietnam National University, Hanoi	42	8.0
National Economics University	52	9.9
Can Tho University	25	4.8
Others	74	14.0
Major		
Economics	128	24.3
Accounting - Finance	78	14.7
Information Technology	51	9.6
Mechanics and Technology	45	8.6
Linguistics	49	9.3
Others	177	33.5
Academic year		
Freshman	79	15.0
Sophomore	167	31.6
Junior	145	27.5
Senior	110	20.8
Other	27	5.1

In Table 1, the study sample included 528 students, with a variety of characteristics by gender, university affiliation, major, and academic year. Regarding gender, male students comprised 48.9%, while female students comprised 51.1%. University/College splits are 30.4% for Vietnam National University Ho Chi Minh City, 24.9% for the University of Economics Ho Chi Minh City, 9.9% for National Economics University, 8.0% for Vietnam National University Hanoi, 8.0% for Foreign Trade University Ho Chi Minh City, 4.8% for Can Tho University, and 14.0% for other universities and colleges. Academic majors included Economics (24.3%), Accounting or Finance (14.7%), Information Technology (9.6%), Mechanics and Technology (8.6%), Linguistics (9.3%), and others (33.5%). For the academic year, sophomores constituted 31.6%, third-year students 27.5%, fourth-year students 20.8%, first-year students 15.0%, and the “other” group 5.1%.

4. Results and Discussion

This section presents all the research results from a thorough PLS-SEM analysis. Along with that, each metric will also be discussed in detail.

4.1. Descriptive Statistics, Reliability, and Discriminant Validity

Before structural model testing, the measurement model was evaluated to assess indicator reliability, and construct validity. The indicator loadings of all measurement items are reported in Table 2.

Table 2. Outer loadings

	AT	CB	IT	JT	MO	PBC	SN	VI
AT1	0.887							
AT2	0.876							
AT3	0.885							
CB1		0.865						
CB2		0.821						
CB3		0.825						
CB4		0.883						
CB5		0.879						
IT1			0.876					
IT2			0.887					
IT3			0.844					
IT4			0.855					
IT5			0.884					
JT1				0.864				
JT2				0.878				
JT3				0.880				
JT4				0.851				
JT5				0.748				
MO1					0.765			
MO2					0.956			
PBC1						0.764		
PBC2						0.840		
PBC3						0.833		
PBC4						0.842		
PBC5						0.732		
SN1							0.857	
SN2							0.850	
SN3							0.872	
SN4							0.820	
SN5							0.856	
VI1								0.844
VI2								0.861
VI3								0.875
VI4								0.859

Note: AT – Attitude; SN – Subjective Norm; PBC – Perceived Behavioral Control; IT – Intention; JT – Justification; MO – Moral Obligation; VI – Vertical Individualism; CB – Cheating Behavior.

Initially, an exploratory factor analysis was performed, retaining only those items with factor loadings exceeding 0.70 [70]. To assess internal consistency, composite reliability and Cronbach's alpha were calculated, with values more than 0.70 considered indicative of high reliability [71]. The convergent validity was demonstrated by confirming that each Construct's Average Variance extracted (AVE) surpassed the 0.50 threshold [70].

Internal consistency, reliability, and convergent validity were further assessed using Cronbach's alpha, composite reliability, and AVE. The results are presented in Table 3.

Table 3. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AT	0.858	0.860	0.913	0.779
CB	0.908	0.908	0.931	0.731
IT	0.919	0.921	0.939	0.756
JT	0.900	0.909	0.926	0.715
MO	0.703	1.018	0.855	0.749
PBC	0.862	0.871	0.901	0.645
SN	0.905	0.906	0.929	0.724
VI	0.884	0.906	0.919	0.739

Additionally, the measurement reliability of the reflective types with Cronbach's alpha, composite reliability, and AVE were assessed. All constructs are significant, as indicated in Table 3, and meet the guidelines: both Cronbach's alpha and composite reliability exceed 0.70, while AVE is above 0.50, confirming the reliability of the measurement model [72].

Discriminant Validity was evaluated using the Fornell–Larcker criterion and HTMT [73]. The results are shown in Table 4.

Table 4. Correlations between research constructs

	AT	CB	IT	JT	MO	PBC	SN	VI
AT	0.882							
CB	0.152	0.855						
IT	0.148	0.812	0.869					
JT	-0.446	0.129	0.069	0.846				
MO	-0.479	-0.067	-0.049	0.285	0.866			
PBC	0.048	0.635	0.690	0.065	0.034	0.803		
SN	-0.613	0.070	0.118	0.527	0.440	0.156	0.851	
VI	-0.626	-0.200	-0.215	0.529	0.505	-0.051	0.549	0.860

4.2. Common Method Bias

Given that the data were collected from a single source using self-reported measures, the possibility of Common Method Bias (CMB) was examined. In line with prior methodological recommendations, Variance Inflation Factor (VIF) values were analyzed to assess multi-collinearity among the constructs. The corresponding results are summarized in Table 5.

Table 5. VIF - Inner models

	AT	CB	IT	JT	MO	PBC	SN	VI
AT			1.660	1.660				
IT		1.255						
JT		1.520						
MO		1.681						
PBC			1.061	1.061				
SN			1.697	1.697				
VI			2.446					
MO x JT			1.589					
MO x IT			2.284					
VI x IT			2.655					
VI x JT			1.795					

The study examined possible Common Method Bias (CMB) by applying two methods [75]. The outcome of the first method showed that the variance attributed to the single dominant component remained significantly above the critical 50% threshold, indicating that concern over CMB was not a problem. Furthermore, the study estimated CMB by evaluating the variance inflation factor (VIF) for each component. According to Table 5, all VIF scores were below 3, providing further evidence that the analysis is not affected by multicollinearity [76].

4.3. Hypothesized Model Testing

The outcomes of this PLS-SEM algorithm are depicted in Figure 2. The structural model was assessed using SmartPLS 4.0, with particular emphasis on the strength of the path coefficients and the explanatory power indicated by the R-squared values [74]. To determine the stability of the parameter estimates, a bootstrapping procedure with 5,000 resamples was conducted [70].

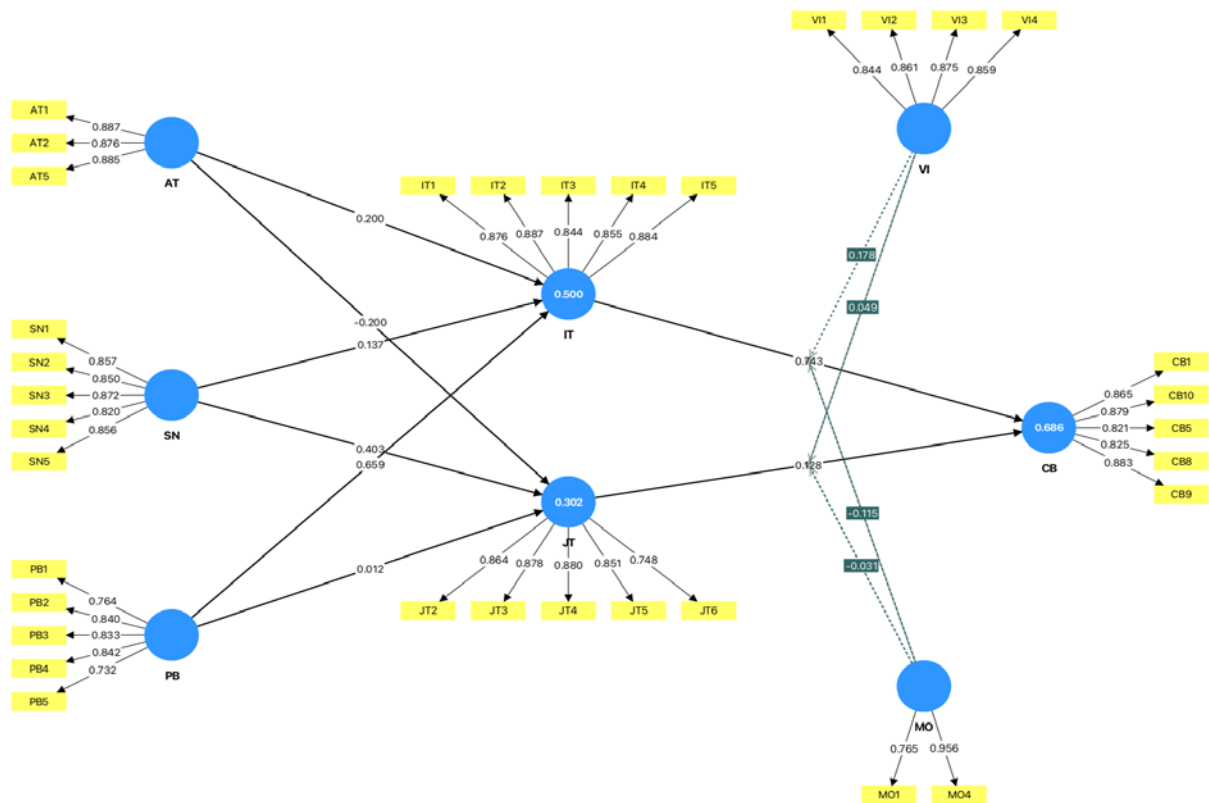


Figure 2. The PLS-SEM results

The evaluation of the structural model's fitness was conducted using the coefficient of determination (R^2), which also informed us of the model's accuracy in predicting the endogenous constructs. As highlighted in Table 6, the model explains 68.6% of the variance in Cheating Behavior (CB), 50.0% in Intention (IT), and 30.2% in Justification (JT). These R^2 values indicate that CB and IT have substantial explanatory capacity. To strengthen the model, adjusted R^2 metrics were computed to account for variance overestimation due to model parameters. The adjusted metrics remained consistent at 0.677 for CB, 0.495 for IT, and 0.295 for JT, indicating the model's strong fit even after accounting for predictor complexity.

Table 6. R-squared values

	R-square	R-square adjusted
CB	0.686	0.677
IT	0.500	0.495
JT	0.302	0.295

The implications of the results presented in this paragraph provide empirical validation of the proposed frameworks and the psychological context in which the model operates, with respect to the behavioral dynamics underlying student cheating. It also highlights the predictive power of the behavioral model, as the structural equation model yields an R^2

of 0.89 for the Cheating Behavior component, indicating the incorporation of both attitude and situational components into the student academic misconduct model (Table 6).

In contrast, the R^2 for Intention is moderate, validating the relative weight of the motivational normative ingredients in the formulation of Intention, as per the TPB. Justification is lower but still a considerable R^2 , implying that, while rationalization, as the model suggests, is a relevant factor, other dominant elements outside the proposed framework also affect this rationalization.

Based on the analysis, several significant relationships were observed among the key constructs. According to Table 7, attitude was found to significantly positively affect intention ($\beta = 0.200$, $p = 0.002$) and, conversely, to affect justification significantly negatively ($\beta = -0.200$, $p = 0.004$). Additionally, subjective norm was a powerful predictor of both intention ($\beta = 0.137$, $p = 0.030$) and justification ($\beta = 0.403$, $p < 0.001$). Moreover, perceived behavioral control strongly predicts intention ($\beta = 0.659$, $p < 0.001$), yet its effect on justification is negligible ($\beta = 0.012$, $p = 0.846$). Regarding the moderating effects, moral obligation attenuates the path from intention to cheating behavior ($\beta = -0.115$, $p = 0.045$), indicating that a higher sense of moral duty mitigates the likelihood that a firm intention to cheat will translate into actual dishonest behavior.

In contrast, moral obligation has a moderate effect on the relationship between Justification and Cheating Behavior ($\beta = -0.031$, $p = 0.430$). Furthermore, vertical individualism significantly moderated the effect of Intention on Cheating Behavior ($\beta = 0.178$, $p = 0.007$); however, its moderation of the relationship between Justification and Cheating Behavior was not significant ($\beta = 0.049$, $p = 0.214$). Finally, the direct relationship between Intention and Cheating Behavior was strongly positive ($\beta = 0.743$, $p < 0.001$), and Justification similarly contributed positively to Cheating Behavior ($\beta = 0.128$, $p = 0.022$).

Table 7. The Results of PLS-SEM

Hypothesis	p-value	Beta	t-value	Result
H1	0.002	0.200	3.061	Supported
H2	0.004	-0.200	2.892	Supported
H3	0.030	0.137	2.168	Supported
H4	0.000	0.403	5.670	Supported
H5	0.000	0.659	15.874	Supported
H6	0.846	0.012	0.194	Not Supported
H7	0.045	-0.115	2.006	Supported
H8	0.430	-0.031	0.790	Not Supported
H9	0.007	0.178	2.707	Supported
H10	0.214	0.049	1.242	Not Supported
H11	0.000	0.743	18.621	Supported
H12	0.022	0.128	2.298	Supported

According to Table 8, the total indirect effects underscore the mediating role of key antecedents in Academic Dishonesty.

Table 8. Total Indirect Effects

	p-value	Beta	t-value
AT → CB	0.022	0.123	2.293
PBC → CB	0.000	0.491	10.985
SN → CB	0.006	0.153	2.765

Specifically, the indirect impact of Attitude on Cheating Behavior was significant ($\beta = 0.123$, $p = 0.022$, $t = 2.293$), suggesting that more favorable attitudes indirectly heighten the likelihood of cheating. Perceived Behavioral Control exhibits an even more substantial indirect effect ($\beta = 0.491$, $p < 0.001$, $t = 10.985$), emphasizing its critical role in shaping behavioral outcomes. Additionally, Subjective Norm contributes significantly ($\beta = 0.153$, $p = 0.006$, $t = 2.765$), highlighting the impact of social influence. These findings collectively confirm that the studied antecedents operate through both direct and mediated pathways in influencing Academic Dishonesty.

5. Conclusion

This study extends the TPB by demonstrating that, beyond attitude, subjective norm, and perceived behavioral control, both moral obligation and vertical individualism shape students' propensity to cheat. By positioning justification as a key mediator and showing how competitive culture intensifies the intention-behavior link, it reveals psychological and cultural dynamics largely absent from earlier integrity research.

Practical measures include implementing and enforcing clear honor codes, supported by active faculty supervision and policies that make cheating feel both unethical and risky. Embedding moral reasoning into curricula and empowering students to champion an integrity-focused peer culture can strengthen norms against dishonesty. Finally, investing in robust exam-monitoring technologies will help close loopholes that facilitate misconduct.

However, the reliance on self-reports in a sensitive domain likely underestimates the actual cheating rate, and the focus on a handful of local universities limits generalizability. The narrow definition of misconduct also overlooks behaviors such as data falsification or citation fraud. Future work should sample a broader, more diverse student population, incorporate a wider spectrum of dishonest acts, and examine how assessment design and teaching methods interact with cultural values. In particular, unpacking how moral obligation and vertical individualism jointly influence rationalization could yield deeper insights for the design of integrity-supportive learning environments.

Acknowledgements

This research is funded by the University of Economics Ho Chi Minh City, Vietnam (UEH).

References:

- [1]. Cizek, G. J. (2003). *Detecting and preventing classroom cheating: Promoting integrity in assessment*. Corwin Press.
- [2]. Choi, E. P. H., et al. (2023). Chatting or cheating? The impacts of ChatGPT and other artificial intelligence language models on nurse education. *Nurse Education Today*, 125, 105796. Doi: 10.1016/j.nedt.2023.105796.
- [3]. Iqbal, S. A., et al. (2022). Students' perceptions and experiences of online education in Pakistani universities and higher education institutes during COVID-19. *Education Sciences*, 12(3), 166. Doi: 10.3390/educsci12030166.
- [4]. Nguyen, L., & Guillomaitre, N. (2022). Prevalence of academic misconduct in Vietnamese students: Correlates of self-reported cheating behaviour. *Journal of Student Research*, 11(1). Doi: 10.47611/jsrhs.v11i1.2442.
- [5]. Do Ba, K., et al. (2017). Student plagiarism in higher education in Vietnam: an empirical study. *Higher Education Research & Development*, 36(5), 934-946. Doi: 10.1080/07294360.2016.1263829.

- [6]. Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- [7]. Stone, T. H., Jawahar, I. M., & Kisamore, J. L. (2009). Using the theory of planned behavior and cheating justifications to predict academic misconduct. *Career Development International*, 14(3), 221-241. Doi: 10.1108/13620430910966415
- [8]. Yusliza, M., et al. (2020). The mediating role of justification on the relationship of subjective norms, perceived behavioral control and attitude on intention to cheat among students. *Management science letters*, 10(16), 3767-3776. Doi: 10.5267/j.msl.2020.7.035
- [9]. Stephens, J. M. (2018). Bridging the divide: The role of motivation and self-regulation in explaining the judgment-action gap related to academic dishonesty. *Frontiers in psychology*, 9, 246. Doi: 10.3389/fpsyg.2018.00246
- [10]. Uzun, A. M., & Kilis, S. (2020). Investigating antecedents of plagiarism using extended theory of planned behavior. *Computers & Education*, 144, 103700. Doi: 10.1016/j.compedu.2019.103700
- [11]. Zhang, Y. (2024). Academic cheating as planned behavior: the effects of perceived behavioral control and individualism-collectivism orientations. *Higher education*, 87(3), 567-590. Doi: 10.1007/s10734-023-01024-w
- [12]. Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and multiple behavioral criteria. *Psychological review*, 81(1), 59. Doi: 10.1037/h0035872
- [13]. Chang, M. K. (2012). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Citation classics from the journal of business ethics: Celebrating the first thirty years of publication*, 433-445. Springer Netherlands. Doi: 10.1007/978-94-007-4126-3_21
- [14]. Stone, T. H., Jawahar, I. M., & Kisamore, J. L. (2010). Predicting academic misconduct intentions and behavior using the theory of planned behavior and personality. *Basic and Applied Social Psychology*, 32(1), 35-45. Doi: 10.1080/01973530903539895
- [15]. Han, T. I., & Stoel, L. (2017). Explaining socially responsible consumer behavior: A meta-analytic review of theory of planned behavior. *Journal of International Consumer Marketing*, 29(2), 91-103. Doi: 10.1080/08961530.2016.1251870
- [16]. Liu, S., Huang, J. L., & Wang, M. (2014). Effectiveness of job search interventions: a meta-analytic review. *Psychological bulletin*, 140(4), 1009. Doi: 10.1037/a0035923
- [17]. Dillahun, T. R., et al. (2021). Self-regulation and autonomy in the job search: key factors to support job search among Swiss job seekers. *Interacting with Computers*, 33(5), 537-563. Doi: 10.1093/iwc/iwac008
- [18]. McDermott, M. S., et al. (2015). The Theory of Planned Behaviour and dietary patterns: A systematic review and meta-analysis. *Preventive Medicine*, 81, 150-156. Doi: 10.1016/j.ypmed.2015.08.020
- [19]. Sajjad, M., et al. (2023). Using the theory of planned behavior to predict factors influencing fast-food consumption among college students. *BMC Public Health*, 23(1), 987. Doi: 10.1186/s12889-023-15923-1
- [20]. Schüz, B., et al. (2017). Socioeconomic status as a moderator between social cognitions and physical activity: Systematic review and meta-analysis based on the Theory of Planned Behavior. *Psychology of Sport and Exercise*, 30, 186-195. Doi: 10.1016/j.psychsport.2017.03.004
- [21]. Beauchamp, M. R., Crawford, K. L., & Jackson, B. (2019). Social cognitive theory and physical activity: Mechanisms of behavior change, critique, and legacy. *Psychology of Sport and Exercise*, 42, 110-117. Doi: 10.1016/j.psychsport.2018.11.009
- [22]. Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*, 5. SAGE.
- [23]. Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, 74(1), 118-128. Doi: 10.1037/0022-3514.74.1.118
- [24]. Arrindell, W. A. (2003). Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations. *Behaviour Research and Therapy*, 41(7), 861-862.
- [25]. Oishi, S., et al. (1999). Value as a moderator in subjective well-being. *Journal of personality*, 67(1), 157-184. Doi: 10.1111/1467-6494.00051
- [26]. Fischer, R., et al. (2009). Individualism-collectivism as descriptive norms: Development of a subjective norm approach to culture measurement. *Journal of Cross-Cultural Psychology*, 40(2), 187-213. Doi: 10.1177/0022022109332738
- [27]. Gino, F., & Margolis, J. D. (2011). Bringing ethics into focus: How regulatory focus and risk preferences influence (un) ethical behavior. *Organizational Behavior and Human Decision Processes*, 115(2), 145-156. Doi: 10.1016/j.obhdp.2011.01.006
- [28]. Harding, T. S., et al. (2007). The theory of planned behavior as a model of academic dishonesty in engineering and humanities undergraduates. *Ethics & Behavior*, 17(3), 255-279. Doi: 10.1080/10508420701519239
- [29]. Tindall, I. K., et al. (2021). Can negative emotions increase students' plagiarism and cheating?. *International Journal for Educational Integrity*, 17(1), 25.
- [30]. Reskala, F. (2023). Do the Theory of Planned Behavior, and Perceived Cheating predict academic dishonesty?. *Revista de Psicología y Ciencias del Comportamiento de la Unidad Académica de Ciencias Jurídicas y Sociales*, 14(2), 53-69. Doi: 10.29059/rpcc.20231201-162
- [31]. Kam, C. C. S., Hue, M. T., & Cheung, H. Y. (2018). Academic dishonesty among Hong Kong secondary school students: Application of theory of planned behaviour. *Educational Psychology*, 38(7), 945-963. Doi: 10.1080/01443410.2018.1454588
- [32]. Mustapha, R., et al. (2016). Does Islamic religiosity influence the cheating intention among Malaysian Muslim students? A modified theory of planned behavior. *International Journal of Academic Research in Business and Social Sciences*, 6(12), 389-406. Doi: 10.6007/IJARBS/v6-i12/2504

- [33]. Hendy, N. T., & Montargot, N. (2019). Understanding Academic dishonesty among business school students in France using the theory of planned behavior. *The international journal of management education*, 17(1), 85-93. Doi: 10.1016/j.ijme.2018.12.003
- [34]. Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of research in personality*, 25(3), 285-301. Doi: 10.1016/0092-6566(91)90021-H
- [35]. McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, 11(3), 219-232. Doi: 10.1207/S15327019EB1103_2
- [36]. Chapman, K. J., et al. (2004). Academic integrity in the business school environment: I'll get by with a little help from my friends. *Journal of marketing education*, 26(3), 236-249. Doi: 10.1177/0273475304268779
- [37]. Whitley, Jr., B. E., & Keith-Spiegel, P. (2001). *Academic dishonesty: An educator's guide* (0 a.b). Psychology Press. Doi: 10.4324/9781410604279
- [38]. Lin, C. H. S., & Wen, L. Y. M. (2007). Academic dishonesty in higher education—a nationwide study in Taiwan. *Higher Education*, 54(1), 85-97. Doi: 10.1007/s10734-006-9047-z
- [39]. McCabe, D. L., Feghali, T., & Abdallah, H. (2008). Academic dishonesty in the Middle East: Individual and contextual factors. *Research in Higher Education*, 49(5), 451-467. Doi: 10.1007/s11162-008-9092-9
- [40]. Anderman, E. M., & Murdock, T. B. (Eds.). (2011). *Psychology of academic cheating*. Elsevier.
- [41]. Cheung, S.-F., & Chan, D. K.-S. (2000). *The role of perceived behavioral control in predicting human behavior: A meta-analytic review of studies on the theory of planned behavior*. Chinese University of Hong Kong.
- [42]. Camara, S. K., et al. (2017). Predicting students' intention to plagiarize: An ethical theoretical framework. *Journal of Academic Ethics*, 15(1), 43-58. Doi: 10.1007/s10805-016-9269-3
- [43]. Lonsdale, D. (2017). Intentions to cheat: Ajzen's planned behavior and goal-related personality facets. *The Journal of Psychology*, 151(2), 113-129. Doi: 10.1080/00223980.2016.1241737
- [44]. Cronan, T. P., Mullins, J. K., & Douglas, D. E. (2018). Further understanding factors that explain freshman business students' academic integrity intention and behavior: Plagiarism and sharing homework. *Journal of Business Ethics*, 147(1), 197-220. Doi: 10.1007/s10551-015-2988-3
- [45]. Wang, Y. Y., Wang, Y. S., & Wang, Y. M. (2022). What drives students' Internet ethical behaviour: an integrated model of the theory of planned behaviour, personality, and Internet ethics education. *Behaviour & Information Technology*, 41(3), 588-610. Doi: 10.1080/0144929X.2020.1829053
- [46]. Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British journal of social psychology*, 40(4), 471-499. Doi: 10.1348/014466601164939
- [47]. Kashif, M., Zarkada, A., & Ramayah, T. (2018). The impact of attitude, subjective norms, and perceived behavioural control on managers' intentions to behave ethically. *Total Quality Management & Business Excellence*, 29(5-6), 481-501. Doi: 10.1080/14783363.2016.1209970
- [48]. Curtis, G. J., et al. (2018). Self-control, injunctive norms, and descriptive norms predict engagement in plagiarism in a theory of planned behavior model. *Journal of Academic Ethics*, 16(3), 225-239. Doi: 10.1007/s10805-018-9309-2
- [49]. Chudzicka-Czupala, A., et al. (2016). Application of the theory of planned behavior in academic cheating research—cross-cultural comparison. *Ethics & Behavior*, 26(8), 638-659. Doi: 10.1080/10508422.2015.1112745
- [50]. Cheng, Y. C., Hung, F. C., & Hsu, H. M. (2021). The relationship between academic dishonesty, ethical attitude and ethical climate: The evidence from Taiwan. *Sustainability*, 13(21), 11615. Doi: 10.3390/su132111615
- [51]. McCabe, D. L., Butterfield, K. D., & Treviño, L. K. (2012). *Cheating in college: Why students do it and what educators can do about it*. JHU Press.
- [52]. Hofstede, G., & Minkov, M. (2010). Long-versus short-term orientation: new perspectives. *Asia Pacific business review*, 16(4), 493-504. Doi: 10.1080/13602381003637609
- [53]. Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: evaluation of theoretical assumptions and meta-analyses. *Psychological bulletin*, 128(1), 3. Doi: 10.1037/0033-2909.128.1.3
- [54]. Zhao, L., et al. (2025). Academic cheating, achievement orientations, and culture values: A meta-analysis. *Review of Educational Research*, 95(6), 1292-1336. Doi: 10.3102/00346543241288240
- [55]. Anderman, E. M., & Koenka, A. C. (2017). The relation between academic motivation and cheating. *Theory Into Practice*, 56(2), 95-102. Doi: 10.1080/00405841.2017.1308172
- [56]. Genereux, R. L., & McLeod, B. A. (1995). Circumstances surrounding cheating: A questionnaire study of college students. *Research in Higher Education*, 36(6), 687-704. Doi: 10.1007/BF02208251
- [57]. Rettinger, D. A., & Kramer, Y. (2009). Situational and personal causes of student cheating. *Research in higher education*, 50(3), 293-313. Doi: 10.1007/s11162-008-9116-5
- [58]. Simkin, M. G., & McLeod, A. (2010). Why do college students cheat?. *Journal of business ethics*, 94(3), 441-453. Doi: 10.1007/s10551-009-0275-x
- [59]. Swaidan, Z. (2012). Culture and consumer ethics. *Journal of Business Ethics*, 108(2), 201-213. Doi: 10.1007/s10551-011-1070-z
- [60]. Elias, R. Z. (2015). The Effect of Personality Characteristics on Business Students' Perceptions of Cheating. *Journal of Learning in Higher Education*, 11(1), 11-16.
- [61]. McEachan, R. R. C., et al. (2011). Prospective prediction of health-related behaviours with the theory of planned behaviour: A meta-analysis. *Health psychology review*, 5(2), 97-144. Doi: 10.1080/17437199.2010.521684

- [62]. Cronan, T. P., et al. (2017). Changing the academic integrity climate on campus using a technology-based intervention. *Ethics & Behavior*, 27(2), 89-105. Doi: 10.1080/10508422.2016.1161514
- [63]. Tatum, H. E. (2022). Honor codes and academic integrity: Three decades of research. *Journal of College and Character*, 23(1), 32-47. Doi: 10.1080/2194587X.2021.2017977
- [64]. Yu, H., Glanzer, P. L., & Johnson, B. R. (2021). Examining the relationship between student attitude and academic cheating. *Ethics & Behavior*, 31(7), 475-487. Doi: 10.1080/10508422.2020.1817746
- [65]. Lai, C. Y., et al. (2024). Integrating the adapted UTAUT model with moral obligation, trust and perceived risk to predict ChatGPT adoption for assessment support: A survey with students. *Computers and Education: Artificial Intelligence*, 6, 100246. Doi: 10.1016/j.caeai.2024.100246
- [66]. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12. Doi: 10.1016/j.lrp.2013.01.001
- [67]. Hair Jr, J. F., et al. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. Doi: 10.1504/IJMDA.2017.087624
- [68]. Hair, J. F., et al. (2024). *Advanced issues in partial least squares structural equation modeling* (2nd ed.). Sage.
- [69]. Sarstedt, M., et al. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian marketing journal*, 27(3), 197-211. Doi: 10.1016/j.ausmj.2019.05.003
- [70]. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152. Doi: 10.2753/MTP1069-6679190202
- [71]. Bagozzi, R. P. (2011). Measurement and meaning in information systems and organizational research: Methodological and philosophical foundations. *MIS quarterly*, 261-292. Doi: 10.2307/23044044
- [72]. DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications* (5th ed.). SAGE Publications.
- [73]. Roemer, E., Schubert, F., & Henseler, J. (2021). HTMT2—an improved criterion for assessing discriminant validity in structural equation modeling. *Industrial management & data systems*, 121(12), 2637-2650. Doi: 10.1108/IMDS-02-2021-0082
- [74]. Hair Jr., J. F., et al. (2019). *Manual de Partial Least Squares Structural Equation Modeling (PLS-SEM) (Segunda edición)*. OmniaScience. Doi: 10.3926/oss.37
- [75]. Podsakoff, P. M., et al. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879. Doi: 10.1037/0021-9010.88.5.879
- [76]. Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, 11(4), 1-10. Doi: 10.4018/ijec.2015100101