*International Journal of Business and Society, Vol. 23 No. 2, 2022, 1042-1065*

# EXPLORING THE INTENTION TO CHEAT AMONG UNDERGRADUATE STUDENTS THROUGH THE LENS OF THE THEORY OF PLANNED BEHAVIOUR

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## ABSTRACT

The escalation of academic dishonesty cases is becoming alarming. This study uses the Theory of Planned Behaviour (TPB) and conscientiousness as an antecedent of the intention to cheat. Data were collected through electronic and paper forms. Partial least squares path modeling (PLS-SEM) was used to analyze the responses from 917 undergraduate students in a Malaysian public university. The results support that conscientiousness is a valid predictor of the intention to cheat among students. Further, the three constructs of the TPB, subjective norms, perceived behavioural control, and attitude, significantly mediated the conscientiousness-intention to cheat relationship. Researchers are encouraged to test the model in private universities and other countries. This study is the first to study the intention to cheat among undergraduate students in Malaysia using conscientiousness as an antecedent of the TPB model. Implications for ethics education and research are discussed.

***Keywords:*** Intention to cheat, attitude, conscientiousness, perceived behavioural control, subjective norms, theory of planned behaviour.

*Received: 5 February 2021*
*Accepted: 29 April 2022*
https://doi.org/10.33736/ijbs.4857.2022

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## 1. INTRODUCTION

Although educational institutions are cast as noble places for knowledge seeking and associated with high social values from the community, academic dishonesty has remained a continuous issue (Krou et al., 2019). Academic dishonesty is unethical behaviour that includes cheating, plagiarism, falsifying academic documents, and other related organizational rule-breaking (Underwood & Szabo, 2003). Many studies have been conducted, especially in the Western context, to explore academic dishonesty, understand the underlying factors that trigger this unethical behaviour, and search for the best solutions to the problem (Aljurf et al., 2019).

In Malaysia, the occurrence of academic dishonesty has been alarming. A study showed that 82.1% of students at a Malaysian university engaged in the act of academic dishonesty at least once in the academic setting (Abusafia et al., 2018). Another study among accounting students in Malaysia indicated that 65.3% of students confirmed their involvement in cheating during final examinations, mid-semester examinations, quizzes, or class assignments (Ismail & Yussof, 2016). This clearly shows the high involvement of students in academic misconduct in Malaysia and signals the urgency to mitigate the problem from worsening.

Previous studies demonstrate several factors associated with the tendency of a student to engage with academic dishonesty. Generally, these factors are categorized into three main aspects: contextual, institutional, and individual (Aljurf et al., 2019). For contextual aspects, people's behaviour with academic dishonesty is influenced by a particular group's cultural or social values. For instance, students are exposed to situations that provide an opportunity to cheat, such as minimal punishment for wrongdoing. This opportunity will likely encourage them to engage in academic dishonesty (Mazar et al., 2008). Institutional factors are related to the structure and system used in the school or university. Academic institutions with highly competent teachers and student-centered learning have fewer academic dishonesty cases (Murdock et al., 2007). The individual element is the most discussed aspect associated with academic performance (Poropat, 2009). These discussions include studies about personality and students' perception of academic dishonesty (Giluk & Postlethwaite, 2015). In this regard, those students who lack confidence and are low performers are more likely to engage in academic dishonesty than high-performing students (Griebeler, 2017). Further, conscientiousness and agreeableness are two personalities that are negatively associated with academic dishonesty attitudes (Giluk & Postlethwaite, 2015).

Increased debates on academic dishonesty are concerned with the implications of this unethical behaviour to related parties, including the student, academic institution, future employer, and social system. Researchers believe that an individual's behaviour to engage in academic dishonesty could tarnish the reputation of a community as a whole (Harding et al., 2004). This happens due to the socialization process in which one member of the group could serve as a benchmark for another member's action. As a result, acceptable behaviour by several members of the group is referred to by other people as stereotypical behaviour that represents the whole group. Another major issue is undermining the reputation of higher education institutions where such misconduct happens. This could destabilize the validity of academic degrees, therefore jeopardizing the students' achievements and the honor of the higher education institutions involved (Bokosmaty et al., 2019). Another concern is about future employee performance. Questions arise as to whether the same attitude of students involved in academic dishonesty will happen again during their employment (LaDuke, 2013). A few studies suggest a high possibility for the same student to repeat the

unethical practices in the workplace (Harding et al., 2004; Lucas & Friedrich, 2005; LaDuke, 2013). Besides, cases like dishonesty among students can result in more severe issues like misuse of power and corruption at work (Yusliza et al., 2020). These findings signal that academic dishonesty is a serious issue to be explored to provide valuable insights for the related parties to mitigate this problem and avoid the negative impacts of the academic institution.

### *1.1. The Need for the Study*

The current study offers new insight into developing an intention to cheat framework that examines how conscientiousness, subjective norms, perceived behavioural control, and attitude positively correlate with the intention to cheat. The relevance of this work is as follows:

1) This paper extends Hendy and Montargot (2019) through an investigation about the psychological variables of conscientiousness, attitude, subjective norms, and perceived behavioural control to predict the behavioural intention to cheat in the Malaysian context. This is unique because previous studies were primarily done in the Western context, such as France (Hendy & Montargot, 2019) and the United States (Coats, 2018). Hence, the uniqueness of this study is that the data were gathered from a different cultural and social context, which could help understand how different cultures influence the intention to cheat among students. This study is essential to realizing the increasing trend of academic dishonesty cases among undergraduate students that have been reported in Malaysia (Rusdi et al., 2019; Yusliza et al., 2020; Mustapha & Nik Ali, 2017; Yussof & Ismail, 2018).
2) This study is relevant in the current situation due to the impact of the COVID-19 pandemic that shifted face-to-face learning and teaching to online platforms. In this situation, most learning activities, including lectures, quizzes, and examinations, are done via online mediums with minimal monitoring from the lecturers or teachers. Thus, cheating in exams has become a major concern for universities (Nguyen et al., 2020).
3) Previous studies were based on actual cheating behaviour. Studies have shown that students seldom own up to actual cheating (Anderman & Won, 2019) because it is an admission of offense and guilt; hence, the outcome of such a study could be shaky. Maloshonok and Shmeleva (2019) argued that findings of studies based on the actual behaviour of dishonesty could be limited by the tendency of respondents to provide generally desirable responses regarding academic dishonesty. However, it is believed that intention to cheat could be a better way to study students' motivation to commit academic dishonesty. This is because of the psychological variables, which study their perceptions, attitude, subjective norms, and ease of committing academic dishonesty. Besides, it is easier for students to relay their intention to cheat than to admit to actual cheating. Lonsdale (2017) reiterated that students are more willing to declare cheating intentions than actual cheating behaviour. Further, several researchers specified that the Theory of Planned Behaviour (TPB) is the most appropriate tool for thorough examinations on the intention to cheat academically (Meng et al., 2014).
4) Previous studies among students were based on a few faculties, such as the school of business (Hendy & Montargot, 2019; Iyer & Eastman, 2006; Tsui & Ngo, 2016); accounting students (Haswell & Jubb, 1999; Ismail & Yussof, 2016; Yussof & Ismail, 2018); health professional students (Abaraogu et al., 2016; Abusafia et al., 2018; Kececi et al., 2011; Macale et al., 2017; Park et al., 2013). However, this study extends the limitation of previous studies by gathering data from undergraduate students of various faculties in a

Malaysian higher education institution. This could increase the generalisability of the findings by expanding the data from different students' backgrounds.

This research work is organized as follows. Section 1 contains the introduction and the need for the study. Section 2 contains the literature review, which discusses the literature's conceptual and hypotheses development framework on conscientiousness, attitude, subjective norms, perceived behavioural control, and intention to cheat. Next is Section 3, which specifies the methodological procedures adopted. Section 4 provides the empirical results and the discussion of the findings, including the theoretical and practical implications. Finally, Section 5 provides conclusions, including the study's limitations and suggestions for further research.

## 2. LITERATURE REVIEW

### *2.1. Theory of Planned Behaviour*

Researchers in various fields have used the Theory of Planned Behaviour (TPB) to understand behavioural intention (Abu Bakar & Wan Jamaliah, 2015; Lee et al., 2010; Ajzen, 2012). Introduced by Ajzen (1985), the underlying concepts of this theory are still relevant, with extensions made to fit with the current situation. As such, TPB highlights the influence of intention that could lead to a specific behaviour (Ajzen, 1991). This relationship is explained through three major components: attitude towards behaviour, subjective norm, and perceived behavioural control. The extent to which intention can develop an individual's behaviour depends on integrating these major components. Among the three major components of TPB, attitude is considered important as a predictor of behavioural prediction (Fawehinmi et al., 2021). This is where people judge a certain thing and whether the behaviour is acceptable. People will react to the behaviour according to their judgment. For instance, a positive behavioural intention is more likely when people feel good about a specific behaviour (Chen & Tung, 2014).

In contrast with an internally attributed attitude based on individual expectation, the second determinant of TPB, subjective norms, is externally attributed. Subjective norms are developed based on social pressure that influences whether individuals should perform certain behaviours. This is especially true in discussing the influence of people closely related to an individual about a particular behaviour (Park, 2000). Many studies found evidence about the influence of subjective norms as an important predictor for individual acceptance on behaviour. This includes studies about contemporary issues such as technology-use intention, green purchasing intention, and environmental sustainability intention (Baker et al., 2007; Ha & Janda, 2012; Khare, 2015; Moser, 2015).

Ajzen defined perceived behavioural control as the perception about the extent to which the behaviour could be performed (Ajzen, 1991). It is described as the ability for an individual to perform certain behaviour based on their experiences or challenges (Zhou et al., 2013). For instance, those who have experience performing certain behaviour may find it easy to do it a second time. However, when faced with a new situation that has never been encountered, people may find it difficult to perform certain behaviours. However, researchers suggest that perceived behavioural control is influenced by various factors, including resources, opportunities, facilitating factors, and other external factors (Ajzen, 1989; Sarver, 1983; Armitage & Conner, 2001).

### *2.2. Research Model and Hypotheses*

#### *2.2.1. Relationship Between Conscientiousness and Subjective Norms, Perceived Behavioural Control, Attitude Toward Cheating, and Intention to Cheat*

Researchers have examined personality variables as antecedents to the TPB components (Hendy & Montargot, 2019; Stone et al., 2007). Conscientiousness is one of the Big Five taxonomy of personality traits: Neuroticism, Emotional Stability, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Costa & McCrae, 1992). Conscientiousness, defined as the range of constructs, designates the varying propensity of people to be self-controlled, accountable, diligent, orderly, and regulation abiding (Roberts et al., 2009).

Several studies have shown that conscientiousness is an essential predictor of outcomes ranging from students` academic performance (De Vries et al., 2011; Kertechian, 2018), healthy lifestyle behaviours (Booth-Kewley & Vickers, 1994), and work ethics (Bratton & Strittmatter, 2013). This infers that conscientiousness is an important personality trait that helps understand why students choose to perform or not perform certain behaviours. Conscientiousness is a crucial variable among the Big Five taxonomy of personality. It is the most significant predictor and often the only predictor of performance outcomes among the five personality traits.

A study has confirmed that conscientiousness is consistently and positively related to academic performance. In contrast, other personality dimensions are shown to be unrelated to academic performance (O'Connor & Paunonen, 2007). Further, conscientiousness is the most significant (negative) predictor of counterproductive behaviour in higher education institutions (Marcus et al., 2007), among other big five personalities dimensions. Conscientious students are organized, diligent, detailed, and persistent toward their tasks, which appears to defeat the need for counterproductive behaviours, such as academic cheating.

Conscientious students are less motivated to cheat because of their high level of diligence, making them achievement-oriented, responsible, pro-active, and honest. Hence, conscientious students are inclined to be better and well equipped academically (Peled et al., 2019), resulting in more resistance to cheating. This resistance could be extended to resisting social norms whereby, even though some fellow students or peers engage in some test, assignment, or examination malfeasance, students high in conscientiousness resist the temptation to engage in such unscrupulous deeds.

Studies have shown that conscientiousness play a role in predicting the three antecedents of the behavioural intention of TPB, which are subjective norms, perceived behavioural control, and attitude (Hendy & Montargot, 2019; Stone et al., 2010, 2007). For instance, Hendy and Montargot (2019) and Stone et al. (2007) indicated that conscientiousness is negatively significant with the peer pressure to partake in academic cheating. Stone et al.'s (2007) study, carried out among 217 undergraduate students in an American university, showed that prudence, which is a similar construct with conscientiousness, was significant with subjective norms, perceived behavioural control, and attitude toward the intention to commit academic dishonesty.

This shows that conscientiousness can reduce peer influences, negative perceptions, and the necessity to take advantage of chances to cheat during quizzes, tests, or examinations. When

students are conscientious, they tend to be diligent, set goals, and plan ways to achieve such goals through dutifulness, hard work, and self-discipline. Such attributes are of those that are rule-obedient. Conversely, students who tend to be low in self-control and frequently procrastinate are likely to be low in conscientiousness. Low self-control is the reverse of self-discipline, while procrastination can be seen as the opposite of dutifulness.

When such students procrastinate and have low self-control, they tend not to perform well in their academics. This induces pressure and ignites the desire to find an easy way out during tests, quizzes, or examinations, which is by cheating. For example, Portnoy et al. (2019) found a negative and significant relationship of self-control with students' academic dishonesty. Further, Yu et al. (2018) discovered that besides the fact that low self-control is significantly related to academic cheating, it further has a significant role on attitude, subjective norms, and perceived behavioural control. This shows that low self-controlled students develop beliefs and attitudes and tend to join in the dishonest actions of their peer group as long as there is low risk and an abundance of opportunities to do so.

Due to the low self-control of students with a low level of conscientiousness, they tend to be less apprehensive about policies and academic codes of ethics than highly conscientious students. Hence, cheating might be reflected as a possible solution to survive academically. Studies show that students who are much less apprehensive regarding rules are prone to taking risks, especially when the risks involved in cheating are perceived low, and the opportunity is available (de Bruin & Rudnick, 2007). Such opportunities give way for the intention to cheat because the motive, the belief, and the ease of performing the behaviour are furnished.

Consequently, the intention to cheat results from low self-control, and self-control is an attribute of a low conscientious person. Studies have further shown the connection between conscientiousness and intention to cheat (de Bruin & Rudnick, 2007; Hendy & Montargot, 2019; Stone et al., 2007). The results showed a negative and significant relationship between conscientiousness and intention to cheat. Hence, the following hypotheses are posited:

*H1a: Conscientiousness has a negative effect on subjective norms.*
*H1b: Conscientiousness has a negative effect on perceived behavioural control.*
*H1c: Conscientiousness has a negative effect on attitude toward cheating.*
*H1d: Conscientiousness has a negative effect on the intention to cheat.*

### *2.2.2. Antecedents of the Intention to Cheat*

In the TPB, intentions immediately precede behaviour and are a critical factor in the model as they capture the motive for such deeds (Ajzen, 1991; Beck & Ajzen, 1991). According to the model, the higher a person's intention to engage in the behaviour, the greater the propensity to elicit such behaviour.

In this study, intentions were measured as the likeliness of undergraduate students to consider cheating under diverse situations, such as quizzes, assignments, tests, examinations, or even plagiarism. In more pragmatic contexts, substantial intent may be more useful than behaviour because it generalizes across situations such that cheating will occur when pressures are high, and barriers are low. Predicting the prospect that a student intends to cheat may help develop preventive

techniques to mitigate cheating intentions. This will help improve students' moral compass towards dishonesty and cheating in several areas of life.

According to the TPB, intention has three main antecedents: subjective norms, perceived behavioural control, and Attitude. Subjective norms echo perceived social pressure to cheat academically. Perceived behavioural control reflects the ease of and opportunities to commit academic cheating, while attitudes refer to "the extent to which students has a favorable or unfavorable evaluation" (Beck & Ajzen 1991, p. 286) of intention to cheat. These variables help explain the rationale behind the intention to partake or not to partake in a certain deed.

Based on the TPB, it is hypothesized that student perceptions of subjective norms, perceived behavioural control, and attitudes towards cheating intention will affect the intention to cheat among undergraduate students at a public university in Malaysia. While several studies have used the TPB to predict intention to cheat, they have primarily been conducted in Western countries where social and cultural contexts may differ from Eastern countries such as Malaysia. According to Hofstede's classification, Western countries are primarily individualistic, while Malaysia is a collectivistic society (Hofstede, 1986).

While peer pressure has consistently been the most influential factor across different contexts (McCabe et al., 2008), its effect was discovered to be notably ample in noticeably collectivistic society (Chudzicka-Czupała et al., 2016; Maloshonok & Shmeleva, 2019; McCabe et al., 2008) such as Malaysia. Due to the individualistic nature of western societies, it is believed that attitude would be the most prevalent factor in predicting intention to cheat because individuals mainly perform or do not perform actions based on their personal favorable or unfavorable evaluation. Hence, it is believed that subjective norms will have a higher effect on intention than attitude in this study.

Further, even though a significant relationship has been established using TPB in a range of studies, there seem to be some discrepancies in findings of attitude, subjective norms, and perceived behavioural control with the intention to cheat in different studies. Jalilian et al.'s (2016) study in an Iranian university showed that attitude, subjective norms, and perceived behavioural control are positively significant with the intention to cheat among students. Nevertheless, several studies show some discrepancies (Beck & Ajzen, 1991; Kam et al., 2018; Mustapha et al., 2016). Kam et al.'s (2018) study among students in Hong Kong seems to differ slightly. The findings showed that while attitude and perceived behavioural control significantly affected their intention to cheat, subjective norms showed no significant relationship to cheating.

This finding is aligned with Beck and Ajzen (1991), which showed that only attitude and perceived behavioural control were significantly related to intention to cheat, among the TPB variables. This suggests that when students have a favorable attitude toward cheating due to the lax rules and policies against such action, they will tend to form an intention to cheat. Likewise, when the opportunity and ease to cheat is high, with no, or low risk of being reprimanded if caught cheating, the students will have the propensity to cheat during the tests, quizzes, or examination.

Additionally, other studies showed that while attitude and subjective norms were significantly related to the intention to cheat, perceived behavioural control was not (Mustapha et al., 2016). Mustapha et al.'s (2016) study using the modified TPB to explain the intention to cheat among

Malaysian Muslim students showed that attitude and subjective norms were the only variables significantly related to the intention to cheat. However, perceived behavioural control and Islamic religiosity were not significantly related to the intention to cheat.

This suggests that regardless of religious disposition or the ease of cheating, attitude and peer pressure could be the leading indicators of the intention to cheat. This study also highlights the implication of peer pressure, most especially in a collectivistic country like Malaysia. The need to belong to a group or peer pushes students to cheat when they notice some of their friends cheating.

Nevertheless, contrary to the postulation of Maloshonok and Shmeleva (2019), attitude was a higher predictor than subjective norms in a study carried out in Malaysia by Mustapha et al. (2016). Such a result could have been more influenced by the singular religious affiliation among participants in the study. Hence, the need exists to carry out more studies from a more holistic perspective, including students from various religions. Based on the literature review, the following hypotheses are posited:

*H2: Subjective norms have a positive effect on the intention to cheat.*
*H3: Perceived behavioural control has a positive effect on the intention to cheat.*
*H4: Attitude has a positive effect on the intention to cheat.*

### *2.2.3 Mediating Effects of Subjective Norms, Attitude, and Perceived Behavioural Control*

Conscientiousness, which is the tendency to be organized, goal-directed, and self-regulating, has been found to be negatively linked with cheating behaviours (Giluk & Postlethwaite, 2015). This finding, therefore, implied that a lack of effort from not being conscientious would tempt students to cheat. It is posited that organized, self-regulated, and goal-oriented students tend to be excellent academic performers because they are more prepared for their studies (Kertechian, 2018). Therefore, such students do not align with the norms of their peers regarding academic dishonesty. A study showed that subjective norms significantly mediate the link between conscientiousness and students' cheating behaviour (Hendy & Montargot, 2019). This insinuates that highly conscientious students would disassociate themselves from students who believe in cheating during examinations, tests, or assignments.

Next, highly conscientious students tend to experience a high inconvenience to cheat. This is because conscientious students take pride in working hard and are highly disciplined enough to ignore the chances of committing academic dishonesty (Kertechian, 2018). It has been narrated that lowered perceived behavioural control to cheat among students significantly mediates the relationship between conscientiousness and students' cheating behaviour (Hendy & Montargot, 2019). This suggests that highly conscientious students have lowered perceived behavioural control to cheat, resulting in low intention to commit academic dishonesty.

Because students low on conscientiousness are poorly prepared for examinations or tests, which might result in undesirable academic performance and increase the favorable disposition toward cheating behaviour. Because low conscientious students tend to be less disciplined and concerned about rules (de Bruin & Rudnick, 2007), cheating might be considered a potential solution to their low academic performance. Highly conscientious students have a low tolerance for the idea of cheating and an unfavorable disposition toward cheating; therefore, they do not have the propensity

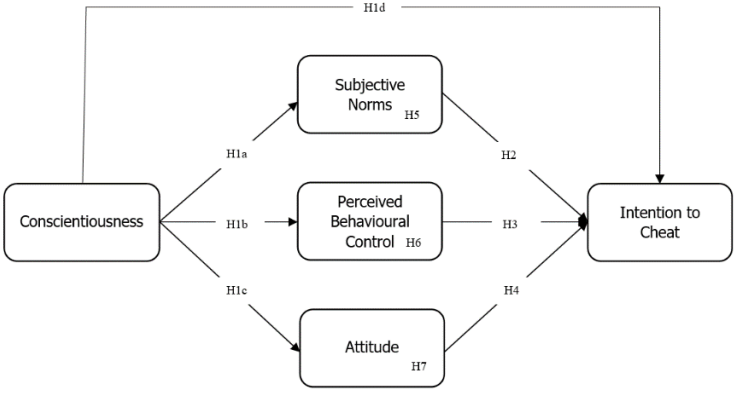
to engage in academic cheating activities. The findings of Hendy and Montargot (2019) revealed that attitude to cheating significantly mediates the relationship between conscientiousness and cheating behaviour among students.

Based on the above, the following hypotheses are posited.

*H5: Subjective norms negatively mediate the relationship between conscientiousness and intention to cheat.*
*H6: Perceived behavioural control negatively mediates the relationship between conscientiousness and intention to cheat.*
*H7: Attitude negatively mediates the relationship between conscientiousness and intention to cheat.*

The originality of this study is the testing of the relationship between conscientiousness, subjective norm, perceived behavioural control, attitude toward cheating, and intention to cheat. The proposed research model is shown in Figure 1.

**Figure 1:** Research Model




## 3. METHODOLOGY

### *3.1. Participants and Procedure*

The scope of this study is a Malaysian public university. The accessible population was undergraduate students at the university. The sample was derived using convenience sampling. The data collection took place between December 2019 and January 2020. A total of 1427 individuals participated in this study, and 1012 responses were received; 917 respondents` data were relevant for the analysis. Hence the effective response rate was 64.3%. The majority of the participants were females at 515 (56.2 and Malays at 83.2%. Their average age group was between 21-23 years.

### *3.2. Research Design and Instruments*

A cross-sectional survey design was used in this study. Data were collected online using Google Forms. Conscientiousness was measured using a 2-item scale adapted from Rammstedt and John (2007). Measures of perceived behavioural control were adapted from Stone et al. (2010). The measurement of attitude toward cheating adapted from Stone et al. (2010) was assessed by asking respondents to rate seven items. All constructs above were answered on a 5-point scale in which 1 indicated strongly disagree, and 5 indicated strongly agree. Next, the subjective norm variable was adapted from Stone et al. (2010) and consisted of seven items. A 5-point, Likert-type scale ranging from (1) never to (5) many times was used to measure all items. Intention to cheat was also adapted from Stone et al. (2010). The measure included eight items rated on a 5-point scale in which 1 indicated very unlikely, and 5 indicated very likely.

## 4. RESULTS AND DISCUSSION

### *4.1. Descriptive Statistics of the Study Variables*

Table 1 presents the descriptive statistics of the constructs. Conscientiousness had an average of 2.96 (on a 5 -point Likert scale) with a standard deviation (SD) of 0.97. Attitude had a mean of 3.20, SD of 0.87. The mean score of perceived behavioural control was 2.35, with a SD of 0.96. The average subjective norms score was 3.06, with a SD of 1.10. Intention to cheat had a mean score of 2.21, with a SD of 0.96.

**Table 1:** Mean Values, Standard Deviations of Variables Used in this Study.

| Variable | Mean | Standard Deviation |
|---|---|---|
| **Intention** | 2.21 | 0.96 |
| **Attitude** | 3.20 | 0.87 |
| **Perceived Behavioural Control** | 2.35 | 0.96 |
| **Subjective Norms** | 3.06 | 1.10 |
| **Conscientiousness** | 2.96 | 0.97 |

### *4.2. Data Analysis*

For the analyses of the research model, SPSS 25 and Smart PLS 3.0 were used. The measurement model was tested, followed by an examination of the structural model according to the rules in the literature (see Hair et al., 2016).

### *4.3. Measurement Model*

Convergent validity, followed by discriminant validity, was tested. The factor loading, average variance extracted (AVE), and composite reliability (CR) were used to examine the convergent validity (Hair et al., 2017). As indicated in Table 2, all factor loadings were above 0.7, AVE was above 0.5, and all CR was more than 0.7. Hence, the convergent validity of the constructs was satisfied (Fornell & Larcker, 1981).

**Table 2:** Convergent Validity

| Construct | Item(s) | Loading | CR | AVE |
|---|---|---|---|---|
| **Attitude** | Att3 | 0.916 | 0.883 | 0.716 |
| | Att4 | 0.781 | | |
| | Att5 | 0.836 | | |
| **Conscientiousness** | Consc1 | 0.891 | 0.863 | 0.758 |
| | Consc2 | 0.850 | | |
| **Intention** | Int1 | 0.725 | 0.917 | 0.580 |
| | Int2 | 0.694 | | |
| | Int3 | 0.716 | | |
| | Int4 | 0.753 | | |
| | Int5 | 0.750 | | |
| | Int6 | 0.829 | | |
| | Int7 | 0.780 | | |
| | Int8 | 0.836 | | |
| **Perceived Behavioural Control** | PBC1 | 0.883 | 0.891 | 0.731 |
| | PBC2 | 0.810 | | |
| | PBC3 | 0.870 | | |
| **Subject Norms** | SN1 | 0.781 | 0.930 | 0.657 |
| | SN2 | 0.776 | | |
| | SN3 | 0.794 | | |
| | SN4 | 0.892 | | |
| | SN5 | 0.808 | | |
| | SN6 | 0.805 | | |
| | SN7 | 0.812 | | |

***Note:*** The following items were deleted due to low loading: Att 1, 2; PBC 4.

Next is the test of discriminant validity. As Gholami et al. (2013), discriminant validity is attained if a construct is genuinely distinct from the other constructs and measures how many indicators represent only a single construct. Discriminant validity means that two latent variables representing different theoretical concepts are statistically different.

Henseler et al. (2015) proposed that this study reports discriminant validity using the HTMT ratio. If the HTMT value is more than 0.85, this indicates a severe issue in discriminant validity (Franke & Sarstedt, 2019). As shown in Table 3, the HTMT criterion is below 0.85, demonstrating that the discriminate validity was established. Hence, the HTMT finding suggests that the latent variables in this study were significantly different.

**Table 3:** Discriminant Validity: HTMT

| | Attitude | Conscientiousness | Intention | Perceived Behavioural Control | Subjective Norm |
|---|---|---|---|---|---|
| **Attitude** | | | | | |
| **Conscientiousness** | 0.251 | | | | |
| **Intention** | 0.198 | 0.645 | | | |
| **Perceived Behavioural Control** | 0.190 | 0.508 | 0.736 | | |
| **Subjective Norms** | 0.559 | 0.573 | 0.541 | 0.482 | |

### *4.4. Structural Model*

It is necessary to confirm that lateral collinearity in the structural model is acceptable. According to Diamantopoulos and Siguaw (2006), the variance inflation factor (VIF), which measures the collinearity, must be lower than 3.3. Table 4 indicates that all the VIF values were lower than the threshold value that Diamantopoulos and Siguaw set (2006), thus confirming the collinearity was not a problem for this study.

For the hypothesis testing, using the bootstrapping technique with a re-sampling of 5000, the resolution to accept the hypothesis is established on value of the t-value, p-value and also confidence interval bias corrected. According to the analysis, all the three hypotheses were supported. The study found that conscientiousness was negatively and significantly related to subjective norms, perceived behavioural control and intention (ß = -0.574, t = 18.641: LL = -0.567, UL = 0.459, P < 0.01); (ß =-0.509, t = 16.266: LL = -0.498, UL = -0.391, P < 0.01); (ß =-0.315, t = 9.680: LL = -0.349, UL = -0.230, P < 0.01) respectively. Hence H1a, H1b, H1c were supported. Surprisingly, conscientiousness was positively and insignificantly related to attitude (ß =0.251, t = 6.270: LL = 0.150, UL = 0.287, P < 0.01). Hence, H1d was not supported.

Further, the finding of the analysis showed that subjective norms, perceived behavioural control and attitude positively and significantly influence intention to cheat (ß = 0.144, t = 5.641, LL = 0.110, UL= 0.230, P < 0.01); (ß = 0.519, t =15.710, LL = 0.409, UL= 0.527, P < 0.01); (ß = 0.062,t = 2.182, LL = 0.006 UL= 0.100, P < 0.05). Therefore, H2, H3, and H4 were supported.

**Table 4:** Structural Model/Hypotheses Testing

| Hyp | Relationship | Beta | SE | T Stat | P Values | LL | UL | Decision | VIF |
|---|---|---|---|---|---|---|---|---|---|
| **H1a** | CONSC -> SN | -0.574 | 0.028 | 18.641 | 0.000 | -0.567 | -0.459 | Supported | 1.000 |
| **H1b** | CONSC -> PBC | -0.509 | 0.027 | 16.266 | 0.000 | -0.498 | -0.391 | Supported | 1.000 |
| **H1c** | CONSC -> ATT | 0.251 | 0.035 | 6.270 | 0.000 | 0.150 | 0.287 | NS | 1.000 |
| **H1d** | CONSC -> INT | -0.315 | 0.030 | 9.680 | 0.000 | -0.349 | -0.230 | Supported | 1.673 |
| **H2** | SN -> INT | 0.144 | 0.030 | 5.641 | 0.000 | 0.110 | 0.230 | Supported | 2.197 |
| **H3** | PBC -> INT | 0.519 | 0.030 | 15.710 | 0.000 | 0.409 | 0.527 | Supported | 1.465 |
| **H4** | ATT -> INT | 0.062 | 0.024 | 2.182 | 0.029 | 0.006 | 0.100 | Supported | 1.467 |

***Notes:*** CONSC = Conscientiousness, SN = Subjective norms. PBC = Perceived behavioural control, ATT = Attitude, and Int = Intention to cheat. NS = Not supported. Hyp = Hypotheses.

To determine the mediating roles of attitude, perceived behavioural control and subjective norm, the study looked at the specific indirect effect of the constructs. The findings in Table 5 show that subjective norm, and perceived behavioural control significantly mediate the relationship between CONSC and intention (ß = -0.088, t = 5.307: LL = -0.121, UL = -0.055, P < 0.01); (ß = -0.211, t = 10.798: LL = -0.249, UL = -0.173, P < 0.01). However attitude did not significantly mediate the link between CONSC and intention (ß = 0.012, t = 2.003: LL = 0.002, UL = 0.024, P < 0.05). Hence H5, and H6 were supported but H7 was not supported.

**Table 5:** Mediation Hypotheses Testing

| Hyp | Relationship | Mean | SE | T Stat | P Values | LL | UL | Decision |
|---|---|---|---|---|---|---|---|---|
| **H5** | CONSC -> SN -> INT | -0.088 | 0.017 | 5.307 | 0.000 | -0.121 | -0.055 | Supported |
| **H6** | CONSC -> PBC -> INT | -0.211 | 0.020 | 10.798 | 0.000 | -0.249 | -0.173 | Supported |
| **H7** | CONSC -> ATT -> INT | 0.012 | 0.006 | 2.003 | 0.045 | 0.002 | 0.024 | NS |

***Notes:*** CONSC = Conscientiousness, SN = Subjective norms. PBC = Perceived behavioural control, ATT = Attitude, and Int = Intention to cheat. NS = Not supported. Hyp = Hypotheses.

Table 6 shows the assessment of coefficient of determination ($R^2$), the effect size ($f^2$), as well as the predictive relevance ($Q^2$) of exogenous variables on endogenous variables of subjective norms, perceived behavioural control, attitude, and intention. As shown in the PLS algorithm result in Figure 2, the table indicated that CONSC, subjective norms, perceived behavioural control, and attitude explain 65.1% of the overall variance of intention to cheat. Falk and Miller (1992) opined that $R^2$ values should be equal to or greater than 0.10 for the variance explained of a particular endogenous construct to be deemed adequate. In this study area with four predictors, an $R^2$ value of 65.1% is sufficient.

The study used the $Q^2$ by Geisser (1974) to analyze the predictive accuracy. A blindfolding procedure was conducted with a distance of 8 to assess the model's predictive power. The $Q^2$ indicates the predictive relevance for specific endogenous constructs if the $Q^2$ value is greater than 0 (Fornell & Cha, 1994; Hair et al., 2017). The $Q^2$ of the endogenous variable, subjective norms, perceived behavioural control, attitude, and intention, were 0.177, 0.156, 0.037, and 0.332, respectively, indicating an acceptable predictive relevance of the model.

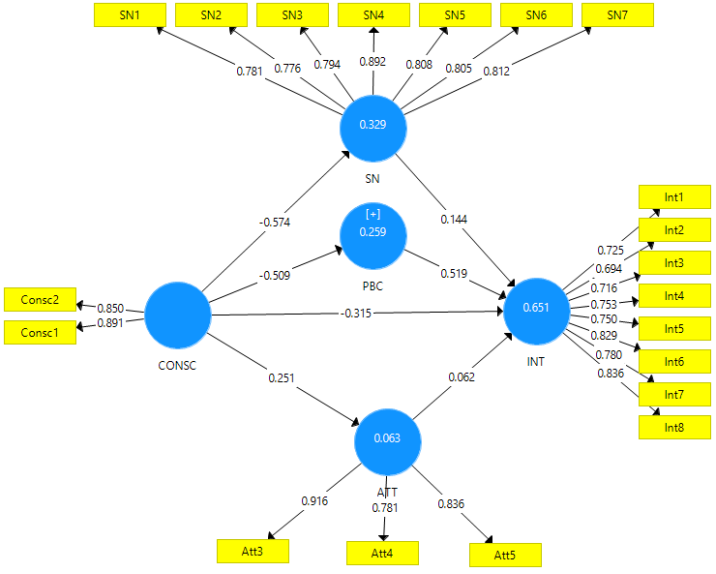
According to Cohen (1992), effect sizes of 0.35, 015, and 0.02 are considered large, medium, and small effect sizes, respectively. The study found that CONSC had a medium, small, large, and large effect on attitude, perceived behavioural control, subjective norms, and intention (0.067; 0.349; 0.490; 0.170), respectively. The following are the effect of attitude (0.007), perceived behavioural control (0.526), and subjective norms (0.027) on intention.

**Table 6:** Coefficient of Determination ($R^2$), $Q^2$ and Effect Size ($f^2$)

| Construct | $R^2$ | $Q^2$ | $F^2$ | Decision |
|---|---|---|---|---|
| **Intention** | 0.651 | 0.332 | | |
| **Attitude** | 0.063 | 0.037 | 0.007 | Nil |
| **Perceived Behavioural Control** | 0.259 | 0.156 | 0.526 | Large |
| **Subjective Norms** | 0.329 | 0.177 | 0.027 | Small |
| **CONSC** | | | 0.067[a]; 0.349[b]; 0.490[c]; 0.170[d] | Small; Large; Large; Medium |

***Notes:*** a= ATT; b=PBC; c= SN; d= INT. CONSC = Conscientiousness

**Figure 2:** PLS Algorithm result




### *4.5. Discussion*

The current study aims to determine the antecedents of the intention to cheat among undergraduate students in a Malaysian public university. The psychological antecedents were adapted from the TPB theory: attitude, subjective norms, and perceived behaviour. Other antecedents from the Big Five taxonomy of personality conscientiousness were analyzed to understand better how these three variables are developed.

The findings of this study show that conscientiousness among the students indicates a negative relationship with subjective norms. This result suggests that when the conscientiousness of a student increases, the desire to accede to peer-group pressure to cheat declines. The findings of this study are aligned with previous studies (Hendy & Montargot, 2019; Stone et al., 2010, 2007; Yu et al., 2018). This may be because when students prepare adequately for their exams and attain high self-control and discipline, the peer pressure to cheat will be reduced, even if they are aware of their colleagues' cheating deeds. Such conscientious students also tend to be law-abiding, which

shows that they take the rules and regulations seriously and do not want to jeopardize their reputation; hence, they avoid cheating while working diligently to succeed academically.

Further, the findings show that conscientiousness is negatively significant with perceived behavioural control. This finding is aligned with previous studies (Hendy & Montargot, 2019; Stone et al., 2010; Yu et al., 2018). Highly conscientious students tend to be diligent, hardworking, responsible, and law-abiding; hence they would never take advantage of opportunities to cheat while doing their assignments, quizzes, tests, or examinations. Because they are well prepared for their academic tasks, they do not see the need to cheat, even though several cheating opportunities are available (Yu et al., 2018).

Likewise, the result reveals that conscientiousness is negatively significant with the intention to cheat among the students. This finding is echoed by previous studies (de Bruin & Rudnick, 2007; De Vries et al., 2011; Hendy & Montargot, 2019; Portnoy et al., 2019; Yu et al., 2018). When students are well disciplined, diligent, and law-abiding, they will not intend to cheat because they are well prepared for the quizzes, tests, or examinations. Because they are law-abiding, it will also extend to their role to avoid plagiarizing other people`s work.

Nevertheless, the result shows that conscientiousness is positively but insignificantly related to attitude toward cheating. This finding contradicts the results of Hendy and Montargot (2019). The possible explanation for this contradiction may be the low level of students` conscientiousness, which is below average. Further, it may be that the nonchalant behaviour of the examiners or lecturers toward academic dishonesty has resulted in a highly favorable attitude toward cheating among hardworking and diligent students. Iberahim et al. (2013) stated that students perceived that cheating was tolerable because their lecturers did not mind the behaviour. Brimble's (2016) findings also supported the contention that the most concerning assertion about academic dishonesty was student understanding of the culture that accepts cheating as normal. Another major reason could be that because of a COVID-19 pandemic, students currently take their tests and examinations from home without close supervision, which provides room for an unfavorable attitude to cheat. This is an alarming discovery, which is corroborated by this current study.

Even though the students are hardworking and disciplined, they may still have an attitude toward cheating because of the pressure to maintain their academic achievement. Studies show that students may favor cheating to ensure equal opportunities with those who engage in cheating (Engler et al., 2008; Kremmer et al., 2007). Enforcing penalties for cheating could deter students from having a positive attitude toward cheating and reduce the belief that academics are relaxed regarding apprehending cheats among students. This is supported by the deterrence theory that postulated that severe punishments from faculty could dissuade students from cheating. Based on TPB theory, the lesser the control belief and PBC to perform a specific act, the higher the likelihood of avoiding such behaviour (Ajzen, 1991). Thus, due attention to the importance and effectiveness of student policies and academic codes of ethics by faculties could mitigate the intention to be involved in academic dishonesty among students.

Further, the findings of this study indicate a significant relationship among subjective norms, perceived behavioural control, and attitude with the intention to cheat among students. This finding is aligned with Beck and Ajzen (1991), Hendy and Montargot (2019), Jalilian et al. (2016), and Mustapha et al. (2016). The finding brought to an understanding that when students have a highly

favorable disposition toward academic dishonesty, they will be more inclined to engage in academic dishonesty. In addition, when students perceive that it is normal to cheat because their peers engage in the same activities, there will be a higher tendency to engage in academic cheating activities. Further, when students are afforded plenty of opportunities to cheat because of inadequate supervision or easy access to examination or test answers, such students will participate in academic cheating activities.

The mediation analyses found that subjective norms and perceived behavioural control significantly and negatively mediated the relationship between conscientiousness and the intention to cheat. This finding is supported by previous studies, which opined that hardworking, disciplined, and diligent students would not be swayed by the dishonest academic norm among their peers and would not take advantage of relaxed supervision to cheat during exams or tests (Hendy & Montargot, 2019). However, attitude insignificantly but positively mediated the relationship between conscientiousness and intention to cheat. Thus, even diligent, law-abiding, and hardworking students could face many temptations to cheat when they notice that cheating students attain higher academic performance. Because conscientious students are goal-oriented and notice such good academic performance from the cheats, they tend to favor academic cheating, hence having a propensity to cheat. Most especially because of the current COVID-19 pandemic, students might be less diligent at home due to the psychological stress of the pandemic (Chhetri et al., 2021); therefore, it might result in students having a favorable disposition toward academic cheating and the desire to participate in academic cheating.

Further, it should be noted that subjective norms have a higher predictive value than attitude. This is supported by the views of past studies in a collectivistic society (Maloshonok & Shmeleva, 2019). Nevertheless, perceived behavioural control was identified as the most significant predictor of intention, and past studies supported this result (Beck & Ajzen, 1991). It is believed that when the faculty do little or nothing in punishing students caught cheating, the general perception of the ease to cheat and the low risk involved sweeps over students` minds.

### *4.5.1. Theoretical Implications*

This study contributes theoretically to the research on the intention to cheat among students. This study revealed the importance of personality in predicting attitude, subjective norms, perceived behavioural control, and intention regarding the TPB. This shows that a student's personality would determine how they form a judgment, perception, ease of performing or not performing academic dishonesty, and the propensity to cheat. Further, the current study discovered that the personality would not matter much on the attitude if the general perception about cheating in the university were acceptable, especially when there is no enforcement against cheating. Hence, this study contributes to the significance of TPB theory in investigating the intention to cheat among students. It is evidenced that the integration of three main concepts of TPB could explain a student's behaviour in dealing with unfavorable issues like academic cheating. Similarly, the big five personality trait theory complements the TPB theory by shedding light on the role of the collectivistic and individualistic society in predicting certain behaviour such as academic dishonesty. Because of the collectivistic nature of Malaysian society, subjective norms potentially play a more prominent role than an attitude in predicting the dishonest academic behaviour of students in such a society.

### *4.5.2. Practical Implications*

In terms of practical implications, this study provides valuable insights that many parties, especially higher education institutions, university management, the academic staff, and policymakers, may use. For higher education institution authorities, the findings could help universities and academic staff prepare appropriate measures in implementing learning and teaching during the current COVID-19 pandemic. Academics need to quench the notion about the norms of cheating among students. Top managements reiterating their stance on academic cheating could do this. Top management should reiterate the importance of lecturers upholding the ethics code and reprisals for any student caught cheating. Further, lecturers can be trained to effectively manage virtual classes, examinations, tests, and assignments to reduce the opportunity to cheat among students. This will reinforce the resolve of academics on abating cheating conduct among students.

Faculties can introduce an academic code of ethics and communicate it effectively to students so that they understand the message on the need to adhere to these codes. Academic codes of ethics should be clearly stated in a faculty's philosophy regarding integrity; organizational structure, trusting atmosphere; competitive pressures; the severity of punishments; the existence of clear rules regarding unacceptable behaviour; faculty monitoring. At the university level, this academic code of ethics could be consistently become the main priority as a shared value to nurture an excellent academic culture that can substantially influence the attitudes, subjective norms, and perceived behavioural control of students' intention to cheat.

Further, more efforts are required from academics to make a class as exciting and creative as possible while giving assignments and quizzes that are not readily available online. Tests, quizzes, and examinations can be presented via a case study in which students are assessed based on their unique answers to scenarios. This will enable students to avoid cheating and work harder, especially when examinations are conducted online due to the COVID-19 pandemic.

When enforced academic codes of ethics are emphasized and classes are reorganized, lecturers can quickly notice any student cheating during class assessments. As a result, such students will have no chance to cheat, and because the risk of being caught is high, the students will tend not to cheat. The importance of being diligent and law-abiding will also ensure that students do not see the need to cheat. Lecturers could reward students based on their responses to answers in class or pop quizzes, which could heighten the desire of students to be more diligent and hardworking in their studies.

Enforcing the policies on cheating, reducing the barrier to cheating, and emphasizing the honor code can be instilled in the university`s culture to change perceptions and beliefs about the unfavorable attitude toward cheating among students. This is mainly because when students who intend to cheat are caught and severely reprimanded, other students form unfavorable perceptions of academic cheating. Hence, diligent and hardworking students would form unfavorable perceptions toward academic cheating and have more resistance toward the propensity to cheat.

In general, law-abiding, diligent, highly self-controlled students have high resistance to want to cheat. Academics have a role to play to maintain such attributes in already highly conscientious students and ensure that they motivate less conscientious students to want to be more conscientious.

This could be done by providing a supportive platform for the students in a class. It is indicated that proactive students tend to be more conscientious (Fawehinmi & Yahya, 2018). Academics can discuss suggestions with the students to make them more diligent and hardworking.

This could be by creating interactive and creative coursework, igniting the motivation to work harder. Due to the online classes being conducted during the COVID-19 pandemic, academics can increase the participation of students by using applications such as Trello and Kahoot. Additionally, academics need to be fair in their grading systems and be supportive within the confines of the honor code. Finally, it is imperative for the faculty to constructively confront any student caught cheating to investigate and see the circumstances on how to avoid a similar occurrence in the future.

Grasmick and Bursik Jr (1990) extended the scope of punishment to include punishment imposed by law (Yussof & Ismail, 2018) and factors relating to conscience, i.e., guilt for committing an immoral act. It could relate to the attachment to "significant others," such as feeling embarrassed for losing the respect of family members and persons significantly important to the guilty student. In the university context, warning letters should be issued to the guilty students, which would also be copied to the respective students' parents or guardians. Further, the student could be asked to re-do the assignment, test, or examination. In addition, such students' marks could be deducted.

The implication on the government is the need to broadcast on various media the disadvantages of engaging in academic cheating among students. Mentors and motivational speakers can also be organized to visit universities to speak to students on the importance of being diligent, self-disciplined, independent, and not falling victim to peer pressures, especially when related to unethical issues.

## 5. CONCLUSION

This study investigated the role of conscientiousness, subjective norms, perceived behavioural control, and attitude on the intention to cheat. The study reveals the importance of upholding policies and rules to deliver a strong message on the unfavorable attitudes of academic cheating. The TPB theory provides an understanding of the intention to cheat among students. The integration of the theory's main concepts influences the process of understanding the issue from the student's perspective. This is done by investigating the internal and external elements related to individual perception and judgment. Therefore, instilling a strong culture of not accepting this misconduct is crucial for its impact on the university's reputation, the orientation of students when they start working in the organization, and the nation's integrity. Understanding internal and external elements that could influence students' intention to cheat also suggests that the effort to mitigate the issue could be done through the university's understanding and actual execution.

This study has some limitations. First, there may be a case of social desirability bias among the student's responses. Even though this study attempted to avoid this bias by using different scale methods in the survey, future studies could attempt to interview students caught cheating to understand the antecedents to commit academic cheating. Further, this study was conducted at one public university in Malaysia. It is recommended that this study be replicated in other private universities in Malaysia. Likewise, future studies should be carried out in other collectivistic

countries to generalize the robustness of this model. Also, future studies may use other variables such as proactive personality and career adaptability as antecedents of subjective norms, perceived behavioural control, and attitude to predict intention to cheat. Studies have shown that a highly conscientious student tends to perform very well later when working. It would be interesting to understand the role of career adaptability as an antecedent of the TPB model to understand the students` intention to cheat. This is based on the premise that if students have plans for their future career, make necessary inquiries on how to achieve the set goals, make decisions, and also have confidence in achieving set goals, they would be less prone to have the propensity to cheat.

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