Factors Influencing The Intention To Use Masks Among Tertiary Students In Malaysia.

Krishnaveni Sritharan, Jeffery Ho Vui Shing, Kimberly Tan Cheer Ching
Sunway College Johor Bahru (Malaysia)

Abstract
Background: *This study investigates the socio-demographic factors, reliability of constructs and the influence of attitude, subjective norm, and perceived behavioural control on behavioural intention to use masks among 387 respondents among tertiary students in Malaysia.*

Materials and Method: *The sample comprised predominantly young adults aged 18-20 years (69.5%), with a higher representation of females (58.7%) and private institution students (92.8%). The reliability analysis using Cronbach's Alpha indicated high internal consistency for the constructs of attitude (0.871) and behavioural intention (0.806), while subjective norm (0.726) and perceived behavioural control (0.721) showed acceptable reliability.*

Results: *Hypothesis testing revealed significant positive impacts of attitude (β = 0.603, t = 12.613, p = 0.039), subjective norm (β = 0.273, t = 5.517, p < 0.001), and perceived behavioural control (β = 0.047, t = 1.319, p < 0.001) on behavioural intention. The regression model was significant, F (3, 383) = 224.845, p < 0.001, and explained 63.8% of the variance in behavioural intention (R² = 0.638).*

Conclusion: *The study concludes that attitude, subjective norm and perceived behavioural control significantly influence behavioural intention, explaining 63.8% of its variance. All three hypotheses were supported, highlighting the strong, positive impact of these factors on behavioural intention. These findings underscore their importance in shaping behavioural intentions. Future research should consider broader demographic variables and additional factors to further validate and expand the understanding of behavioural intentions across different contexts.*

Keywords: *Mask, Theory of Planned Behaviour, Post COVID-19 Pandemic*

I. Introduction

The COVID-19 pandemic has fundamentally transformed global health practices, with mask-wearing becoming a critical preventive measure to curb the spread of the virus. Despite the widespread recommendation from health authorities, the intention to use masks varies significantly across different populations (Elgersma et al, 2023).

In Malaysia, tertiary students represent a crucial demographic whose health behaviours can significantly impact public health outcomes. Understanding the factors influencing their intention to use masks is essential for developing effective health communication strategies and policies.

This study aims to investigate the determinants of mask-wearing intention among tertiary students in Malaysia, utilising the Theory of Planned Behaviour (TPB) as the guiding framework. Specifically, this research focuses on how subjective norms, such as peer and family influences, shape students' intentions, alongside their attitudes towards the efficacy of mask usage and their perceived control over accessing and using masks.

By examining these factors, this study seeks to provide insights into the psychological and social dynamics underpinning mask-wearing behaviours among Malaysian tertiary students. The findings will offer valuable implications for public health interventions aimed at enhancing compliance with preventive measures in educational settings.

II. Research Hypothesis And Model

The study has adopted the Theory of Planned Behaviour. The key construct of the model consists of Attitude, Subjective Norms and Perceived Behavioural Control. Attitude reveals psychological approaches towards certain performances of behaviour. Subjective Norm denotes the acceptance of the peers' endorsement of an assumed behaviour. Perceived Behavioural Control measures a person's awareness to perform the action based on their environment and self-efficacy (East et al, 2017).
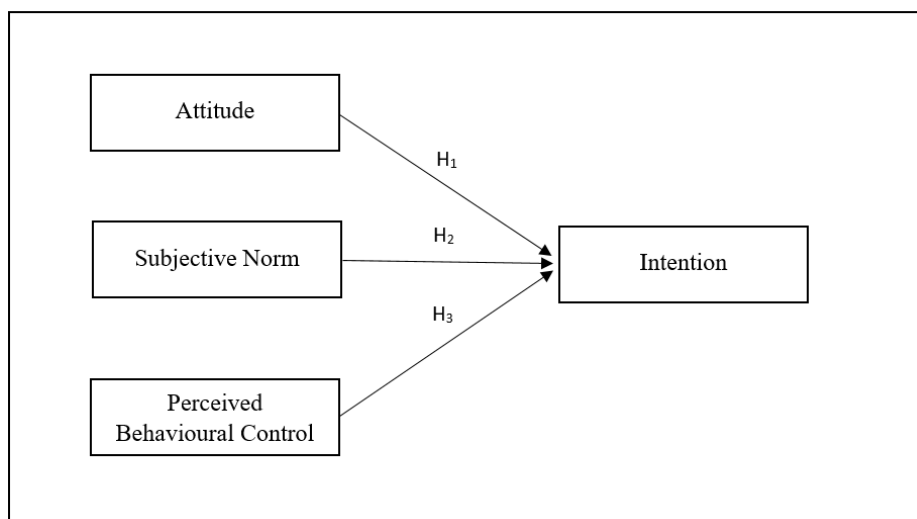
Figure 1: Research Model & Hypothesis. Source: Researchers own construction based on the Theory of Planned Behaviour (Ajzen et.al.,1992)

The Theory of Planned Behaviour (TBP) is an extended version of the TRA by introducing an element called 'Perceived Behavioural Control' (PBC) by Ajzen Icek (1991). PBC is a non-volitional behaviour to the theory (Ajzen, 1991) and it encompasses control belief and self-efficacy theory; which has been included to improve the prediction of intention (Ajzen, 1991).

Self-efficacy theory was proposed by Bandura (1977) which derived from the social cognitive theory. Expectations like motivation, performance and feelings of frustration are linked with recurring failures that determine the effect and behavioural reactions (Bandura, 1977). Hence, Bandura divided expectations into self-efficacy and outcome expectancy (Bandura, 1994). Self-efficacy is defined as the conviction that one can successfully execute the behaviour required to produce the outcomes. The outcome expectancy refers to a person's estimation that a given behaviour will lead to certain outcomes (Bandura, 1994). The researcher claims that self-efficacy is the paramount precondition for behavioural change as it determines the initiation of a coping behaviour (Bandura, 1994). Therefore, Ajzen (1991) have included perceived behavioural control to better investigate intention.

TBP provides that intention to perform a behaviour is an indication of the likelihood of engaging in a particular behaviour (Kinsky et al., 2015). Intention has been defined as an act of mental determinacy towards an action or result; intention is an essential precursor to action (Shaw et al., 2007). The TPB theorises that behaviour directly correlates to behavioural intention. Behavioural intention is moulded by a person's attitude, subjective norm and perceived behavioural control. TBP has been suggested by previous researchers that it predicts and supports behavioural intentions in consumer behavioural studies (Southkey, 2011).

The factors of TBP being attitude, subjective norms and perceived behavioural control have had a positive influence on a person's behavioural intention (Brouwer et al., 2009). Previous researchers have indicated that subjective norms will influence attitude but both factors are not independent (Al-Rafee and Cronan, 2006). The formation and change of a person's attitude can be explained by the persuasion theory and cognitive dissonance theory (Lim and Dubinsky, 2005). Persuasion theory provides that a person's attitude is indirectly influenced by suggestions and disagreements received from peers (Eagly and Chaiken, 1993). The cognitive dissonance theory states that a person may change their attitude towards behaviour to feel affiliated with others (Festinger, 1957). Furthermore, information and advice will positively affect the person from accruing out the particular behaviour (Miniard and Cohen, 1981). Additionally, Chang (1998) discovered that subjective norms will significantly affect attitude and will improve the model fit of TPB. Accordingly, one's attitude toward using pirated software is likely to be influenced by significant others.

Previous researchers have utilised TPB in many information technologies-based research to measure the behavioural intention of the users like in-game purchases (Sritharan, K et al., 2020), technology-assisted teaching (Teo & Lee, 2010), online stock trading (Gopi & Ramayah, 2007) and using mobile pc among students (Ramayah & Suki, 2006).

Schaupp and Festa (2018) have utilised TPB to identify the acceptance of cryptocurrency in e-government and the researchers further explored the importance of each of the TBP constructs in their research. The empirical evidence showed a satisfactory level of utilising the theory to determine the acceptance of the behavioural intention (Schaupp & Festa, 2018). Mazambani & Mutambara (2019) have utilised TBP in their

research to analyse the behavioural intention in the adoption of cryptocurrency in South Africa. TPB has been successfully utilised to predict intention and behaviour in an extensive variety of situations (Ajzen, 1991).

Though TBP has best predicted the behavioural intention several researchers have concluded that this theory is less predictive of the intention with an average of 28% variance in behaviour (Sheeran & Orbell, 1999). However, 72% of the unexplained gaps have declared the theory as an incomplete model (Sheeran, 2002). Therefore, past researchers have included past behaviour as an additional variable to explain the proportion of the explained variance (Mullan & Wong, 2009). With past behaviour, intention is a better predictor (Armitage and Conner, 2001).

Attitude

Fishbein and Ajzen (1975) defined attitude as the evaluation of positive or negative consequences of a person performing a specific behaviour. Attitude assesses the outcome of a specific behaviour. Hence, the intention to perform a specific behaviour is built upon the perceived attitude. A person with a positive attitude is more likely to embrace cryptocurrency usage (Sadaf et al., 2013). Thus, based on this discussion, it is theorised that:
H1: Attitude will positively influence on behavioural intention.

Subjective Norms (SN)

SN is explained by Fishbein and Ajzen (1975) as the perception of people that are important to the person who is performing the behaviour in question. However, in research done on the intention to perform an in-game purchase, SN was not significant as social influence did not infer the intention (Sritharan et al., 2020). On the other hand, social influence can pressure a person to perform a certain behaviour. Thus, SN plays a prominent role in a person's intention (Hus & Lu, 2005). A person who perceives greater social pressure to use cryptocurrency has a more positive intention. Based on this aforesaid assertion, it is hypothesised that:
H2: Subjective Norms will positively influence behavioural intention.

Perceived Behavioural Control (PBC)

Ajzen (1991) have classified PBC as "an individual's perceived ease or difficulty of performing the particular behaviour ". A person must possess significant control factors, for example, the opportunity to perform the said behaviour (Wong & Mullan, 2009), habits (Ouellete & Wood, 1998) or relevant media exposure (Ajzen, 2005). PBC will become a better predictor of intention if relevant past behaviour is present (Sritharan et al., 2019). Therefore, a person's past behaviour of performing purchases with cryptocurrency will influence their behavioural intention. Therefore, this study proposes that:
H3: Perceived Behavioural Control will positively influence behavioural intention.

III. Methodology

This study employed a quantitative research design to investigate the factors influencing the intention to use masks among tertiary learners in Malaysia. The target population comprised students from various public (IPTA) and private (IPTS) institutions in Malaysia. A sample size of 387 respondents was selected using convenience sampling to ensure representation across different age groups and educational levels. The data collection instrument was a structured questionnaire designed to measure the constructs of the Theory of Planned Behaviour, including Attitude, Subjective Norm, Perceived Behavioural Control, and Behavioural Intention.

Data collection was conducted through an online survey distributed via email and social media platforms. Respondents were informed about the purpose of the study and assured of the confidentiality of their responses. Participation was voluntary, and informed consent was obtained from all participants.

The collected data were analysed using SPSS 25.0. Descriptive statistics were used to summarize the demographic characteristics of the respondents. Reliability analysis was conducted using Cronbach's Alpha to assess the internal consistency of the constructs. Additionally, multiple regression analysis was employed to examine the relationships between Attitude, Subjective Norm, Perceived Behavioural Control, and Behavioural Intention. The results were interpreted based on the significance levels and coefficients obtained from the analysis.

IV. Results
Table 1: Socio-demographic Information of 387 Respondents

	Frequency	Percentage
Gender		
Male	160	41.3
Female	227	58.7
Age		

18 – 20	269	69.51
21 – 23	100	25.84
24- 26	13	3.36
27 and above	5	1.29
Type of Institution		
Public (IPTA)	28	7.2
Private (IPTS)	359	92.8
Level of Studies		
Pre-University/Certificate	63	16.28
Diploma	237	61.24
Bachelor Degree	83	21.45
Postgraduate	4	1.03

The study sampled 387 respondents, with a gender distribution of 41.3% males (160 respondents) and 58.7% females (227 respondents). The majority of the respondents (69.51%) were aged between 18-20 years (268 respondents), followed by those aged 21-23 years (25.84%, 99 respondents). A smaller percentage fell into the 24-26 years (3.36%, 13 respondents) and 27 and above (1.29%, 5 respondents) age categories. In terms of the type of institution, 7.2% (28 respondents) were from public institutions (IPTA), and 92.8% (359 respondents) were from private institutions (IPTS). This distribution indicates a higher participation rate from private institutions. The educational levels of the respondents included pre-university/certificate (16.28%, 63 respondents), diploma (61.24%, 236 respondents), bachelor degree (21.45%, 83 respondents), and postgraduate (1.03%, 4 respondents). This variety ensures a comprehensive understanding of mask usage intentions across different stages of higher education.

Table 2: Reliability table

Construct	Cronbach's Alpha	Interpretation
Attitude	0.871	Good
Subjective Norm	0.726	Acceptable
Perceived Behaviour Control	0.721	Acceptable
Behavioural Intention	0.806	Good

The reliability of the constructs measured in this study was assessed using Cronbach's Alpha, a common measure of internal consistency. The results indicate that the Attitude construct demonstrated high reliability, with a Cronbach's Alpha of 0.871, suggesting that the items used to measure this construct are highly consistent. Similarly, the Behavioural Intention construct also showed strong reliability with a Cronbach's Alpha of 0.806. These high values indicate that the scales used for these constructs are reliable and can be used confidently in further analysis.

The constructs of Subjective Norm and Perceived Behaviour Control had Cronbach's Alpha values of 0.726 and 0.721, respectively. While these values are lower than those for Attitude and Behavioural Intention, they still fall within the acceptable range for social science research, typically considered to be 0.70 and above. These results suggest that the measures for Subjective Norm and Perceived Behaviour Control are adequately reliable, though there may be slight room for improvement. Overall, the reliability analysis indicates that the constructs measured in this study have satisfactory internal consistency, making them suitable for subsequent data analysis and interpretation.

Table 3: Hypothesis testing

Hypotheses	Regression Weight		β	t	p-value	Results
H1	A	BI	.603	12.613	.039*	Supported
H2	SN	BI	.273	5.517	.000*	Supported
H3	PBC	BI	.047	1.319	.000*	Supported
R	.638					
F (3,383)	224.845					

Note: *p < 0.05; A: Attitude, SN: Subjective Norm, PBC: Perceived Behavioural Control, BI: Behavioural Intention

The study seeks to investigate the effect of attitude, subjective norm and perceived behavioural control on behavioural intention. The following hypotheses were proposed:
H1: Attitude will positively influence on behavioural intention.
H2: Subjective Norms will positively influence behavioural intention.
H3: Perceived Behavioural Control will positively influence behavioural intention.

The dependent variable (behavioural intention) was regressed on predicting variables of attitude, subjective norm and perceived behavioural control. The independent variables significantly predict behavioural

intention, F (3,383) = 224.845, p<.001, which indicates that the three factors under study have a significant impact on behavioural intention. Moreover, R^2 = .638 depicts that the model explains 63.8% of the variance in behavioural intention.

Additionally, coefficients were further assessed to ascertain the influence of the factors on the criterion variable (behavioural intention). H1 evaluates whether attitude significantly and positively affects behavioural intention. The result revealed that attitude has a significant and positive impact on behavioural intention (β = 0.603, t = 12.613, p=0.039). Hence, H1 was supported. H2 evaluates whether subjective norm significantly and positively affects behavioural intention. The result revealed that subjective norm has a significant and positive impact on behavioural intention (β = 0.273, t = 5.517, p<0.001). Hence, H2 was supported. H3 evaluates whether perceived behavioural control significantly and positively affects behavioural intention. The result revealed that perceived behavioural control has a significant and positive impact on behavioural intention (β = 0.047, t = 1.319, p<0.001). Hence, H3 was supported.

V.   Conclusion

The study provides insightful findings into the socio-demographic profile, reliability of constructs, and hypothesis testing regarding the factors influencing behavioural intention among respondents. With a sample size of 387 participants, the gender distribution leaned towards females (58.7%) over males (41.3%). The majority of the respondents were young adults aged 18-20 years (69.51%), predominantly from private institutions (92.8%). This demographic detail underscores the relevance and applicability of the study's results within this specific population.

The reliability analysis of the constructs—attitude, subjective norm, perceived behavioural control, and behavioural intention—indicates a robust internal consistency. Particularly, the constructs of attitude and behavioural intention exhibited high reliability with Cronbach's Alpha values of 0.871 and 0.806, respectively, signifying strong consistency among the measured items. Although the constructs of subjective norm and perceived behavioural control had slightly lower reliability, their Cronbach's Alpha values still fall within the acceptable range, suggesting their adequacy for the research context.

The hypothesis testing affirmed that all three proposed hypotheses were supported, demonstrating significant and positive impacts on behavioural intention. The regression analysis further substantiated these findings, showing that attitude (β = 0.603), subjective norm (β = 0.273), and perceived behavioural control (β = 0.047) significantly predict behavioural intention, with the model explaining 63.8% of the variance (R² = 0.638).

In conclusion, the study elucidates the critical role of attitude, subjective norm, and perceived behavioural control in shaping behavioural intentions. These insights are instrumental for designing interventions and policies aimed at influencing behaviour within educational settings, especially among young adults. Future research could build on these findings by exploring additional factors and expanding the demographic scope to further validate and enrich the understanding of behavioural intentions in different contexts.

VI.   Limitation & Future Research

The first warranted limitation which needs to be considered is that the sample is limited to only tertiary students in Malaysia, which cannot be representative of the broader population.

Secondly, generalisations cannot be made based on demographic or geographical locations. This research will benefit from future research which establishes changes over time.

Thirdly, it has to be noted that the questionnaire was conducted in English, which although taught in Malaysia, is not the official language of the country. Several responses were deemed invalid as respondents were not able to fully understand the depth of the questions asked.

Additionally, this study does not consider other factors such as cultural influences or personality traits. Future research could be done to expand on these areas as the COVID-19 pandemic is a dynamically changing environment. Hence, continuous research should be conducted to be able to capture additional changes in attitudes and behaviours which can develop over time.

In the post-pandemic environment, it will be interesting to continue this research to further explore on the behavioural changes as aesthetic changes while wearing face masks could be deeply explored in tertiary education students.

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