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Predictors of Intention to Maintain COVID-19 Standard Operating Procedures (SOPS) among Students

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Abstract

Like the world, Malaysia has been affected by COVID-19, which triggered the adoption of public health policies and standard operating procedures (SOPs). Furthermore, COVID-19 has significantly influenced millions of individuals worldwide, including university students. This study, therefore, aims to examine the predictors of intention to maintain COVID-19 standard operating procedures (SOPs). Specifically, the study assesses the levels of attitude, subjective norms, perceived behavioural control, and intention to maintain SOPs among university students. In addition, a correlation analysis is run to determine whether there is a relationship between attitude, subjective norms, perceived behavioural control, and intention to maintain SOPs among university students. The study utilizes the Theory of Planned Behaviour to explain the relationships between the variables. The quantitative research design and survey method with a questionnaire as the tool for data collection were used in this research. A total of 237 IIUM students were chosen through a random sampling technique to participate in the study. The study's findings reveal that students have positive attitudes, subjective norms, and perceived behavioural control toward the intention to maintain the COVID-19 SOPs. The Theory of Planned Behaviour is also supported in this study because it guided the study well.

Keywords: Attitude, COVID-19, Standard Operating Procedures, Subjective Norms, Perceived Behaviour Control

Background of the Study

The coronavirus sars-cov-2 virus (COVID-19) pandemic is thought to represent the most severe threat to public health since the 1918 H1N1 influenza virus pandemic. It originally started in Wuhan, China, and has spread worldwide. The virus is believed to have originated

in bats and jumped to humans, where it has since been spreading through close contact (Hadi et al., 2020).

Like many other nations throughout the world, Malaysia has never faced a pandemic of this magnitude, and it has become clear that the public healthcare system is unprepared for COVID-19 (Danial et al., 2020). In response to this, COVID-19 triggered the adoption of public health policies and standard operating procedures, also known as SOP, by governments around the world to prevent the virus's transmission, but it also caused widespread public outrage and panic, especially among the people who were unaffected by the virus.

Malaysia's response to the pandemic was swift; within 48 hours of first cases being reported in Malaysia, healthcare officials had already implemented mandatory quarantine measures for affected regions, issued a nationwide SOPs, urged citizens who were not feeling well or showing any signs of sickness to visit hospitals immediately so that they can be quarantined (Ganasegeran et al., 2020).

Standard operating procedures (SOPs) can be defined as the steps and guidelines made to prevent the spread of the COVID-19 viruses through people. Common examples of SOPs are maintaining social distancing, frequent washing of hands, wearing a mask, and avoiding touching your face (WHO). Society needs to adhere to these procedures to help prevent the spread of the virus (Khalid & Ali, 2020).

Using the theory of planned behaviour (TPB), this study sheds light on the public's intentions to follow and maintain the standard operating procedures (SOPs) to avoid spreading the covid-19 virus (Ajzen, 1991; Khalid, & Ali, 2020). The TPB model states that people's intentions are determined by their attitude toward a behaviour, subjective norms, and perceived behavioural control over performing the behaviour. Thus, people's intentions to follow SOPs are determined by how they feel about the behaviour, how their friends and family think they should behave, and how easy or difficult it is to perform these behaviour.

The wide spread of COVID-19 in Malaysia and its effects highlights the need to understand community behavioural responses better to address behavioural drivers of pandemic containment (Danial et al., 2020).

Statement of the Problem

COVID-19 has had a massive impact on Malaysia as a whole. It has negatively affected Malaysia's economy, businesses and institutions, and even people's mental health. People are struggling to put food on the table, businesses are collapsing, and institutions suffer. Malaysia has been one of the most affected countries in Southeast Asia by COVID-19. Prior to this, Malaysia was seen as a rising economy in the ASEAN region. It has fallen 22% since COVID-19 and the fall in GDP has caused the ringgit to drop against foreign currencies such as the US dollar and euro (Shakeel et al., 2020).

COVID-19 pandemics has significantly influenced millions of individuals worldwide, particularly university students. It has caused many students to drop out of universities, while others struggle in class with an increasing sense of apathy towards education (Ma, Black, & Alkarabsheh, 2021). The stress that university students feel due to COVID-19 may be detrimental to them both emotionally and physically, leading to substantial stressors on their mental health. Many factors can contribute to the decline in student academic performance, such as lack of motivation, financial problems, anxiety disorders, psychological issues including depression and self-harm tendencies.

COVID-19 had a significant impact on the education sector. The closure of universities created havoc among students who are forced to stay at home for months and put

tremendous stress on them. In addition, thousands of parents across the globe were unable to work because their employers closed down offices due to panic over COVID-19 outbreaks, which sent economic activity into sharp decline (Danial et al., 2020).

University students experience serious difficulties when it comes to coping with the pandemic. As a result, they often need outside help from family members or friends who provide them with emotional support while trying not to let their feelings get in the way of caring enough towards other people suffering from COVID - 19.

In addition, universities must seek guidance from knowledgeable professionals on how COVID - 19 has affected university students and what steps should be taken accordingly (Kassim et al, 2021). The guidance of the health professionals will help protect both the student body and faculty members of these institutions during this critical period where substantial efforts must be made towards alleviating academic stressors among students, hence the present study.

This paper seeks to find out the attitude, subject norms, and perceived behaviour of students who follow SOPs through the theory of planned behaviour, and to understand further their intentions will shed light on their current beliefs and perceptions of COVID-19.

Research Objectives

This study aims to examine the predictors of intention to follow COVID-19 SOPs among students; specifically, the study aims;

1. To find out the level of attitude, subjective norms, perceived behavioural control and intention to maintain SOP's among university students; and
2. To examine the relationship between attitude, subjective norms, and perceived behavioural control with intention to maintain SOP's among university students.

Significance of the Study

Undoubtedly, understanding the student's intention to follow COVID-19 SOPs will allow governments and health institutions to better prepare for the pandemic (Danial et al., 2020). Therefore, academic institutions must seek guidance from professionals who are knowledgeable on how COVID-19 has affected university students and what steps should be taken accordingly. Furthermore, the study results will help protect both the student body and faculty members of these institutions during this critical period where substantial efforts must be made towards alleviating academic stressors among students. Understanding the student's perceptions on how they follow COVID-19 protocols like social distancing, washing their hands, and wearing masks will help determine the strategies to use for better management of the pandemic. In addition, the findings of this study will provide helpful information for policymakers, health practitioners and educators in designing interventions to increase intention to follow SOPs during a COVID-19 pandemic. In addition, the effectiveness of such interventions could be enhanced by understanding the factors influencing intention to comply with SOPs. This research paper will also contribute to the existing body of knowledge relating to the theory of planned behaviour by Ajzen (1985), one of the most commonly used models to explain human behaviour. Using this theory will help in better understand the predictors of intention to follow COVID-19 SOPs among university students.

Literature Review

Intention to Maintain SOP's

When COVID-19 hit every corner of the world, most countries took drastic actions to curb the spread of the virus (Elengoe, 2020). Among the steps taken were the initiation of SOPs such as; closing country borders, the public being confined to their homes and restricted movement.

Van Bavel et al (2020) confers that research regarding behaviour and social sciences gives insights into how responses to health emergencies are handled, including the COVID-19. Intention and behavioural choices regarding maintaining standard operating procedures depend on the willingness of individuals to participate actively. In a recent study regarding compliance with COVID-19 measures, Nivette et al. (2021) recognized that young adults in Switzerland generally implemented and complied with standard operating procedures. Furthermore, Andarge et al (2020) found that intention can easily lead to action; besides, some individuals' inconsistency and behaviour variance may cause controversy.

In Malaysia, Mohamad et al (2020) found that 51.2% of participants reported wearing a face mask when going out in public. Furthermore, Al-Abed et al (2020) recognized the intention to follow and maintain SOPs in Malaysia, where they found that 87.1% of the respondents wore masks, and 93.4% avoided crowded places. However, a study in Bangladeshi found that over 60% of respondents did not have an impressive attitude, and their practices to maintain SOPs were poor due to orthodox religious belief and lack of proper knowledge regarding COVID-19 (Haque et al., 2020).

Clark, Davila, Regis and Kraus (2020) discussed the intention to maintain set standards to be a situation where some individuals consider the measures practical and adhere to the guidelines while others do not observe and question them. Ajzen and Fishbein (1974) recommended that among the factors that influence one's intention are subjective norms and attitude.

Attitude and Intention to Maintain COVID-19 SOPs

Zhang et al (2020) discuss that attitude is based on particular actions in situations mitigated by other factors. Regarding attitudes towards COVID-19 preventive measures such as wearing masks, social distancing, and washing hands, Malaysians had faith and belief in effectively adhering to measures controlling the pandemic (Abd Rahim et al., 2021). A study in Nigeria found that people's attitudes were favorable towards covid-19 SOPs, with 82.3% thought that everyone must wear a face mask (Reuben et al., 2021). However, a negative attitude can be influenced by enforced control orders that create worry, panic, and anxiety about maintaining set out measures (Fishbein & Ajzen, 1974).

To expand the understanding of Malaysians regarding the knowledge, attitudes and practices towards COVID-19, Mohamad et al (2020) conducted a study involving 4,850 respondents to measure the level of knowledge, attitudes and practices among Malaysian society. The results showed that 80.5 per cent of Malaysians had sufficient knowledge of the COVID-19 virus and were adequately handling COVID-19 SOPs successfully. In addition, Malaysians' attitudes towards COVID-19 were positive, confident that the pandemic can be overcome through maintaining SOPs such as the mandatory wearing of masks and avoiding crowded spaces (Mohamad et al., 2020). Furthermore, Al-Abed et al (2021) explained that changes in attitude to facilitate preventive health occurrences such as practicing hand hygiene and using hand sanitizers were perceived as health intentions established to minimize the spread of COVID-19. Additionally, Ajzen (1991) found that attitude is centred on particular activities in specific circumstances and is significantly moderated by other factors. Thus, hypothesis one (H1) is proposed, as the subsequent section discusses subjective norms.

H1: *There is a positive relationship between attitude and intention to maintain COVID-19 SOPs among students.*

Subjective Norms

Following and maintaining SOPs has been a norm since the outbreak of COVID-19. Albarracin et al (2001) deduces that subjective norms are social beliefs possessed by individuals that make up an essential consideration for adopting specific behaviour.

Winter et al (2021) stipulates that subjective norms reflect the level to which people that are significant to you approve to perform or behave in a specific way. Individuals behave in specific conduct assumptions of a reward given for their social new norms (Gibson et al., 2021). Regarding COVID-19, shielding others from getting an infection is significant thus, people are willing to change their beliefs and norms towards following set out measures in maintaining good health (Lio et al., 2021). In this way, Betsch (2020) discusses that taking part in preventive conduct ensures diminishing disease dangers of spreading COVID-19 to their friends and family when they maintain health measures.

According to Ahn and Kahlor (2020), an individual's social aspect plays a significant role in their choice of decisions where subjective norms are believed to indirectly influence the adaptation of new behaviours. As the pandemic continues, people learn to adapt to follow the standard operating procedures as their new norms. Therefore, subjective norms and beliefs influence the psychological behavior our preventive and avoidance measures in curbing the COVID-19 pandemic (Gamma et al., 2020).

In Malaysia, leaders, the rich, and old, have played a vital role in embracing new norms and, as such, the obligation to maintain SOPs like wearing masks and social distancing. These are the significant people whose health behaviour have power to students affecting their behaviour of following suit to the set out standard operating procedures to stop the spread of COVID-19. Therefore, the tendency to be influenced by actions prompts the proposition of hypothesis two (H2) for this study, as perceived behavioural control is discussed next.

H2: *There is a positive relationship between subjective norms and intention to maintain COVID-19 SOPs.*

Perceived Behavioral Control

The mentality is a significant variable in maintaining behaviour because of its power and capacity to foresee practices. Ajzen (2002) defined perceived behavioural control as the person's perception of the magnitude of their conduct's performance is difficult or easy. It grows when people perceive more means and self-reliance (Ajzen & Cote, 2008; Kidwell & Jewell, 2003; Rachbini, 2018).

Behaviour towards any conduct suggests to the general affective perception of a person's positivity for the conduct. However, negative perception due to misinformation towards COVID-19 plays a role in the perceived behaviour of people across and causes health disparities (Chou et al., 2021). Maintaining SOPs is both an internal and external control of behaviour in facilitating predictive health conditions. A study by Perrotta et al. (2021) across different countries in Europe found that people were more compliant to protective measures, maintained standard operating procedures, and adopted behaviour changes to mitigate the spread of COVID-19. In this review, behaviour toward precautionary conduct to avoid spread

COVID-19 indicates how an individual's mentality and ability towards preventive conduct reflects consistent behaviour control (Faasse & Newby, 2020; Matiza, 2020).

Accordingly, Shahnazi et al (2020) found increased health benefits from health preventive behaviour, and this conduct decidedly affects in beliefs that maintaining necessary procedures controls the spread of COVID-19. Thus, following SOPs such as washing hands, using hand sanitizers are necessary behaviour. Therefore, attitude toward preventive conduct is decidedly identified with the expectation to take on preventive conduct during the COVID-19 pandemic (Al-Hanawi et al., 2020). In addition, one's ability and behaviour to take on precautionary behaviour could be interceded by their conduct toward preventive behaviour (Wallston & Wallston, 2020). Perceived behaviour aims to take on preventive conduct projected by emotional, impression and intention of stopping the spread of health risks (Faasse & Newby, 2020).

With people's perception of being at risk of contracting COVID-19, Rosenstock (1974) discussed risk perception as a vital component in forecasting health behaviour. Persons who perceive a particular risk are assumed to participate in more precautionary health behaviour to curb or avoid health risks (Chen et al., 2017). Therefore, this study will use the theory of planned behaviour as a framework to elaborate intentions to maintain SOPs during COVID-19.

To explore various health-protective norms, Kortteisto et al (2010) found that one of the effectively and commonly used theories used in social public health behavioural studies is the theory of planned behaviour (TPB). Thus, this study postulates hypothesis 3.

H3: *There is a positive relationship between perceived behavioural control and intention to maintain COVID-19 SOPs.*

The Theory of Planned Behavior

Ajzen and Fishbein established the Theory of Planned Behaviour (TPB) in 1975. In the earlier creation of TPB, Ajzen and Fishbein (1975) presented the Theory of Reasoned Action (TRA) as a concept of behavioural intent that advanced into the fundamental understanding that a person's perception acts as a vital influence behaviour. According to TRA, individuals are influenced by two factors before engaging in a particular behaviour (Nguyen et al., 2018). The two factors mentioned are personal attitude or evaluation based on their beliefs and perceived social pressure such as family, friends, and peers (Conner et al., 2017; Nguyen et al., 2018). Additionally, as a build-up from the TRA, the TPB introduced another significant element influencing behaviour and perceived behavioural control (Conner et al., 2017).

An assessment of TPB by Ajzen (2011) emphasised that; no matter how people adapt their normative, behavioural, and control beliefs, their attitudes towards any behaviour, subjective norms, and perceptions of behavioural control automatically follow their behaviour, thereby being either reasoned or planned. Thus, the likelihood of engaging in a given behaviour.

The TPB assumes that an individual's specific behaviours or intentions are based on three fundamental factors (Ajzen & Fishbein, 1980). Firstly, is the individual's attitude towards the behaviour, which is the nature within the person. Second is the individual's subjective norms, which is related more to social pressure such as family and friends. Finally, the individual has perceived behavioural control (Ajzen, 1991, 2005; Fishbein & Ajzen, 2011).

The above three factors that influence an individual's behaviour of TPB is in line with this study since the behaviour of students toward maintaining standard operating procedures

in fighting the spread of COVID-19 is influenced by their perception, subjective norm or social pressure in the example, their friends, family, and their perceived behavioural control. Therefore, the theory of planned behaviour is most suitable to explore the predictors of intention to maintain COVID-19 SOPs among students.

The Conceptual Framework

This paper suggests relationships between attitude, subjective norms and perceived behavioural control with intention to maintain COVID-19 SOPs among students in Malaysia. In order to test this, the relationships between the independent variables, namely, attitude, subjective norms, and perceived behavioural control with intention to maintain COVID-19 SOPs as the dependent variable are depicted in Figure 1, and hypotheses are developed for the study.

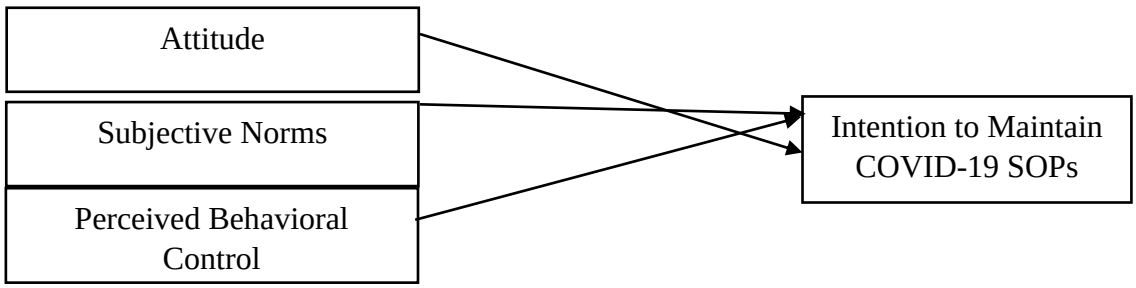

Figure 1: The conceptual framework of intention to maintain COVID-19 SOPs among students

Research Methodology

Research Design

A quantitative research design is preferred for this study, using an online survey questionnaire as the data collection method. The survey method helps collect large sets of data in a short time (Creswell, 2017). In addition, the survey method allows for gathering enough data on the target population from various demographic characteristics of respondents such as gender, age, level of education, year of study, nationality, and Kulliyyah. Therefore, data was collected using a self-administered questionnaire designed as an online survey in Google form. The study was conducted at International Islamic University Malaysia (IIUM). A sample of 237 respondents was acquired through a probability random sampling, where the population has an equal chance of being randomly selected to participate in the study (Huyler & McGill, 2019).

Instrument and Measurement

The questionnaire had seven sections. Section 1 features general data on the demographics of the respondents, whereas sections 2 to 5 were adapted from previous scholars. Section 2, which focuses on attitude (7 items), section 3 subjective norms (7 items), section 4 perceived behavioural control (7 items) and section 5 that features intention to maintain COVID-19 SOPs (7 items), were adapted from (Iwaya et al., 2020). Sections 2, 3 and 4 are the study's independent variables, whereas Section 5 is the dependent variable with questions measured on a strongly disagree to strongly agree 5-point Likert scale ranging from 1 to 5 for sections 2, 3, 4 and 5. Also, to calculate the overall percentage of an item, Wok and Hashim (2014) argue that an overall percentage can be acquired by multiplying the mean score by 100 and dividing it by 5 to obtain the overall percentage score of an item.

Validity and Reliability

A pilot study (*N* = 30) was conducted before the actual study to measure the flow of the statements and any other problems that the respondents might have faced. First, the questionnaire was reviewed and approved by an expert in measurement and quantitative studies to validate it. An internal reliability test was then conducted using Cronbach's alpha and all items for the constructs were significant and exceeded the minimum Cronbach's alpha value of .70, where attitude garnered (α = .972), subjective norms (α = .970), perceived behavioural control (α = .955) and intention to maintain COVID-19 SOPs (α = .938) for the data collection to proceeded to the actual study. For the actual study, the Cronbach's alpha values obtained range from α = .916 to .876 amongst all the variables, respectively.

Table 1
Means, standard deviations, and reliability of selected variables in the study

Section	Variable (*N = 237*)	*M*	*SD*	No. of Items	Cronbach's Alpha	
					Pilot Study (*N* = 30)	Actual Study (*N* = 237)
2	Attitude	4.033	0.879	7	.972	.916
3	Subjective Norms	3.989	0.897	7	.970	.915
4	Perceived Behavioural Control	4.035	0.830	7	.955	.894
5	Intention to Maintain COVID-19 SOPs	4.122	0.763	7	.938	.876

Data Collection and Analysis

A self-administered questionnaire was employed to IIUM students using the Google Form. Data was collected from December 1 to 31, 2021. The data from the study was compiled and analyzed using Statistical Package for the Social Sciences (SPSS). The descriptive analyses used include frequencies, percentages, means, and standard deviations, while the inferential analyses comprised one-sample *t*-tests for testing the level of the variables; zero-order correlation and multiple regression used to test the relationship between the dependent variable and independent variables to accept or reject the hypotheses of the study.

Results and Discussion

Demographic Characteristics of the Respondents

The study comprised 237 valid responses from the target population. Table 2 shows the detailed results of the demographic characteristics of the respondents. Two-thirds of the respondents (67.9%) was male, while the rest (32.1%) were female students. In regards to their age, six in ten of the respondents (60.8%) fall in the 21 – 25 years old age group, 24.5% in 26 - 30 years' age group, 11.8% were 31 years old and older, while only seven students were 20 years old and younger. On the student's education level, six in ten of the respondents (65.8%) were at the undergraduate level, while the rest (34.2%) were postgraduate students. Furthermore, the majority of the students are single (80.6%), 16.9% are married, while the remaining six students reported being either divorced or widowed. In addition, six in ten of the respondents were Malaysian students (61.2%) compared to international students

(38.8%). On monthly income, two to fifth (46.4%) of the students reported that they had no income and therefore just students, 22.8% reported that they earn less than RM1000, 7.6% above RM5000, while 7.2% fell among those who earn RM2001 - RM3000, 6.3% in RM1000 – RM2000, 5.5% in RM3001 – RM4000, and the remaining 4.2% fall in RM4001 – RM5000 income category. Lastly, most of the students also reported not having contracted the COVID-19 virus (81.9%), compared to 18.1% who have contracted the virus.

Table 2
Demographic characteristics of the respondents

Demographic Characteristic	Category	Frequency	Percentage
Gender	Male	161	67.9
	Female	76	32.1
	Total	**237**	**100.0**
	20 and below	7	3.0
	21-25 years old	144	60.8
Age (years old)	26-30 years old	58	24.5
	31 years and above	28	11.8
	Total	**237**	**100.0**
	Bachelor's Degree	156	65.8
Level of education	Master's Degree	62	26.2
	PhD.	19	8.0
	Total	**237**	**100.0**
	Single	191	80.6
Marital status	Married	40	16.9
	Divorced/Widowed	6	2.5
	Total	**237**	**100.0**
Nationality	Malaysian	145	61.2
	International	92	38.8
	Total	**237**	**100.0**
	None	110	46.4
	RM1,000 and less	54	22.8
Monthly income	RM1,001 – RM2,000	15	6.3
	RM2,001 – RM3,000	17	7.2
	RM3,001 – RM4,000	13	5.5
	RM4,001 – RM5,000	10	4.2
	RM5,001 and more	18	7.6
	Total	**237**	**100.0**
	Yes	43	18.1
Have you Contracted COVID-19 virus	No	194	81.9
	Total	**237**	**100.0**

Types of SOPs Followed

Students were also asked to rate their levels of observing the ministry of health and World Health Organizations' measures as standard operating procedures to follow during the pestilence to limit the spread of the virus. Among all the SOPs sampled, wearing a mask came on top with the highest response rate (96.2%) while the lowest was avoiding touching eyes and noses (51.1%) for fear of spreading the virus. The SOPs with the low responses imply that

the students were reluctant to sanitize, social distancing, and avoid being in crowded places, which may contribute to the quick contraction of the COVID-19 virus.

Table 3
Statistics for types of SOPs followed during the pandemic

Characteristic	Category	Frequency	Percentage
Types of SOPs followed	Wear a mask when moving out	228	96.2
	Wash hands regularly	224	94.5
	Maintain cleanliness	223	94.1
	Be fully vaccinated	215	90.7
	Scan on Mysejahtera when entering buildings	204	86.1
	Measure body temperature before entering buildings	201	84.8
	Use a hand sanitizer	190	80.2
	Keep social distancing in public	184	77.6
	Avoid crowded places	147	62.0
	Avoid touching eyes and nose	121	51.1
	Total (*N = 237*)	*	*

* Multiple responses

Overall, the highest number of the respondents are Malaysian single male undergraduate students between 21 to 25 years old without any monthly income but have never been contracted with the deadly COVID-19 virus because they regularly use face masks to help reduce the rate at which the virus is spread.

Level of Attitude towards Maintaining SOPs

Table 4 shows a one-sample t-test for attitude towards maintaining the COVID-19 SOPs. As a whole, the majority (80.6%) of the students have a positive attitude towards maintaining the COVID-19 SOPs with a mean of 4.033 (SD = 0.879) and t-value of 18.086 (ρ = .000). The result implies that most students have a positive attitude towards the SOPs because they make them feel safe whenever they maintain them. Furthermore, the respondents also have other reasons for regarding attitude towards the SOPs positive, and they include; SOPs being a sensible choice (82.0%), correct choice (80.7%), wise (80.2%), make them feel well (79.5%), feel calm (79.4%) and also because they know that the COVID-19 SOPs are ideal (79.3%) in limiting the spread of the deadly virus. Therefore, since all the items exhibited positive ratings by the students, research objective one is answered in the affirmative.

Table 4
One-sample t-test for attitude

No.	Attitude towards Maintaining SOPs	*M**	*SD*	%	*t***	*ρ*
1	I am pleased to maintain COVID-19 SOPs because they make me feel safe.	4.105	0.983	82.1	17.301	.000
2	I am happy to maintain COVID-19 SOPs because it is a sensible choice.	4.101	0.994	82.0	17.042	.000
3	I prefer to maintain COVID-19 SOPs because it is the correct choice.	4.038	0.997	80.7	16.025	.000
4	I am convinced that maintaining COVID-19 SOPs is wise.	4.012	0.922	80.2	16.894	.000
5	I am glad to maintain COVID-19 SOPs because they make me feel well.	3.978	0.954	79.5	15.793	.000
6	I like to maintain COVID-19 SOPs because they make me feel calm.	3.974	1.020	79.4	14.701	.000
7	I am fascinated with maintaining COVID-19 SOPs because I know they are ideal.	3.966	1.016	79.3	14.637	.000
	Overall Mean for Attitude towards Maintaining SOPs (*N = 237*)	**4.033**	**0.879**	**80.6**	**18.086**	.000

* On a 5-point Likert scale, where 1=*never* (1-20%), 2=*rarely* (21-40%), 3=*sometimes* (41-60%), 4=*often* (61-80%), and 5=*always* (81-100%).
**Test value is 3.

The findings indicate that SOPs make students feel safe, well, and calm, but also because they are the only sensible and correct choice to help in reducing the spread of the deadly COVID19 pandemic. The findings also concur with Banik et al. (2021), who found out that having a positive attitude towards following the SOPs like wearing masks, washing the hands, and using hand sanitizers reduces people's chances of getting contracted the deadly pestilence. In addition,

Level of Subjective Norms

One sample *t*-test result for students' subjective norms was done and presented in Table 5. The results show that more than three-quarters of the respondents (79.7%) have higher levels of subjective norms towards the COVID-19 SOPs (t = 16.967; ρ = .000) with a mean of 3.989 (SD = 0.897). The respondent's subjective norms are high because they maintain COVID-19 SOPs. After all, authorities such as the Malaysian government and WHO recommend doing so (81.2%), they continue to observe the SOPs because the people they trust think it is ideal (80.7%), they continue to maintain the SOPs even if they are vaccinated because the majority of the essential people would like them to do so (79.4%), follow SOPs because people who are close to them are doing it (79.4%), they are motivated to maintain the COVID-19 SOPs because people who are close to them approve of the choice to do so (79.1%), observe the SOPs because people whose opinions they value approve of their decision to do so (78.8%)

and also follow the SOPs because people whose opinions they respect would like them to do so (78.7%). The findings confirm that the student's subjective norms are high because all items are significant. This also means that students depend on the people who influence them to make decisions involving stricter observation of the COVID-19 pandemic SOPs. Moreover, hence research objective two is answered.

Table 5
One-sample t-test for subjective norms

No.	Subjective Norms	*M**	*SD*	%	*t***	*ρ*
1	I maintain COVID-19 SOPs because people in authority recommend doing so.	4.063	0.970	81.2	16.875	.000
2	I happily observe COVID-19 SOPs because people I trust think it is ideal.	4.038	1.001	80.7	15.957	.000
3	I continue to maintain COVID-19 SOPs even if I am vaccinated because the majority of the important people would like me to do so.	3.970	0.940	79.4	15.884	.000
4	I follow COVID-19 SOPs because people close to me are doing it.	3.970	1.014	79.4	14.730	.000
5	I am motivated to maintain COVID-19 SOPs because people close to me approve of this choice.	3.957	1.100	79.1	13.404	.000
6	I maintain COVID-19 SOPs because people whose opinions I value approve my decision.	3.940	0.981	78.8	14.764	.000
7	I follow COVID-19 SOPs because the people whose opinions I respect would like me to do so.	3.936	0.961	78.7	15.002	.000
	Overall Mean for Subjective Norms (*N = 237*)	**3.989**	**0.897**	**79.7**	**16.967**	**.000**

* On a 5-point Likert scale, where 1=*never* (1-20%), 2=*rarely* (21-40%), 3=*sometimes* (41-60%), 4=*often* (61-80%), and 5=*always* (81-100%).
**Test value is 3.

In addition, following directives from the authorities, trusting influential and vital people who are close to you and approve of your choices are some of the subjective norms that the students who intend to maintain the COVID-19 standard operating procedures (SOPs). The findings agree with Winter et al (2021), who found out that subjective norms reflect the level to which people that are significant to you approve your actions to perform or behave in a specific way. In addition, Gibson et al (2021) also intimated that individuals behave in specific conduct assumptions of a reward given for their social new norms, and therefore people whom you follow and trust are very vital in decision making, especially in the circumstances such as maintaining the SOPs whose knowledge came to light as a result of the existence of the pandemic.

Level of Perceived Behavioural Control

The levels of perceived behavioural control are presented in Table 6. Students' views regarding the perceived behavioural control of the SOPs are significantly positive (80.7%) with an overall mean of 4.035 (*SD* = 0.830) and a *t* = 19.192 (*ρ* = .000). The item with the highest mean is “I think maintaining COVID-19 SOPs is doable for me” with 83.2% and mean of 4.160

(*SD* = 0.960) and *t* = 18.590 (*ρ* = .000) while the one with the lowest mean is "I think maintaining COVID-19 SOPs depends on my willingness to abide by the rules and regulations" 78.2% with (*M* = 3.911; *SD* = 0.981) and *t* = 14.302 (*ρ* = .000). Furthermore, the students also concluded that they can still maintain COVID-19 SOPs as long as the pandemic exists (83.1%), perceive that they can always maintain the COVID-19 SOPs (82.0%), that maintaining the SOPs depends on their decisions to act on it (81.8%), have the financial means to maintain the COVID-19 SOPs (81.4%), that maintaining the SOPs will be easy for them (81.0%), and also reported that maintaining the COVID-19 SOPs depends on their willingness to abide by the rules and regulations (78.2%). The results imply that since all the items are positively rated, it can be concluded that the student's perceived behavioural control is high, and hence the objective is answered.

Table 6
One-sample t-test for perceived behavioural control

No.	Perceived Behavioural Control	*M**	*SD*	%	*t***	*ρ*
1	I think maintaining COVID-19 SOPs is doable for me.	4.160	0.960	83.2	18.590	.000
2	I think I can maintain COVID-19 SOPs as long as the pandemic exists.	4.156	0.861	83.1	20.656	.000
3	I perceive that I can always maintain COVID-19 SOPs.	4.101	0.877	82.0	19.329	.000
4	I believe that maintaining COVID-19 SOPs depends on my decision to act on it.	4.092	0.911	81.8	18.463	.000
5	I think I have the financial means to maintain COVID-19 SOPs.	4.071	0.929	81.4	17.756	.000
6	I believe that maintaining COVID-19 SOPs will be easy for me.	4.054	0.921	81.0	17.628	.000
7	Maintaining COVID-19 SOPs depends on my willingness to abide by the rules and regulations.	3.911	0.981	78.2	14.302	.000
	Overall Mean for Perceived Behavioural Control (*N = 237*)	**4.035**	**0.830**	**80.7**	**19.192**	**.000**

* On a 5-point Likert scale, where 1=*never* (1-20%), 2=*rarely* (21-40%), 3=*sometimes* (41-60%), 4=*often* (61-80%), and 5=*always* (81-100%).

Among the dominant perceived behavioural control for maintaining the COVID-19 SOPs include; that it Is doable, that the students are ready to continue doing it as long as the pandemic still exists, the decision to maintain the SOPs is theirs, easy to do it, but also because they have the financial means to maintain them. The findings concur with Ajzen (2002), who defined perceived behavioural control as the person's perception of the magnitude of their conduct's performance, whether difficult or easy, a finding that has been realised in the results of the present study regarding maintain the COVID-19 SOPs.

Level of Intention to Maintain COVID-19 SOPs

Students' intention to maintain COVID-19 SOPs are presented in Table 7. The results indicate a significantly positive (82.4%) response rate, with overall mean of 4.122 (*SD* = 0.763) and *t* =

22.641, (ρ = .000). The item with the highest mean is "I intend to maintain COVID-19 SOPs as long as the pandemic exists." 83.2% with mean of 4.160(*SD* = 0.853) and *t* = 20.930(ρ = .000) while the one with the lowest mean is "I hope to maintain COVID-19 SOPs in the future" 79.8% with mean of 3.991(*SD* = 0.991) and *t* = 15.396(ρ = .000). The remaining student's intentions include; intending to maintain the COVID-19 SOPs even if they are fully vaccinated (81.6%), would maintain the SOPs whenever they attend any event or gathering (81.5intend to maintain the SOPs wherever they are (81.2%), intend to maintain SOPs as long as the pandemic continues (80.9%) and also want to maintain the SOPs whenever in public places (80.9%). In that regard, it can be concluded that students perceive the COVID-19 in various ways that enable them to observe them without much effort. Therefore, the results translate that students have positive levels towards the intention to maintain the COVID-19 SOPs since the items are all significant, hence answering research objective 4.

Table 7
One-sample t-test for intention to maintain COVID-19 SOPs

No.	Intention to Maintain COVID-19 SOPs	*M**	*SD*	%	*t***	*ρ*
1	I intend to maintain COVID-19 SOPs as long as the pandemic exists.	4.160	0.853	83.2	20.930	.000
2	I intend to maintain COVID-19 SOPs even if I am fully vaccinated.	4.084	0.912	81.6	18.304	.000
3	I would maintain COVID-19 SOPs whenever I attend any events and gatherings.	4.075	0.855	81.5	19.367	.000
4	I intend to maintain COVID-19 SOPs wherever I am.	4.063	0.906	81.2	18.052	.000
5	I plan to maintain COVID-19 SOPs as long as the pandemic continues.	4.046	0.935	80.9	17.222	.000
6	I want to maintain COVID-19 SOPs whenever I am in public places.	4.046	0.898	80.9	17.931	.000
7	I hope to maintain COVID-19 SOPs in the future.	3.991	0.991	79.8	15.396	.000
	Overall Mean for Perceived Behavioural Control (*N = 237*)	**4.122**	**0.763**	**82.4**	**22.641**	**.000**

* On a 5-point Likert scale, where 1=*never* (1-20%), 2=*rarely* (21-40%), 3=*sometimes* (41-60%), 4=*often* (61-80%), and 5=*always* (81-100%).

In a nutshell, students have positive intentions of maintaining the COVID-19 SOPs as long as the pandemic exists, even if they are vaccinated, when out to attend public gatherings and events wherever they are and in future. The findings agree with Ajzen (2011), who in his study contends that the theory of planned behaviour predicts a person's intentions to participate in any behaviour. Therefore, intention becomes a significant factor that aides a person to do the actual behaviour, a finding proven in the current study where students' higher levels of intention to perform a behaviour actualises. They perform the behaviour when the intentions are specifically positive. Furthermore, Andarge et al (2020) also found that intention can easily lead to action; besides, some individuals' inconsistency and behaviour variance.

Hypothesis Testing

Zero-order Correlation between the Variables

To answer the study's research objective related to the relationship between the independent variables, namely, attitude, subjective norm, and perceived behavioural control and the dependent variable (intention to maintain COVID-19 SOPs), a zero-order correlation and regression confirm the relationships exist between the variables.

The tests reveal that intention to maintain the COVID-19 standard operating procedures emerged with the highest mean of 4.122(*SD* = 0.763), and the variable with the lowest mean is the subjective norm (*M* = 3.989, *SD* = 0.897). In addition, significant and positive relationships exist between all the variables, and the relationships are strong and very strong. However, the relationship between intention and perceived behavioural control (*r* = .670, *ρ*=.000) emerged as the strongest among the relationships found. Table 8 details a summary of the specific relationships between the study's variables.

Table 8
Zero-order correlations between the given variables

Variable (*N* = 237)	Mean	SD	Intention	Attitude	SN	PBC
Intention	4.122	0.763	1			
Attitude	4.033	0.879	*r* = .589 *ρ* = .000	1		
SN	3.989	0.897	*r* = .554 *ρ* = .000	*r* = .648 *ρ* = .000		
PBC	4.035	0.830	*r* = .670 *ρ* = .000	*r* = .589 *ρ* = .000	*r* = .648 *ρ* = .000	1

Students' attitude is positively correlated with intention to maintain the COVID-19 SOPs, and that the relationship between them is moderate and statistically significant (*r* = .589, *ρ*=.000). This result indicates that H1, which states a positive relationship between attitude and intention to maintain COVID-19 SOPs, is supported. This implies that students actively maintain the COVID-19 SOPs because they have a positive attitude towards them. This finding is supported by Reuben et al. (2021) found out that people's attitudes were favorable towards covid-19 SOPs, with 82.3% having an intention of continuing to wear a face mask as a must in public, a finding that is stamped on by the existence of a relationship between attitude and intention in the present study. Therefore, the more the students regard the COVID-19 SOPs positively, the more they will have positive intentions of continuing to maintain them.

Similarly, there is a moderate and statistically significant relationship between subjective norm and intention to maintain COVID-19 SOPs among students (*r* = .554, *ρ*=.000). The findings indicate that subjective norm is positively correlated with intention to maintain the SOPs, thus accepting H2, which states a positive relationship between subjective norm and intention to maintain the COVID-19 SOPs among students. The results imply that the more the students have positive subjective norms by trusting and valuing people who are dear to them, the more the elevation of their intention to maintain the COVID-19 SOPs. Thus, the present study's findings support Albarracin et al (2001), who found out that subjective norms are social beliefs possessed by individuals that make up an essential intention for adopting specific behaviour. Also, Ahn and Jahlor (2020) contend in support of the findings of the present study that an individual's social aspect plays a significant role in their choice of decisions where subjective norms are believed to influence the adaptation of new behaviours indirectly.

Lastly, there is also a strong, positive and statistically significant relationship between perceived behavioural control and intention to maintain the COVID-19 SOPs among students (r = .670, ρ=.000). The finding supports H3, which states a positive relationship between perceived behavioural control and intention to maintain the COVID-19 SOPs among students. Indeed, the findings confirm the existence of a positive relationship between the two variables. Therefore, the more the students perceive the COVID-19 SOPs to be easy, doable and have the financial ability to do it, the more they will perform the behaviour of maintaining the COVID-19 SOPs. This finding also supports Perrotta et al (2021) study across Europe, where she found that people were more compliant to protective measures, maintained standard operating procedures, and adopted behaviour changes to mitigate the spread of COVID-19 because it was easy to do for their health and that they could do it in terms of finance.

Regression Analysis between Intention to Maintain COVID-19 SOPs and Selected Variables

The initial analysis is of zero-order and bivariate correlation between the independent and the dependent variables. Results from correlation yielded moderate and strong statistically significant relationships, leading to the subsequent analysis.

Simple multiple regression analysis was performed to predict intention to maintain COVID-19 SOPs from attitude, subjective norm and perceived behavioural control, and the results are presented in Table 9.

The regression findings fully support the correlation results where, overall, all variables, namely; attitude, subjective norm and perceived behavioural control, are positive and significantly rated to intention to maintain the COVID-19 SOPs where, F (3, 237) = 80.669, ρ < .05 at .000, R = .715, R^2 = .509 and Adj. R^2 =.503 which implies that all the variables in the model were fit for the data and the intercept was also significant. Likewise, the best predictor with also the strongest relationship is perceived behavioural control (β = .459; t = 7.289; ρ = .000), followed by attitude (β = .262; t = 4.154; ρ = .000) and lastly, is subjective norm (β = .187; t = 2.297; ρ = .005). The results further support all the three hypotheses of the study between attitude, subjective norm and perceived behavioural control to maintain the COVID-19 SOPs among students.

Table 9

Simple multiple regression for intention to maintain COVID-19 SOPs with attitude, subjective norm and perceived behavioural control

Model	Variable	Unstandardized Coefficient		Standardized Coefficient	*t*	*ρ*
		B	***SE***	***β***		
1	(Constant)	1.211	.191		6.327	.000
	Attitude	.227	.055	.262	4.154	.000
	Subjective norms	.173	.057	.187	2.297	.005
	Perceived behavioural control	.422	.058	.459	7.289	.000

F(237) = 80.669, df =3, 233, p=.000, R= .714, R^2=.509, Adj R^2 = .503; F Change=80.669, df1=3, df2 = 233, ρ = .000

In a nutshell, the results imply that all three variables added statistically significant relationships to the prediction. Therefore, it can be summarized that, with positive attitude, subjective norms and perceived behavioural control, all three factors are key in elevating

students' intention to maintain the COVID-19 SOPs. Thus, the regression analysis still supports hypotheses 1, 2 and 3, respectively.

Conclusion

The study's respondents consisted of 237 students from different backgrounds, both Malaysian and international, at International Islamic University Malaysia. The number of male students was considerately higher than that of the female students although coming from the different levels of education. In addition, the majority of students had not yet contracted the deadly COVID-19 virus.

Overall, students regarded maintaining the COVID-19 SOPs highly and positively because they were constantly observing most of them. Furthermore, they regarded the COVID-19 SOPs highly because they make them feel safe, feel well, calm, and are a sensible choice. In addition, the students also noted that they have people in authority that constantly encourage and recommend them to observe the SOPs because they are ideal in helping the rapid spread of the virus; therefore, the people whose opinions the students value are beneficial in their decision making in regards to observing the SOPs. Lastly, the students noted that they are ready to continue maintaining the SOPs as long as the pandemic still exists because it is doable and they have the financial means to do so; they intend to continue observing them even shorter. This finding concurs with Haque et al (2020), who concludes that the respondents of the study indicated that they were willing to continue wearing the mask until such a time when COVID-19 will be defeated.

The general relationships between the attitude, subjective norm and perceived behavioural control to maintain the COVID-19 SOPs among students were moderate and statistically significant. The regression analysis also confirmed that the most vital relationship was perceived behavioural control and intention, but the rest were significant and added significant prediction to the model.

Consequently, the results of the study reveal that students tend to have a positive attitude towards the SOPs and the more they are positive, the more they will elevate their attitudinal levels to the extent of performing the behaviour, a finding that agrees with Mohamad et al. (2020) study that found out that 51.2% of participants reported not having any problem to wear a face mask when going out in public, a finding that implies that the students have a positive attitude towards the wearing of face mask. Furthermore, the students also believe that the subjective norm of the significant others and perceived behavioural control are essential pillars in strengthening their intention to maintain the COVID-19 SOPs. Therefore, the study's findings fully support the theory of planned behaviour as the theory used in the current study.

The theory posits that individual behaviour is driven by behavioural intentions, where behavioural intentions are a function of three determinants: an individual's attitude toward behaviour, subjective norms, and perceived behavioural control. The application of the theory in similar studies reveals that it has the potential in explaining and predicting intention towards performing a behaviour, such as in the present study where it explored student's intention to maintain the COVID-19 SOPs during the outbreak of the pandemic. The result concurred with scholars such as Andarge et al (2020), who found that intention can easily lead to behaviour.

Limitations of the Study

The study was carried out amidst the outbreak of COVID-19, which made it hard to expand the data collection method to face to face distribution of the questionnaires, and therefore the researcher ended up using the only online distribution of the questionnaire using google form. This method also made it hard to ascertain whether the respondents were the right ones to fill in the form since it was distributed online and randomly. Therefore, the pandemic affected the data collection process, as highlighted above.

Additionally, the response rate was quite hard since some respondents said they do not clearly understand the statements. Also, respondents were limited to students of International Islamic University Malaysia, therefore, they may not represent the entire student population in Malaysia.

Suggestions for Future Research

Future studies should also try to use a different data collection method and explain the meaning of some of the statements to the respondents or clarify where they lack sufficient information on any subject in the questionnaire. We also suggest studies on this topic try to sample respondents from different universities and compare how students from the different study environments observe the COVID-19 standard operating procedures (SOPs).

Since the theory of planned behaviour guided the current study as the theory, future studies should endeavor to utilize other theories such as the theory of reasoned action that gave birth to the theory of planned behaviour, the AIDA model, and the new model of behavioural intention, to see if they can guide intention to maintaining SOPs well and maybe get more ideas on how other theories look at the subject matter under study.

Declarations/Compliance with Ethical Standards

- **Funding**

The authors declare that there are no financial implications or funding given to the authors for this study. Also, the authors have no conflict of interest regarding this study.

- **Disclosure of potential competing interests**

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

- **Ethics approval**

This study used a survey questionnaire distributed among university students where the authors study from. Therefore, the department of communication reviewed and approved the questionnaire together with the informed consent to be distributed to the students.

- **Research involving Human Participants and Animals**

Yes, this research was conducted with a questionnaire among student participants, and they all consent to publishing of their views

- **Consent to participate**

Informed consent was obtained from all individual participants included in the study before filling out the questionnaire.

- **Consent to Publish**

The authors affirm that human research participants provided informed consent for publication of their views in this study.

- **Authors' Contribution**

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by [Faiswal Kasirye, Imran Ssemuddu and Hassan Radwan]. The first draft of the manuscript was written by all the authors and all authors commented on previous versions of the manuscript. All the authors read and approved the final manuscript.

- **Data Availability Statement**

The authors affirm that all the data used for analyses in the study is available on request

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