Influence of Perceived Susceptibility on Attitude, Behavioural Control and Intention to COVID-19 Self-assessment Among Older Adults in Malaysia

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Abstract. The study examines the influence of perceived susceptibility on attitude, perceived behavioural control and intention to COVID-19 self-assessment among older adults. Although COVID-19 self-assessment has become a preventive tool for detecting sickness, limited studies have examined older adults' behavioural intention to self-assessment in Malaysia. Thus, how older adults react via attitude, behavioural control and their intention to self-assessment remains elusive. The study used online survey to help gather data from older adults who are 55 years and above. Questionnaires had drafted based on the past studies' validated measurements. The sampling method applied in this research is snowball sampling. The study analysed the data via SPSS (Statistical Software Package for Social Science) for descriptive analysis and hypotheses testing based on 200 responses. The study tabulated constructs' reliability values, and assessed path coefficient value via multiple regression. The study can influence the intention to self-assessment of older adults and also to improve the awareness of older adults about the importance of self-assessment.

Keywords: self-assessment · intention · older adults · health beliefs

1 Introduction

A crucial component of the health beliefs model is about focusing on the antecedents of health beliefs and how they can be used to predict health-related behaviours [23]. Health beliefs include perception about health and illness, as well as the perception of severity and susceptibility of disease, the implications of taking preventative measures, as well as the impediments to action taking. The health beliefs model assumes that people must meet multiple conditions in order to accept the healthcare professionals' recommendation and to engage in certain health-promoting behaviours [20].

In Malaysia, older adults have often resisted self-assessment and are afraid to find out whether they have chronic diseases. Given that older adults are always assumed that their physical self is fit for daily activities and gave many excuses not to do a self-assessment,

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for example, they gave excuses for being busy, or because they felt that they are healthy and don't need it, or because they just don't want to think about their health [1].

Thus, many elderly people, accustomed to frugality, refuse to do self-assessment, probably because they want to pass on their life savings and retirement savings to their children, or probably they are shameful to ask their children to pay for medical care, i.e. self-assessment [21]. All these facts suggest that it is not that older adults do not know the benefits of physical examination, instead, they are just afraid of spending their children's money for self-assessment. Some older adults would have the fear of finding out their health conditions, knowing that they have not enough savings to finance the treatment cost, or have no intention to add financial pressure (treatment cost) on their children and relatives [22]. Some would prefer delaying the treatments, even though they know about their serious illness conditions and some would just choose to give up their life. Thus, given the nature of COVID-19, the objectives of this study are: 1) whether older adults' susceptibility of COVID-19 infections would enhance their attitude towards self-assessment, perceived control over self-assessment and intention to self-assessment; 2) whether older adults' attitude towards self-assessment and perceived control over self-assessment would affect their intention.

2 Literature Review

2.1 Intention to Self-assessment (ISA)

Self-assessment refers to the comprehensive examination of the body before the appearance of obvious disease. The self-assessment also gives the opportunity to learn about their physical condition and tell people about any pain or symptoms that have experienced or any other health problems that may exist. Based on the study of [1], it offers evidence that those patients who follow the National Health Service's guidelines and policy tend to treat future illnesses early, to learn about their health issues, to follow healthy lifestyles and to act on professional advice. Although, there are factors that affect the intend of self-assessment, in which include personal health, age, disease, socioeconomic status, lifestyle and perceptions of the environment, this study contributes differently by examining this issue from the lenses of perceived susceptibility, attitude and perceived control, following theory of planned behaviour [2].

2.2 Perceived Susceptibility of COVID-19 Infections (PSC)

Personal evaluation of the odds of developing an illness is called perceived susceptibility. The subjective danger of developing a disease or experiencing a negative health outcome and having to undergo self-assessment is reflected in perceived susceptibility to COVID-19 infections. One of the most important aspects of risk perception is the idea of "susceptibility", which covers how people assess the possibility of contracting a particular disease [3].

Besides that, individual's susceptibility to disease plays a crucial role in deciding on safety precautions [4]. Given that the high incidence of COVID-19 diseases and wide prevalence, the past studies have found that the more a person perceive high risks of sickness, the more likely that a person to form positive attitude, to control the desired health outcomes and to intend self-assessment [5].

2.3 Attitude Toward Self-assessment (ASA)

Behavioural attitude refers to individual's thoughts and feelings of certain actions. The rational approach to action emphasises the role of attitude in determining behaviour. Attitude refers not only to the expected results of use, but also to the value (direction) of the expected results, that is, related to whether the expected results are positive or negative for the evaluator.

Attitude has a positive effect on behavioural intention. In another word, the intention to have the self-assessment will be affected by the attitude. The more positive a person's attitude, the more likely they are to exhibit this behaviour [6].

2.4 Perceived Control Over Self-assessment (PSA)

Perceived control is a broad psychological concept that is made up of two parts: self-efficacy and a control source [7, 8]. Perceived control over self-assessment refers to the belief that an individual can determine his or her own internal state and behaviour, influencing his or her environment and/or bringing about desired results. When an individual believes that he or she has more resources and opportunities and less hindrance expected, he or she will have a stronger perceived control over his behaviour.

3 Research Methods

3.1 Research Framework

In the context of this study, there are five causal paths depicting the relationships between PSC and ASA; PSC and PCA; PSC and ISA; ASA and ISA and PCS and ISA (Fig. 1).

3.2 Sources of Research Data

The study used online survey via Google form to collect the information from respondents in Malaysia. The questionnaire comprised; Part I, to acquire information about participant's profile, and Part II, to elicit participants' responses about health beliefs

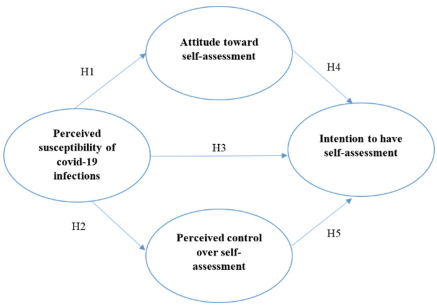

Fig. 1. Proposed Conceptual Framework

and behavioural intention. All statements were measured with 7-point Likert scale (7 = strongly agree to 1 = strongly disagree).

The study collected 200 responses and the study used Statistical Package of Social Science (SPSS) software to tabulate their profile, assess variable's Cronbach's Alpha value and test hypotheses. The sampling method applied in this research is snowball sampling. The study followed Tabachnick and Fidell's [25] recommendation and capped the number of respondents to 200 in order to provide effective estimation of variance.

3.3 Hypothesis Development

The aim of this section is to describe each hypothesised relationships. The study proposes five hypotheses to fulfil the objective.

H1: Perceived susceptibility of COVID-19 infections affect attitude toward self-assessment.

Individual with a reduced perceived susceptibility will view themselves as having a minimal risk of contraction with the infection and illness, thus they will be having passive attitude by in engaging in relevant action like self-assessment [5]. Individuals' attitudes regarding health involvement will be influenced by their susceptibility to health-related concerns, as it will be likely that individuals would focus their beliefs towards preventative behaviours like as self-assessment to avoid COVID-19 infection [9].

H2: Perceived susceptibility of COVID-19 infections affect perceived control over self-assessment.

When a person has a strong belief about getting COVID-19 infections, and he or she tend to engage in self-determination perspective to control his or her internal state and also behaviour, in which the individual will act by doing self-assessment to prevent the COVID-19 infections. For instance, when an individual has a belief in getting COVID-19 infections, this would trigger his or her perceived control stronger (either to control an action or to control its consequences), in which lead to the likelihood to participate in that action, and that action is equal to all other factors [8], that is do self-assessment for health purposes.

H3: Perceived susceptibility of COVID-19 infections affect intention to have self-assessment.

The perceived susceptibility of an individual will influence an individual behavioural intention [10]. Thus, when an individual has a high perceived susceptibility of COVID-19 infection, it will influence their intention to have self-assessment for their healthy purposes.

H4: Attitude toward self-assessment affects intention to have self-assessment.

The attitude has a beneficial impact on behavioural intention. To be more specific, the better the attitude, the stronger the behavioural intention [11]. In another word, the intention to have the self-assessment will be affected by the attitude. The more positive a person's attitude, the more likely they are to exhibit this behaviour [6].

H5: Perceived control over self-assessment affects intention to have self-assessment.

When an individual thought that he or she has more resources and opportunities and less hindrance, he or she will have stronger perceived control over his behaviour.

3.4 Scale Measures

The study adopted scale measures from different sources to reduce the possibility of incurring possible bias. Six ISA's scale measures were adapted from [12–14] and were measured using 7-Likert scale (7 = strongly agree to 1 = strongly disagree). PSA had 5 items based on [15] with six-point scale (6 = strongly agree to 1 = strongly disagree). The study had four items to represent ASA and they were adapted from [16] and were measured with eight-point scale (8 = strongly agree to 1 = strongly disagree). Lastly, PSC had nine items based on [17] and measured with 7-Likert scale (7 = strongly agree to 1 = strongly disagree).

4 Result

4.1 Respondents' Demographic Profile

A total of 200 respondents participated in this research to complete this survey (Table 1). Most of the gender of respondents which are 106 male (53.0%) and 94 female (47.0%). The table shows the high frequency and percentage of male respondents as a comparison to female respondents. Nonetheless, the majority of respondents are between the ages of 61 and 65, accounting for 155 (77.5%) of the total, and the majority of them are Chinese, accounting for 138 (43.5%) of the total (69.0%). Then, most of the respondents are retirees which have 70 (35.0%) and 44 (22.0%) respondent's last self-assessment (other than COVID-19 self-assessment) are 3 years ago. Most of the respondents 61 (30.5%) went to Klinik Kesihatan Kerajaan for self-assessment. Lastly, most of respondents often obtain health related news through browsing social media which in the frequency of 62 (31.0%).

4.2 Descriptive Statistic

According to [18], if the alpha value is between 0.70 and 0.99, the reliability item can be approved. The lowest range of Cronbach's alpha between variables was 0.913 for intention to have self-assessment and the highest was 0.951 for perceived control over self-assessment. Thus, all items are reliable and acceptable (Table 2).

4.3 Pair Correlation Coefficient Between Variables

The purpose of assessing correlation values between pairs is to seek evidence that the variables are independent and have no multi-collinearity issues. Table 3 indicated that between the PSA and ASA, although the correlation values is more than 0.7, but there is no sign of multicollinearity as the VIF value involving this pair is less than 5. Thus, all the variables are deemed fit and suitable for the study.

4.4 Multiple Linear Regression

Table 4 concluded that perceived susceptibility of COVID-19 infections contributes the most in predicting intention to have self-assessment while attitude toward self-assessment has the least contribution to intention to have self-assessment. The adjusted R squared value are 9.1%, 6.6% and 56.9% for model 1, 2 and 3 respectively. All five hypotheses were supported because the p values were significant and less than 0.05.

Table 1. Respondents' Demographic Profile

	Frequency	Percentage (%)
Gender		
Male	106	53.0
Female	94	47.0
Age		
61 to 65	155	77.5
66 to 70	30	15.0
Above 70	15	7.5
Race		
Malay	37	18.5
Chinese	138	69.0
Indian	25	12.5
Occupation		
Unemployed	67	33.5
Self-employed	63	31.5
Retired	70	35.0
Respondent's last self-assessment (Other than COVID-19 self-assessment)		
6 months ago	22	11.0
1 year ago	38	19.0
2 years ago	43	21.5
3 years ago	44	22.0
4 years ago	27	13.5
5 years ago	26	13.0
Place that respondent went for self-assessment		
Public Hospital	42	21.0
Klinik Kesihatan Kerajaan	61	30.5
Private Hospital	46	23.0
Private Family Clinic	51	25.5
Channel of respondent often obtain health related news		
Watching News (Television)	37	18.5
Browsing Internet	27	13.5
Browsing Social Media	62	31.0
Getting news from friends	27	13.5
My gut-feeling	31	15.5
Reading newspaper	16	8.0

Table 2. Variable' Cronbach's Alpha, Mean, Kurtosis and Skewdness Values

Variable	No. of items	Cronbach Alpha	Mean	Std. Deviation	Kurtosis	Skewness
ISA	6	0.913	3.3767	1.40314	-.470	.546
PSA	5	0.916	3.0170	1.05560	-.279	.328
ASA	4	0.940	5.1175	1.67112	-.772	-.191
PSC	9	0.951	4.4239	1.25822	-.639	-.157

Table 3. Pair Correlation Coefficient Value Between Variables

Variable	ISA	PSC	ASA	PSA
ISA	-			
PSC	0.430	-		
ASA	0.686	0.309	-	
PSA	0.695	0.266	0.813	-

Table 4. Multiple Linear Regression Analysis Summary

Model	Path	β	Adjusted R^2	P value	Hypothesis	Remarks
1	PSC → ASA	0.309	0.091	<0.001	H1	Significant and Supported
2	PSC → PSA	0.266	0.066	<0.001	H2	Significant and Supported
3	PSC↘	0.235		<0.001	H3	Significant and Supported
	ASA → ISE	0.293	0.569	<0.001	H4	Significant and Supported
	PSA↗	0.395		<0.001	H5	Significant and Supported

5 Discussion and Conclusion

The study fulfilled the research objectives, suggesting all five hypotheses have significant effects. First, the finding suggests that when individuals have high perceived susceptibility, it will enhance their attitude in taking relevant actions like self-examination to reduce the risk of contracting illness or infection [5, 9]. Second, the study suggests a causal impact of perceived susceptibility on perceived control over self-examination. This is probable given that when a person's perceived control is stronger (either to control an action or to control its consequences), the more likely he or she participates in that action, and that action is equal to self-assessment [8].

Third, the study finds that perceived susceptibility has effect on intention to have self-assessment. This is consistent with the studies of [10, 19] that found increased perceived susceptibility of young people toward environmental tobacco smoke will affect their intention and lead their behaviour to avoid the environment with smoke. Forth, attitude has a positive effect on behavioural intention [6, 11]. Fifth, the study finds that perceived control over has impact on intention to have self-assessment given the stronger a person's situation (either to control an action or to control its consequences), the more likely he is to participate in that action and intention, and that action is equal to all other factors [8].

6 Research Implications

6.1 Managerial Implication

The purpose of doing this research is to examine the factors that influence the older adult intention to have self-assessment. In order to improve the older adult intention to have self-assessment, the government should often do campaign and publish more interesting advertisement regarding the benefit bring self-assessment, allow the older adult have positive attitude toward self-assessment and increase their intention to self-assessment [24].

Moreover, it also describes the factor of increase intention of the older adult and empirically analysing the relationship with the acceptance behaviour, and there is also some research have also identified the reason for increasing the older adult intention in self-examining.

Besides, the findings of the community comparison show that in the case of the factor influencing intention to have self-assessment can be different depending on the consumer characteristics.

7 Limitation

Most of the respondents have no habit in doing self-assessment, unless they have got sick or uncomfortable. Some of the participants did not respond to the questionnaire honestly and in a proper way.

Not only that, when the data were done, it also caused some of the results not to be count which lead to the ignoring of the questionnaire data and not be used for future research.

8 Future Research

To improve quality of research study, it is proposed that future research extend a similar model to other country or region of participating respondents. Next, the researcher can also try to lead them and explain clearly with the respondents before the respondent fill in the form. The sample size should also be increased because Malaysia's population is very high. Therefore, to get a valid and accurate test, the sample size should be increased. Last but not least, the duration of the data collection phase should be longer, as it will also enable researchers have more time to obtain more accurate and reliable results.

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