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Article

Factors effecting Preventive Health Behavior among the students at Universities in Thailand: Mediating Role of Self Efficacy

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Abstract

The basic purpose of this research was to analyze the impact of curriculum, institutional climate, social support, self-efficacy on preventive health behavior. This study also evaluated the mediating effect of self-efficacy as well. The questionnaire approach was adopted in this study because the research was cross-sectional and quantitative. The data were collected from 384 students at Thai universities. For this purpose, simple random sampling was adopted. The usable response rate of the study was 76.30%. This data was examined using smart PLS 3.3.2. The result of the study shows that curriculum, institutional climate, social support has a positive effect on self-efficacy. Moreover, self-efficacy also has a positive relationship with preventive health behavior. On the other hand, the mediation effect of self-efficacy is statistically supported in this study as well. The study fills the gap of limited studies regarding preventive health behavior in the higher education sector. This study also fills the gap of limited studies measuring the effect of different variables on preventive health behavior in the education sector. These findings are helpful for the policymakers of the educational sector.

Keywords

Preventive health behavior, self-efficacy, curriculum, climate, Thailand

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The world has been swept by the Pandemic COVID-19. It is perceived as one of the deadliest diseases of the century since Spanish flu which out-broke one century ago in 1918-1919. Since the outbreak of COVID 19, more than two million people have lost their lives and one hundred million people are infected globally. The first case of the COVID-19 was identified in China in December 2019 but it spread around the globe very rapidly (Beach et al., 2020).

Several challenges are phased by the different sectors because of their widespread. One of the most affected sectors because of the COVID-19 is the higher education around the globe and in Thailand as well. This Pandemic has posed several challenges to this sector as compared to other sectors. It is because the density of people who visit universities and other higher education institutes is much higher than any other type of organization. Among these people, there is a high possibility that students will get infected by the virus because they visit the campus quite frequently. The health authorities around the globe responded quickly to these issues. But still, the authorities were unable to control the outbreak (Suksatan et al., 2021).

Therefore, a series of notifications were issued to ensure the safety of the people by taking preventive measures within the educational institutes. To minimize the effect of COVID-19, on-campus studies of the semesters were postponed by different universities as well in Thailand (Choompunuch et al., 2021). On the other hand, several different measures were proposed by the decision-makers of the higher education institutes before students could return to the campus. As students were returned to the campuses, different guidelines were given to them as preventive measures from COVID-19 by the administrations of higher education institutes. For this purpose, special skills and knowledge were provided to students so they can combat COVID-19 (Singkun et al., 2020).

Additionally, several countries including Thailand took a wide range of steps including vaccination to overcome this situation on a long-term basis. But the situation of the pandemic has become more complex with time. Therefore, there was a need for the long-term measure to control Convid-19. For this purpose, there is a need for promotion and construction of behavior so the new normal can be developed and implemented in the period of COVID-19 (Rodrigues & Plotkin, 2020). The preventive behavior by the people in many countries including the students of Thailand are very important for the successful see-off of the COVID-19 outbreak. The same is the importance of preventive behavior in the higher education sector as well. There is a need for social support and to shape the behavior of the students so they can move towards the safety of preventive behavior of the COVID-19 (Yang et al., 2021).

To shape the attitude and develop the social support to develop preventive behavior among students and teachers. But still, there is a need to study the way different factors can play an important role to develop preventive behavior for COVID-19 among students. Among these factors, important ones are social support and self-efficacy development among the students (Mahmood et al., 2020).

Researchers have defined self-efficacy as the belief of the people on the capabilities so that different levels of performance can be achieved. It is important that students have to focus on self-efficacy so they can achieve certain goals and objectives. This situation becomes very important especially in the age of COVID-19 (Wafi et al., 2016). If the self-regulation of a person is underdeveloped, it will affect the learning capability of the person as well. It is because the learning process of developing any kind of behavior requires self-regulation (Broadbent, 2017).

One of the reasons by which students are unable to develop preventive behavior is a lack of skills and engagement. On the other hand, lack of self-efficacy is the cause of less success among the students as well in the COVID-19 situation. To overcome this situation social support and institutional climate plays a very important and critical role. On the other hand, the developed self-efficient plays a very important role to develop behavior and coping with the resources that are needed to achieve some goals (Aguilera-Hermida, 2020).

Literature Review

Preventive health behavior (PHB)

Past studies have referred to health behavior in terms of actions that can affect human health. Their actions can also be referred to as the behavior of a healthy lifestyle including exercise and maintaining the diet. It also includes avoiding and risk-taking behavior like using alcohol and drugs. The health belief of the person dictates the health behavior which plays a very important role to detect the disease (Hart et al., 2017). The opinion of an individual regarding health depends upon the individual's belief in which a person chooses to get engage

in different physical activities and use different health care systems by giving timely visits to the doctors. Presently there are very limited studies that have examined the health behavior of the students of higher education. Most of the past studies have focused on the long term and short term health behavioral change (Hart et al., 2017).

Self-Efficacy

Self-efficacy is referred as the judgement of a person regarding own capabilities of performance in a certain domain. The beliefs of efficacy are dependent upon the mechanism of self-regulation that can affect behavior, motivation, performance level and stress level. The efficacy of the individual takes place when people face demanding, unpredictable, and novel tasks. Therefore, when students encounter or deal with any system first time, it is more likely to process and generate efficacy information related to that task. The efficacy belief of the individual can be faulty or accurate. In any of the cases, it can be extended with time. It influences the choice of any behavior or measure to avoid any behavior (Bartimote-Aufflick et al., 2016). The beliefs of self-efficacy are the outcome of several factors. Important factors of such information are enactive mastery, persuasion through verbal discussion such as results from different feedback and arousal of the different emotional states (Gielnik et al., 2020).

Some scholars have defined self-efficacy as the evaluation of the person regarding the ability or competency to overcome an obstacle or to achieve a goal. In different contexts, self-efficacy has different meanings. In academics, self-efficacy is defined as self-efficacy in academic settings. In the settings of academics, self-efficacy is referred to as the ability of the student to manage his or her behavior to fulfil the expectations from the academics (Honicke & Broadbent, 2016). The efficacy of students is referred to as the level to which students have believed that they will get success in their universities or colleges. Scholars pointed out that self-efficacy is a very strong predictor of the performance of the student and the behavior. Most of the studies conducted in past referred to the self-efficacy of the students in terms of their academic performance. There is a lack of literature focusing on the behavior of the student affected by self-efficacy (Talsma et al., 2019).

Effect of self-efficacy on Preventive health behavior

Several studies in past have examined the effect of self-efficacy on behavior. They have reported a positive relationship between health behavioral change and self-efficacy. Some of the studies have reported the mediating relationship between health behavior and social science variables (Keren et al., 2021). Despite that, self-efficacy is reported as the important factor of behavior of students but its role in educational settings is still very less visible. Most of the studies in the health sector have assessed the role of self-efficacy effecting prevention behavior of several diseases (Tshuma et al., 2017; Yıldırım & Güler, 2020). Therefore, there is a need to examine its mediating role in the context of higher education.

Social Support

Scholars have defined social support as the perception of the individual regarding care and to be part of a social network that is mutually supportive. The social support of the individual rise from the society and community, friends, families, peers, superiors, and others. Past studies have differentiated support system and received social support and perceived social support. Perceived social support is referred as perceived availability of social connection and adequacy as well. It includes being loved, respected, and valued. On the other hand, received social support focuses on the quality and quantity of the support that is provided by the organizations and society (Nambisan et al., 2016).

Social support is referred as the social network and its provision of material as well as psychological resources that intend to provide benefit to someone in individual capacity or collective form. Scholars have described the social network as covering friends, family, and significant others. On the other hand, researchers also reported that non-work sources and work sources are the drivers of social support for a person who is a working professional. It also includes the students as well (Wright, 2016).

Past studies have pointed out that for people who have a high level of support from their loved ones and social network, it became easy for them to deal with any behavior. The social network also helps the individuals to deal with any difficult position like fear, anxiety, and mistrust. One of the most important factors of the failure reported in past studies is the lack of social support. Researchers have also reported that social support plays a very important role in coping with any behavior of the students (Sippel et al., 2015).

Curriculum

There are several studies conducted to show the importance of curriculum. In this regard, scholars have defined education as the combination of the experiences that are experienced by the individual within his or her life when they are dealing with a person (Hall, 2019). The curriculum that is treated as excellent is the one that allows a person to attain maximum development of a person as well as optimum social competence. The level of prosperity of the education shows the quality of the education. According to Bossu et al. (2016), a good curriculum must have an agent of implementation. To develop and implement a curriculum, the teachers of the organization play a very important role.

Institutional Climate

Several studies are conducted in the last five decades regarding the institutional climate showing the researchers interest in this topic. Scholars have reported the effect of institutional climate on the cognition of the students as well as on the learning outcome. Therefore, it has been defined as the learning environment which is created by the instructors that are created in a learner-centered and teacher-centered manner (Kumar & Arun, 2018). The main objective of the institutional climate is to transmit knowledge. It also plays a very important role in the age of COVID-19 as the faculty members in the current Pandemic situation prefer to have an online or distance mode of study (Purwadhi, 2019).

Social Support and Self efficacy

Several studies have conducted the effect of social support on different variables including self-efficacy. The studies have reported a very strong relationship and effect of social support and self-efficacy. These studies confirm that the health of the students is improved, and they are better able to cope with the skills with the help of social support as it develops self-efficacy. On the other hand, researchers have also reported the mediating role of self-efficacy in several past studies (Wang et al., 2018). A student can easily learn appropriate interventions, and modifications to acquire or learn something which will lead to predictive resilience. Social support also plays a very important role to learn and improving self-efficacy within an individual. Whereas studies also reported the mediating effect of self-efficacy among social support and behavior of the students as well (Zhou et al., 2017).

Scholars have reported essential aspects of self-efficacy in which social support is also reported as well. The cross-sectional study by Kassis et al. (2019) reported a positive relationship between social support and self-efficacy. On the other hand, Wang et al. (2015) also examined the effect of social support and self-efficacy among women doctors. The researcher reported that the doctors having a high level of social support had also a high level of self-efficacy as well.

Climate and Self Efficacy

The organizational climate is referred as the attributes and qualities that exist within the organization. It may also be induced by the way employees and other stakeholders are dealt with by the organization. The good climate of the institute will enable students to develop more energy and ability to study. In this way, a good climate of the organization or educational institute enhances the self-efficacy of the students. Scholars in past have identified different factors that formulate climate. These factors include communication, lack of obstacles, the collegiality of the faculty, discipline of the students and leadership. All of these factors are a good predictor of self-efficacy (Hosford & O'Sullivan, 2016). The environment of the institute which consists of academic emphasis, morale, support from resources, consideration, principal influence and integrity of the institute can impact student self-efficacy (Zysberg & Schwabsky, 2021).

Based on the studies of climate, external interaction, as well as internal interaction in terms of quality, predicts self-efficacy. On the other hand, in the presence of a good curriculum of the institute, there must be a good organizational climate for the improvement of students' self-efficacy. Scholars have also pointed organizational climate plays a very important role to improve self-efficacy (Katsantonis, 2020).

Curriculum and Self-efficacy

One of the key features of institutional learning is formal education. This education is provided to an individual in the national curriculum. A study conducted in Pakistan found the curriculum at the secondary was

the one factor that affects the self-efficacy of the individual. The curriculum of the organization provides the educational plan which gives control and affects the belief of self-efficacy. If the curriculum is not available, students will not be able to learn which will eventually affect the efficacy of the student (Faisal et al., 2019).

H1: Climate has a significant and positive effect on self-efficacy (SE).
H2: Curriculum has a significant and positive effect on SE.
H3: SE has a significant and positive effect on PHB.
H4: Social support (SS) has a positive and significant effect on SE.
H5: SE mediates the relationship between curriculum and Public Health behavior (PHB).
H6: SE mediates the relationship between SS and PHB.
H7: SE mediates the relationship between Institutional Climate and PHB.

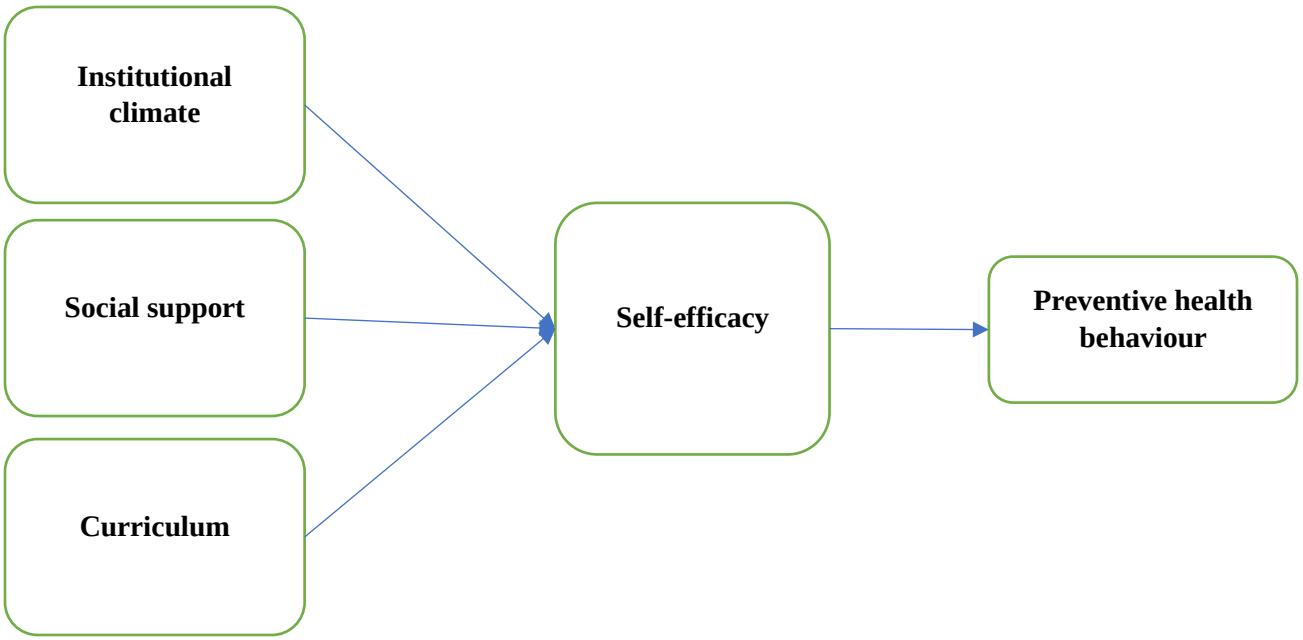

Figure 1: *Framework*

Methodology

The present study is quantitative research. Moreover, this study adopted a questionnaire approach to collect the data. The research design of the study was cross-sectional. The data in this study was collected from the students at Thailand Universities. The questionnaire for this study was developed from past studies. The items of the curriculum were adapted from (Camburn et al., 2003), the items of PHB were adapted from (Li et al., 2021), the items of social support were adapted from (Wu et al., 2020), the items of climate were adapted from (Li et al., 2021) and the items of self-efficacy were adapted from (Dlamini et al., 2009).

These questionnaires were developed on Likert 7 scale. On this scale, 1 represented the highly disagree response of the respondent, 4 represented neutral whereas 7 shows strongly agreed response. The developed questionnaire was distributed among 384 students at the university using simple random sampling. The researcher received back 293 usable questionnaires showing a response rate of 76.30 percent. The gathered questionnaire was assessed using SPSS for descriptive analysis and PLS for the further analysis of the data gathered.

Results and Analysis

The analysis from the measurement model is based on two steps. The first step is known as the measurement model whereas the second step is called the structural model. The first phase of testing known as the measurement model includes composite reliability, discriminant validity and convergent validity. If all the requirements of the measurement model i.e., reliability testing, discriminant validity and convergent validity and confirmed, the data is further processed for assessment of the hypothesis.

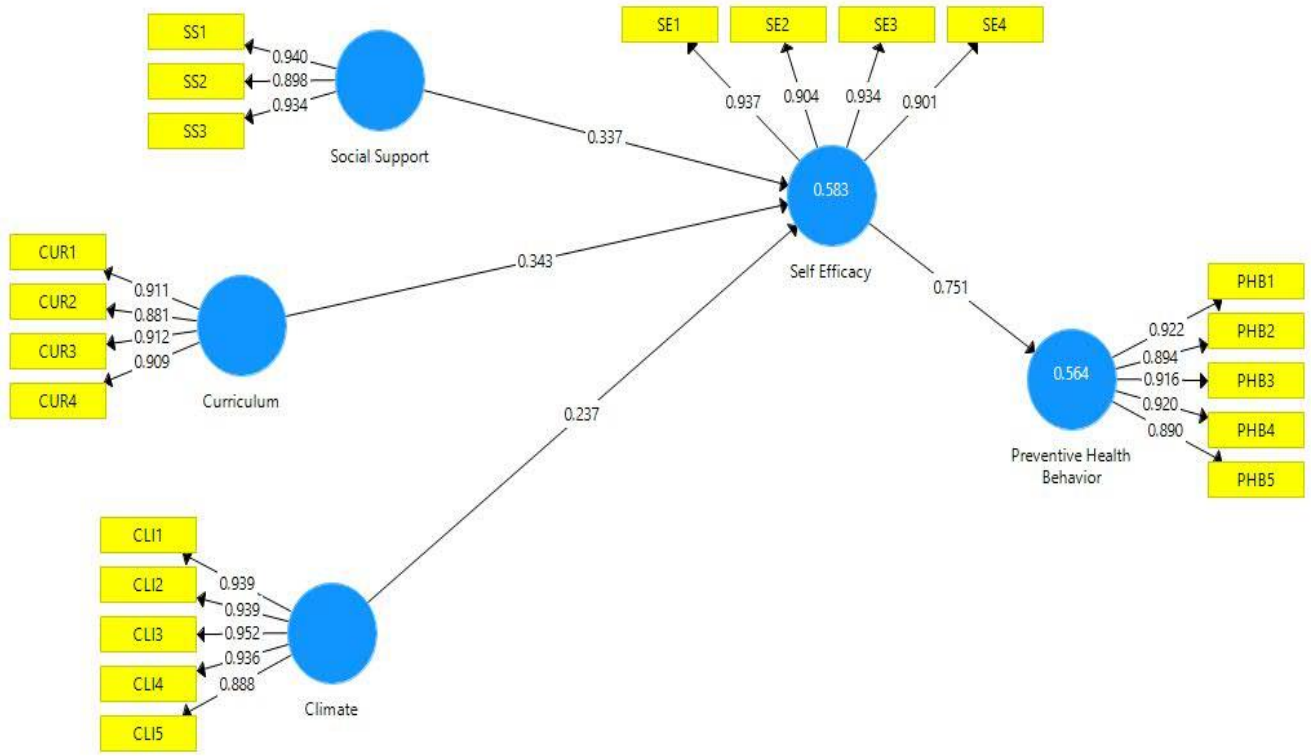

Figure 2: *Measurement Model*

The initial step of the analysis through the measurement model is the factor loading. According to Hair Jr et al. (2017) the loading of the items so they can be retained should be more than 0.70. It is evident from figure 2 and table 1 that the items that are retained in the present study have a loading of more than 0.70.

Table 1*: Factor Loading*

	Climate	*Curriculum*	*Preventive Health Behavior*	*Self-Efficacy*	*Social Support*
CLI1	0.939				
CLI2	0.939				
CLI3	0.952				
CLI4	0.936				
CLI5	0.888				
CUR1		0.911			
CUR2		0.881			
CUR3		0.912			
CUR4		0.909			
PHB1			0.922		
PHB2			0.894		
PHB3			0.916		
PHB4			0.920		
PHB5			0.890		
SE1				0.937	
SE2				0.904	
SE3				0.934	
SE4				0.901	
SS1					0.940
SS2					0.898
SS3					0.934

The next phase was to evaluate the convergent validity of the data. For this purpose, the present study tested the AVE of the data gathered. According to Hair Jr et al. (2017), the values of AVE must be more than 0.50 to confirm the convergent validity. The values of AVE mentioned in table 2 meets the required criteria (Fornell & Larcker, 1981).

Later, this study examined the values of composite reliability and Cronbach alpha. These two tests were important to show the consistency of the data and its reliability. According to Mallery and George (2000), the CR and Cronbach alpha of more than 0.90 is considered as excellent, 0.80 is considered as very good, whereas 0.70 is considered as good. The details of Cronbach alpha and CR mentioned in table 2 shows that CR and Cronbach alpha in the present study is more than 0.70.

Table 2: *Reliability*

	Cronbach's Alpha	*rho_A*	*Composite Reliability*	*Average Variance Extracted (AVE)*
Institutional Climate	0.962	0.964	0.970	0.868
Curriculum	0.925	0.926	0.947	0.816
Preventive Health Behavior	0.947	0.947	0.959	0.826
Self-Efficacy	0.939	0.939	0.956	0.845
Social Support	0.914	0.917	0.946	0.854

Next, the values of discriminant validity were examined. For this purpose Fornell and Larcker (1981) approach was adopted. According to this approach, the square root of the AVE of the exogenous variables placed at the diagonal of the matrix must be more than the correlation of the remaining values. As mentioned in table 3, all values at the diagonal are more than the remaining values. Thus, discriminant validity in this study was confirmed.

Table 3: *Discriminant Validity*

	Climate	*Curriculum*	*Preventive Health Behavior*	*Self-Efficacy*	*Social Support*
Climate	**0.931**				
Curriculum	0.348	**0.903**			
Preventive Health Behavior	0.546	0.640	**0.909**		
Self-Efficacy	0.588	0.615	0.751	**0.919**	
Social Support	0.688	0.563	0.724	0.693	**0.924**

After successfully evaluating the measurement model in the present study. This study examined the structural model to evaluate the proposed hypothesis. For this purpose, the bootstrapping procedure was adopted. The hypothesis of the present study was accepted or rejected based on t-values obtained from bootstrapping.

Table 4: *Direct Hypothesis*

HYP		*Beta*	*Sample Mean (M)*	*SD*	*T Statistics*	*P Values*	*Results*
H1	Climate -> Self Efficacy	0.237	0.248	0.091	2.586	0.005	Supported
H2	Curriculum -> Self Efficacy	0.343	0.344	0.089	3.830	0.000	Supported
H3	Self-Efficacy -> Preventive Health Behavior	0.751	0.749	0.056	13.400	0.000	Supported
H4	Social Support -> Self Efficacy	0.337	0.324	0.111	3.033	0.001	Supported

The results of the direct hypothesis are mentioned in Table 4. It is evident from the value of the above table that climate and self-efficacy have a positive relationship (Beta=0.237, t=2.586). Thus, H1 is supported. Moreover, curriculum and self-efficacy have a positive significant relationship as well Beta = 0.343, t=3.830 statistically supporting H2. On the other hand, self-efficacy and PHB are positively associated as well (Beta=0.751, t=13.400) supporting H3. In the end, Social Support and self-efficacy have a positive relationship and well (Beta=0.337, t=3.033) supporting H4.

Table 5: *Indirect Hypothesis*

		Beta	*Sample Mean (M)*	*SD*	*T Value*	*P Values*	*Results*
H5	Curriculum -> Self Efficacy -> Preventive Health Behavior	0.257	0.259	0.075	3.440	0.000	Supported
H6	Social Support -> Self Efficacy -> Preventive Health Behavior	0.253	0.244	0.089	2.840	0.002	Supported
H7	Climate -> Self Efficacy -> Preventive Health Behavior	0.178	0.184	0.063	2.822	0.002	Supported

Later, this study tested the mediation relationship of self-efficacy between curriculum and PHB. The study found this relationship significance (Beta =0.257, t=0.075) supporting H5. Furthermore, the mediation effect of SE between SS and PHB is also confirmed (Beta=0.253, t=2.840) supporting H6. In the end, mediating effect of SE between CLI and PHB is also supported (Beta= 0.178, t=2.822) supporting H7.

Table 6: *R square*

	Original Sample (O)
Preventive Health Behavior	0.564
Self-Efficacy	0.583

At the end of the structural model, the present study examined the R square values of the data. It shows the effect of independent variables on the outcome variables. According to Sadia and Jawad (2022), the minimum value of R square should be more than 0.70. It is evident from the above table that this minimum criterion is confirmed because values are well above 0.10.

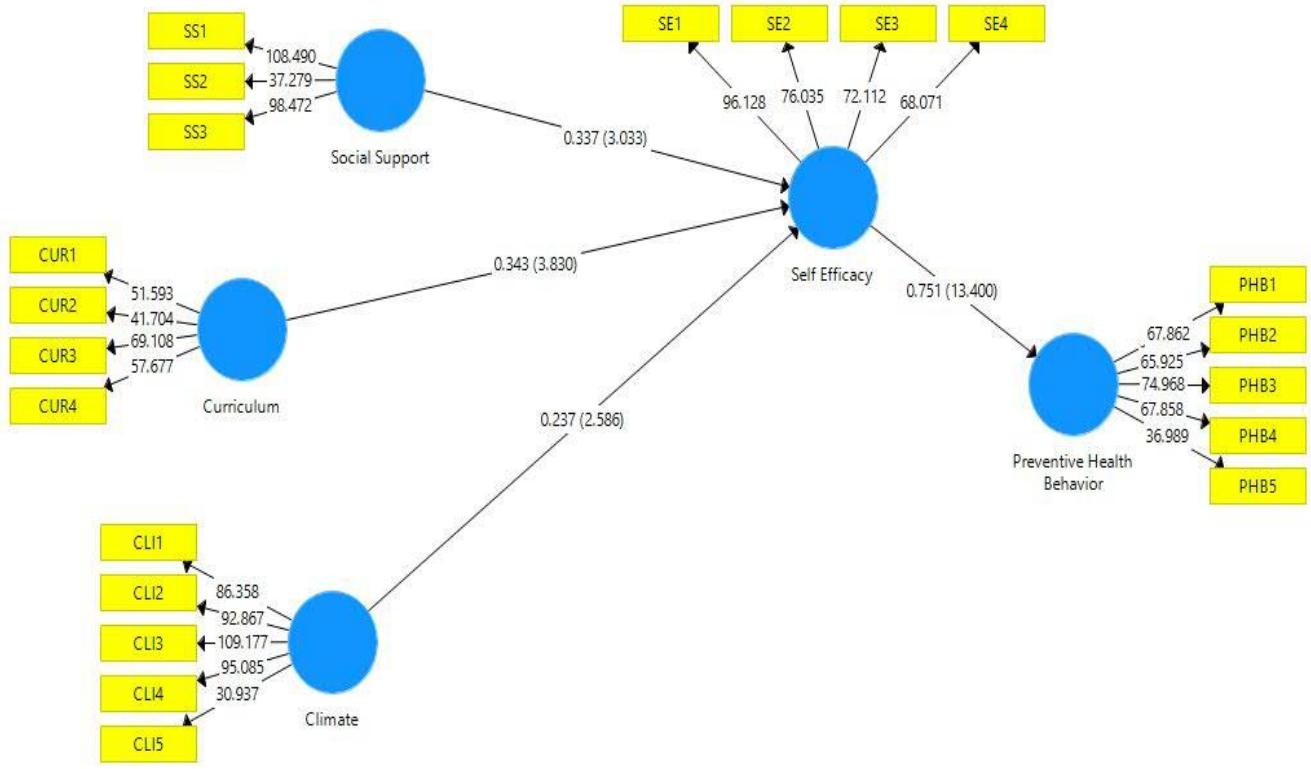

Figure 3: *Structural Model*

Discussion

This research was designed to examine the effect of different variables on PHB among university students. This study tested the effect of curriculum, SS, institutional climate, and SE on the PHB. The study found that Curriculum should be the focus of the higher education institutes to create awareness regarding COVID 19 and develop self-efficacy among students. These results of the present study are in line with the findings of Gorozidis and Papaioannou (2011). The result of the study also confirms the relationship between the climate of the universities and self-efficacy. These results are similar to the findings of (Karantzas et al., 2016). On the other hand, support is required to the students by their social system so they can develop preventive health behavior through self-efficacy. These results of the study are also aligned with the findings of Kassis et al. (2019). It is also important to mention that this study confirms the mediation effect of self-efficacy between, curriculum, climate, social support and PHB. These results are also aligned with the findings of (Ashford et al., 2010).

Conclusion

Since the outbreak of COVID-19, several different steps are taken by the governments and higher education institutes. It is necessary to develop PHB among students because educational institutes are the places that are highly dense as a lot of students remain together in one place. In this regard, this study found that a higher level of self-efficacy created PHB among the students. On the other hand, a curriculum regarding COVID-19 must be provided to the students in the institutes so they can develop PHB through SE. Moreover, the results also demonstrate that the climate of the institutes where students study is a very important factor as well to develop a high level of SE and PHB. In the end, the results also show that organizational climate is an important factor to develop self-efficacy and PHB among the students at universities.

The findings of the study have a few limitations as well. The present model only tested the mediation effect of SE. Whereas the moderation effect of trust of the students can be a good addition in the model, on the other hand, this study is cross-sectional. Future studies can use longitudinal research design. The findings of the study are helpful for the policymakers to develop policies regarding higher education institutes of Thailand.

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