

## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam



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**ABSTRACT:** The fourth wave of the COVID-19 epidemic forced medical workers to make sacrifices for a happy time, rest time, and time to take care of their families to join the frontline against the epidemic. To add to the evidence of previous studies on participatory behavior against the COVID-19 pandemic and to enrich the research literature and policy proposals for the Government of Vietnam, this study applies theory of planned behavior, and social pressure explores the intention of health workers to participate in the COVID-19 pandemic response in Vietnam. This study was conducted through a cross-sectional survey using a purposive sampling technique (n=200). Multivariate linear regression analysis and moderator regression were applied to prove the proposed hypotheses. Research results show theory of planned behavior and social pressure may explain healthcare workers' intentions to participate in the fight against the COVID-19 pandemic. The social pressure plays a moderator role in the relationship between the subjective norms and the intention.

**KEYWORDS:** Theory of Planned Behavior; social pressure; medical staff; The COVID-19 pandemic; Vietnam

### INTRODUCTION

Vietnamese law stipulates that Vietnamese medical staff should understand that taking care of everyone's health is a noble profession, respect the law and strictly comply with professional regulations, and respect the right to cure. Health workers are obliged to actively participate in health propaganda and education, disease prevention and treatment, and treatment of people suffering from accidents and illnesses in the community; exemplary in living a hygienic lifestyle and keeping the environment clean (Vietnam Government, 1996). In dealing with the COVID-19 pandemic in Vietnam, all medical forces have made extremely noble sacrifices and extraordinary efforts (Thanh Nam, 2021). With the fight against COVID-19 reaching its climax, the silent sacrifices of medical forces should be honored across Vietnam (Phong Thu, 2021). Most healthcare workers dealing with the COVID-19 pandemic in Vietnam are civil servants who receive their salaries from the Vietnamese government (Vietnam Government, 2009). Many doctors and nurses volunteer to assist in COVID-19 hotspots (Thai Binh, 2021).

In the long fierce battle with COVID-19 in Vietnam, the enthusiasm of medical staff in pandemic hotspots and their willingness to face difficulties, disadvantages, and sacrifices for patients (Thanh Nam, 2021). Due to the sudden increase in workload, long working hours, and lack of necessary support, the medical staff still cling on (Thuong et al., 2021). In October 2021, about 60% of Vietnamese healthcare workers had to cope with significantly increased workload and working hours during the COVID-19 pandemic. About 40% of them said they experienced discomfort and deterioration in physical health, and 70% suffered from anxiety and depression (Thai Binh, 2021). Therefore, identifying and understanding motivational and behavioral factors is crucial in understanding why an individual performs a behavior to change behavioral practices in society (Nchise, 2012; Jokonya, 2015).

Healthcare worker motivation is widely considered a significant determinant of health worker performance (Dieleman, Gerretsen, & van der Wilt, 2009). It is a primary concern of policymakers, practitioners, and researchers (Belrhiti, Van Damme, Belalia, et al., 2019; George, Scott, Govender, & World Health Organization, 2017). Most of the research on motivation performed in the health workforce field focuses on extrinsic and intrinsic motivation (Rowe, De Savigny, Lanata, & Victora, 2005, Fillol, Lohmann, Turcotte-Tremblay, Somé, & Ridde, 2019; Kane, Gandhidzanwa, Mutasa, Moyo, Sismayi, & Dieleman, 2019). The health sector's performance is highly dependent on worker motivation, with service quality, efficiency, and fairness all directly mediated

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by workers' willingness to apply to their tasks (Franco, Bennett, & Kanfer, 2002; Andersen, 2009). However, the researchers' approach to motivating health workers under social pressure is still lacking.

In this study, we approach from the perspective of social pressure and theory of planned behavior. Social pressure influences decisions, and the relative strength of modality effects vary depending on the context (Biddle, Bank, & Slavings, 1987; Fishbein & Ajzen, 1977). Approaching from a theoretical perspective on planned behavior predicts behavior based on a combination of three factors: attitude towards behavior, subjective norms, and perceived behavioral control (Kan & et al. Fabrigar, 2017; Ajzen, 1985, Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Armitage & Conner, 2001; McEachan, Conner, Taylor, & Lawton, 2011). Theory of planned behavior is one of the most influential models in explaining health-related behaviors (Fan, Chen, Ko, Yen, Lin, Griffiths, & Pakpour, 2021). Therefore, this study aims to fill theoretical gap and provide more evidence on the relationship between public service motivation and employee satisfaction and performance in the public sector. In addition, the study also examines social pressure moderates the relationship between subjective norms and the Intention to deal with the COVID-19 pandemic.

### **LITERATURE REVIEWS**

#### *Theory of Planned Behavior*

Theory of planned behavior applies to understanding and predicting identified behaviors. A combination of three factors determines behavioral intention: attitude towards the behavior, subjective norm, and perceived ability to control behavior (Kan & Fabrigar, 2017; Ajzen, 1985, Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Armitage & Conner, 2001). Theory of planned behavior extends theory of reasoned action used to predict individual behaviors (Bagozzi, 2007), which has been very useful in predicting and understanding human behavior (Ajzen). ; 1985; Ajzen; 1987; Ajzen; 1991). According to this theory, human behavior is stimulated by behavioral intentions, influenced by underlying beliefs (Ajzen, 2002), influenced by factors that favor people's actions, and the ability to behavioral control (Nchise, 2012; Jokonya, 2015).

Attitudes are behavioral beliefs and an individual's perception of the possible consequences of performing a behavior (Ajzen, 2011). The subjective probability that a behavior will produce a particular outcome based on personal experience, information sources, inferences, and behavioral beliefs will create an attitude towards behavior that is favorable or unfavorable to behavior (Ajzen, 2006 & 2010).

Subjective norm is a person's perception of society's expectations for adopting a particular behavior with the likelihood that significant others will approve or disapprove of conduct and the motivation for compliance. It is an assessment of the importance of gaining the approval of significant others (Ajzen, 2006 & 2010) and an individual's perception of a particular behavior. The strength of the motivation to comply or compliance with the beliefs of others involved (Ajzen, 2011) characterized linear decision-making processes (Edberg, 2015). The more favorable it is and the greater the perceived control. In addition, the greater the person's intention to perform the behavior in question (Ajzen, 2010), which is the perceived social pressure to engage or not to engage in conduct (Ajzen, 2006), the strength of it considers compliance (Ajzen, 2006).

Perceived behavioral control is the premise of cognitive behavioral control implemented in the perceived presence of factors that can facilitate or hinder the performance of the behavior (Ajzen, 2006). It is an individual's assessment of their individual ability to engage in intended behavior based on their perceived capacity, difficulty, or ease in performing the behavior (Ajzen, 2011).

The intention is attitudes towards subjective norms and perceived behavioral control (Ajzen & Madden, 1986; Ajzen, 1991). It is a motivational and context-specific representative goal-directed behavior (Bloom, 2000), a significant predictor of behavior (Athiyaman, 2002; Tariq et al., 2017; Warshaw & Davis, 1984).

The condition for accurately predicting an intention base on behavioral control and intention to perform a behavior must correspond to or be compatible with the intended behavior. The context, maintaining stability between the moment of assessment and observed behavior, reflects the reality of actual control (Ajzen, 1991). Behavioral intention indicates a person's willingness to perform a specific behavior or action, which is the premise of the behavior. It follows attitudes toward behavior, subjective norms, and behavioral controls, with each predictor weighted for its importance relative to the behavior and interest of other people (Ajzen, 2006). In addition, behavioral intention indicates the level of effort and complex work individuals are willing to engage to perform the behavior (Ajzen, 2006; Ajzen, 1991). Intention prediction can be achieved through attitude towards behavior, subjective norms, and perceived behavioral control (McEachan et al., 2011). Attitude toward a behavior is formed by a personal judgment about the expected outcome of performing a behavior (Ajzen, 2011).

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## *Theory of Planned Behavior in the health care*

In fact, there have been applications of theory of planned behavior in the health and medical fields as predictors of self-care in hypertensive patients (Pourmand, Doshmangir, Ahmadi, et al., 2020), blood pressure control (Ajzen & Timko, 1986; Godin & Kok, 1996; Hagger, Chatzisarantis & Biddle, 2002), health prevention, occupational safety and other areas such as sexual behavior among junior high school students (Baudouin, Wongsawat, & Sudnonbua, 2020), behavioral health education interventions on HIV/AIDS prevention (Siuki, Peyman, Vahedian -Shahroodi, Gholian-Aval, & Tehrani, 2019), prevention of HIV/AIDS infection (Tarkang & Zotor, 2015; Siuki, Peyman, Vahedian-Shahroodi, Gholian-Aval, & Tehrani, 2019), public health behavior (Alberta, Proboningsih, & Almahmudah, 2014, Yanti, Mulyadi, Wahiduddin, Novika, Arina, Martani, & Nawan, 2020, Logo, Betan, & Dion, 2018), dietary behavior (Rieblet et al., 2015), health behavior physical and psychosocial (Andrykowski, Beacham, Schmidt, & Harper, 2006), eating behaviors (Malek, Umberger, Makrides, & ShaoJia, 2017), self-care motivation (Peters, & Templin, 2010). There have also been studies applying theory of planned behavior to predict the effectiveness of preventive measures to assess COVID-19 preventive health behaviors in Iran (Shahnazi, Ahmadi-Livani, Pahlavanzadeh, Rajabi, Hamrah, & Charkazi, 2020), intention to vaccinate (Fan, Chen, Ko, Yen, Lin, Griffiths, & Pakpour, 2021; Wolff K, 2021), social distancing (Frounfelker, Santavicca, Li, Miconi, Venkatesh, & Rousseau, 2021).

## *Social Pressures Influence Behavior*

Many previous studies have discovered the impact of social pressure on cognitive and behavioral control (Locke & Braver, 2008; Braver et al., 2009; Dambler et al., 2011; Padmala & Pessoa, 2011; Chiew & Braver, 2013 & 2014; Fröber & Dreisbach, 2014). Social pressure is one of the most critical factors determining the effectiveness of cognitive performance and goal-oriented behavior, affecting individuals' positive and negative motivation through the social control system (Curley et al., 1986; Trautmann et al., 2008; Vieider, 2009; Collins & Collins, 2002; Sen, 2008; Loewenstein & Lerner, 2003). It arises from others defining outcomes and performance appraisals and create anxiety or fear (Lerner & Tetlock, 1999; Schmid et al., 2015; Latham & Locke, 2006). Social pressure deals with working memory, reasoning, problem-solving, task flexibility, planning, and execution (Cohen et al., 1996, Braver & Barch, 2000; Botvinick et al., 2001; Miller & Cohen, 2001; Braver et al., 2001). It allows adjustment of thoughts and actions to pursue behavioral goals (Braver, 2012), directs attention to a stimulus, changes response strategies to changes in the environment, and inhibits automatic or habitual response tendencies (Robertson et al., 2015); participate in socially desirable behavior (Pitesa et al., 2013).

Cognitive control over social pressure operates through two distinct modes of action: positive control and reactive control (Braver & Barch, 2002; Braver et al., 2009; Braver, 2012). It is an active, forward-looking mode that prepares the cognitive system for upcoming events by predicting the current context. On the other hand, information processing takes place in a sustainable, goal-oriented manner (Braver, 2012), with feedback control, so information processing is more intuitive (Braver, 2012; Braver, Gray, & Burgess, 2007), suggesting appropriate behavior (Lerner & Tetlock, 1999).

Social pressure is a variable that explains behavior in many domains (Locke & Braver, 2008; Braver et al., 2009; Engelmann et al., 2009; Jimura et al., 2010; Padmala & Pessoa, 2011; Chiew & Braver, 2013 & 2014; Fröber and Dreisbach, 2014; Braver et al., 2007 & 2009). An individual is under social pressure because of their motivation to act following the wishes of society (Cialdini et al., 1976; Tetlock, 1983; Tetlock et al., 1989; Klimoski & Squid, 1990; Quinn & Schlenker, 2002), rewards and punishments (Taylor et al., 2004; Sawaguchi et al., 1988; Sawaguchi & Goldman-Rakic, 1991; Arnsten et al., 1994; Schmid et al., 2015). In addition, it also explains the improvement of work performance (Latham and Locke, 2006), transparency of results (Hickman & Metz, 2015; Schmid et al., 2015), conflict resolution in the performing mission process (Schmid et al., 2015), anxiety and goal-directed behavior (Hickman & Metz, 2015). Under social pressure, cognitive and behavioral control conditions can occur (Barch et al., 1997; Braver et al., 2001 & 2005; Braver & Bongiolatti, 2002; McDonald & Carter, 2003; Paxton et al., 2006 & 2008; Locke & Braver, 2008). For healthcare workers, social pressure is time pressure related to social sharing. It causes emotional exhaustion (Wang, Zhou, Jia, et al., 2021), stress work (Amponsah-Tawiah, Kwesi & Adu Appiah, Michael, 2016), pressure for social support (Hou, Zhang, Cai, Song, Chen, Deng, et al., 2020).

## **HYPOTHESIS**

H1. There is a positive and significant relationship between attitudes and the Intention to participate in response to the COVID-19 pandemic.

H2. There is a positive and significant relationship between perceived behavioral control and the Intention to participate in response to the COVID-19 pandemic.

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H3. There is a positive and significant relationship between social pressure and the Intention to respond to the COVID-19 pandemic.

H4. There is a positive and significant relationship between subjective norms and the Intention to respond to the COVID-19 pandemic.

H5. Social pressure is the variable that moderates the relationship between subjective norms and the Intention to deal with the COVID-19 pandemic.

### RESEARCH METHOD

We conducted this study in the Hanoi capital, Ho Chi Minh City, Binh Duong, and Bac Giang province in September 2021. These localities were at the peak of the Covid 19 pandemic with the number of patients and largest medical staff. The research team conducted in-depth interviews with three psychologists to adjust the questionnaire to suit the research objectives. The questionnaire consisting of 2 parts. Part 1 was to collect information about the demographics of the study participants, such as age, gender, education level, and occupation. In part 2, we used the questionnaire built by Ajzen (2010). It was adjusted to fit the research object to collect information on participants' attitudes (6 items), subjective norms (5 items), cognitive-behavioral control (5 items), and employee intentions (3 items) about the intention to participate in the prevention of the Covid-19 epidemic. In addition, the questionnaire developed by Yavuzer, Karatas, Civilidag, & Gundogdu (2014) was adjusted to fit the research object to collect information about social pressure on health workers to deal with the COVID-19 pandemic, including 5 items.

The English questionnaire version was translated into Vietnamese by two professional interpreters. This process is carried out according to the rules to adapt between Vietnamese cultures. Then, after a final discussion between the translator and the principal investigator, we created a Vietnamese version. A professional bilingual sociology expert contributed to this edition with minor adjustments. This final version was pre-tested on 40 participants representing age, sex, education, and occupation demographics. The questionnaire was sent directly to the respondents by the purposeful sampling method. As a result, 200 questionnaires were distributed, all of them returned. Table 1 shows the demographic information of the study participants.

**Table 1. Demographic characteristics of survey participants**

	Occupation											
	Consulting doctor		Epidemiologist		General practitioner		Laboratory technician		Nurse		Physician	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
female	17	17.3 %	18	18.4 %	15	15.3 %	13	13.3 %	22	22.4 %	13	13.3 %
male	16	15.7 %	15	14.7 %	22	21.6 %	15	14.7 %	17	16.7 %	17	16.7 %
25-30 years	3	9.7 %	5	16.1 %	7	22.6 %	4	12.9 %	6	19.4 %	6	19.4 %
31-35 years	6	16.2 %	6	16.2 %	6	16.2 %	6	16.2 %	7	18.9 %	6	16.2 %
36-40 years	4	21.1 %	1	5.3 %	6	31.6 %	4	21.1 %	3	15.8 %	1	5.3 %
41-45 years	6	14.6 %	10	24.4 %	4	9.8 %	4	9.8 %	9	22.0 %	8	19.5 %
46-50 years	7	18.9 %	6	16.2 %	5	13.5 %	4	10.8 %	9	24.3 %	6	16.2 %
above 50 years	7	20.0 %	5	14.3 %	9	25.7 %	6	17.1 %	5	14.3 %	3	8.6 %
Ambulance technicians	3	11.5 %	6	23.1 %	4	15.4 %	4	15.4 %	6	23.1 %	3	11.5 %
Bachelor of Medicine	8	22.9 %	5	14.3 %	7	20.0 %	7	20.0 %	5	14.3 %	3	8.6 %

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Bachelor of Public Health	2	7.4%	4	14.8%	9	33.3%	3	11.1%	4	14.8%	5	18.5%
Bachelor of Surgery	7	17.9%	9	23.1%	3	7.7%	5	12.8%	8	20.5%	7	17.9%
Doctor of Medicine	8	21.1%	3	7.9%	8	21.1%	4	10.5%	8	21.1%	7	18.4%
Master of Medicine	5	14.3%	6	17.1%	6	17.1%	5	14.3%	8	22.9%	5	14.3%

### RESEARCH RESULTS

#### Analyzing the Reliability of the Scales

We analyze Cronbach's Alpha to identify and remove garbage variables to avoid creating biased factors when analyzing exploratory factor analysis. Cronbach's Alpha coefficient has a variable value in the interval [0,1]. Therefore, a measurement variable has Reliability coefficients  $\geq 0.3$ , that variable meets the requirements (Cronbach, 1951; Taber, 2018). The criterion of Cronbach's Alpha coefficient  $> 0.6$ , and the correlation coefficient of the sum variable in each scale  $> 0.3$  (Hair, Black, Babin, & Anderson, 2010). Table 2 shows that all items meet the standards and ensure the validity of the exploratory factor analysis in the next step.

**Table 2. Summary of Reliability and Relative Minimum Variables of Scales**

Scales	Number of variables observed	Reliability coefficients (Cronbach Alpha)	The correlation coefficient of the smallest total variable
Attitudes	6	0.860	0.566
Subjective_Norms	5	0.784	0.488
Perceived Behavioural Control (PBC)	5	0.808	0.576
Social_pressure	5	0.789	0.555
Intention	3	0.663	0.414

After Cronbach's Alpha analysis, an exploratory factor analysis extracts principal components and varimax rotation to group factors. With a sample size of 200, the factor loading of the observed variables  $> 0.5$ , and variables in the research model converge on the same element, distinguished from other factors. In addition, the Kaiser-Meyer-Olkin coefficient (KMO) must be in the range of  $0.5 \leq KMO \leq 1$  (Cerny & Kaiser, 1977; Kaiser, 1974; Snedecor, George, Cochran & William, 1989). Table 3 shows that all factor loading coefficients of the observed variables  $> 0.5$ ; Bartlett test with Sig meaning. = 0.000 with KMO coefficient = 0.932. All 35 items were extracted into 4 factors with Eigenvalues  $> 1$  and cumulative variance percent = 57.717%. Thus, the research model consisting of 4 independent variables and 1 dependent variable is used for multivariable linear regression analysis and moderator regression analysis to test the proposed hypothesis.

**Table 3. Exploratory factor analysis**

	Rotated Component Matrix <sup>a</sup>				
	Component 1	Component 2	Component 3	Component 4	Component 5
Attitudes4	.766				
Attitudes3	.746				
Attitudes6	.733				
Attitudes5	.716				
Attitudes2	.687				
Attitudes1	.625				
PBC5		.735			

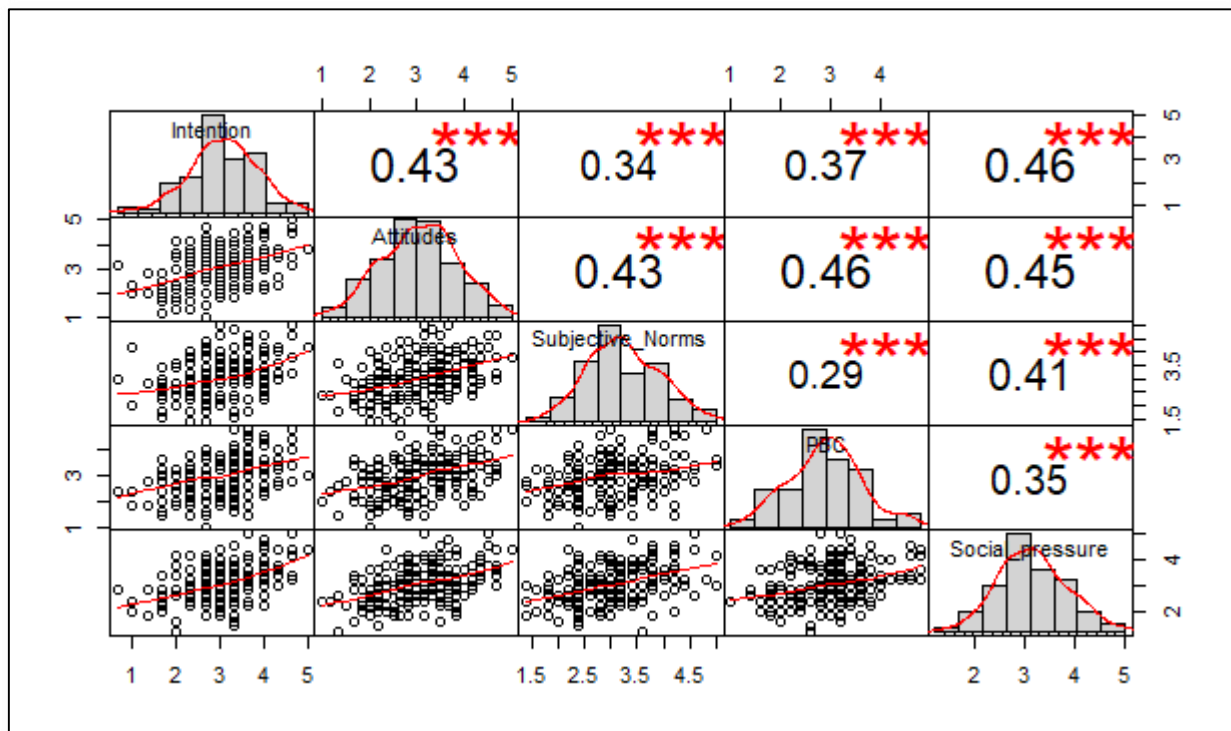
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PBC3	.715
PBC4	.710
PBC1	.706
PBC2	.705
Social_pressure1	.728
Social_pressure5	.718
Social_pressure3	.685
Social_pressure4	.657
Social_pressure2	.650
Subjective_Norms2	.726
Subjective_Norms1	.702
Subjective_Norms4	.697
Subjective_Norms3	.680
Subjective_Norms5	.673
Intention3	.780
Intention1	.734
Intention2	.531

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 6 iterations.

*Pearson correlation analysis*

Pearson correlation measures the statistical relationship, or association, between quantitative variables. Figure 2 shows that the correlation coefficient of the relationship between the dependent and independent variables is statistically significant (Sig. < 0.05). Thus, the variables used to analyze the multiple linear regression and the moderator regression in the next step.



**Figure 2. Pearson correlation analysis results**



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### Linear regression analysis and Moderation regression

Multivariable linear regression determines the relationship between 4 independent variables, including attitude, subjectivity, PBC, social\_pressure, and a dependent variable: Intention (model1). Moderation regression analysis to determine the role of the Social\_pressure variable (model 2). The center data procedure transforms the data of the independent variables before analyzing the moderator regression. Table 4 shows that model 1 has a coefficient of determination ( $R^2 = 0.301$ ) and model 2 ( $R^2 = 0.205$ ). The linear regression model fit the data set of model1 = 0.301% and model2 = 0.205%. Moderation regression analysis (model 2) shows that the social pressure variable moderates the relationship between the Subjective norms variable and the Intention variable. The F-test of overall significance indicates is 95% significance level ( $p.value = 0.000$ ), showing that the regression analysis model is valid.

**Table 4. The results of multiple linear regression analysis**

	Dependent variable:	
	(Model1)	(Model2)
Attitudes	0.187** (0.074)	
PBC	0.157** (0.071)	
Social_pressure	0.309*** (0.077)	
Social_pressure		0.306*** (0.071)
Subjective_Norms		0.178*** (0.064)
Social_pressure: Subjective_Norms		0.154** (0.072)
Constant	0.713*** (0.262)	2.960*** (0.053)
Observations	200	200
R2	0.301	0.205
Adjusted R2	0.287	0.193
Residual Std. Error	0.664 (df = 195)	0.706 (df = 196)
F Statistic	20.997*** (df = 4; 195)	16.897*** (df = 3; 196)
Note:	* $p < 0.1$ ; ** $p < 0.05$ ; *** $p < 0.01$	

Table 4 shows that, with 95% confidence level, the proposed hypotheses are accepted. Model1 shows that the social pressure variable has the most potent effect on the Intention variable with regression coefficient ( $\beta = 0.309$ ), followed by the attitudes variable with regression coefficient ( $\beta = 0.187$ ), the PBC variable with regression coefficient ( $\beta = 0.157$ ) and finally, the subjective norms variable with regression coefficient ( $\beta = 0.192$ ). Model2 shows social pressure variable moderates the relationship between the Subjective norms and Intention variables with regression coefficient ( $\beta = 0.15$ ). The moderating role of the social pressure variable for the relationship between the subjective norms and intention variables is valid. Therefore, the relationship between the subjective norms and healthcare workers' intention to participate depends on the increase or decrease of the social pressure variable.

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## DISCUSSION AND CONCLUSIONS

Firstly, research results show that hypothesis H1 is accepted. In the context of Vietnam, there is a positive and significant relationship between attitudes and the intention to participate in response to the COVID-19 pandemic with regression weight ( $\beta = 0.187$ ) and with a 95% confidence level ( $p.value = 0.001$ ). This result shows an individual's awareness of the possible consequences of performing the behavior (Ajzen, 2006 & 2010). Furthermore, this result indicates that the behavior of healthcare workers depends on their attitude, similar to the findings in another contexts (Adiyoso & Wilopo, 2021; Wollast, Schmitz, Bigot, & Luminet, 2021; Laurel P Gibson, Renee E Magnan, Emily B Kramer, Angela D Bryan, 2021; Aldalaykeh et al., 2019; Woods, 2013).

Secondly, the research results show that hypothesis H2 is accepted. In the context of Vietnam, there is a positive and significant relationship between perceived behavioral control and intention to participate in response to the COVID-19 pandemic with regression weight ( $\beta = 0.157$ ) and the reliability of 95% ( $p.value = 0.001$ ). For health-care workers, cognitive-behavioral control is money that occurs when they have an awareness of factors that may facilitate or hinder performance behavior (Ajzen & 2011; Wollast, Schmitz, Bigot, & Luminet, 2021; Laurel et al., 2021; Aldalaykeh et al., 2019).

Thirdly, research results show that hypothesis H3 is accepted. There is a positive and significant relationship between subjective norms and intention to respond to the COVID-19 pandemic with weight regression ( $\beta = 0.103$ ) and the 95% confidence level ( $p.value = 0$ ). This result further confirms that for healthcare workers engaged in response to the COVID-19 pandemic, subjective norms relate to the likelihood that others will approve or disapprove of behavior and action compliance to a certain extent, as previous studies (Ajzen, 2006, 2010, & Ajzen, 2011; Edberg, 2015; Wollast, Schmitz, Bigot, & Luminet, 2021; Laurel P Gibson, Renee E Magnan, Emily B Kramer, Angela D Bryan, 2021; Wollast, Schmitz, Bigot, & Luminet, 2021). However, Table 4 shows that the subjective norms factor has the lowest impact on the behavioral intention to respond to the COVID-19 pandemic of healthcare workers in Vietnam but at the lowest level compared to other variables in the research model.

Fourthly, the research results show that hypothesis H3 is accepted. In the context of Vietnam, there is a positive and significant relationship between social pressure and the Intention to respond to the COVID-19 pandemic (Regression coefficient  $\beta = 0.309$ ) and (95% confidence level = 0.001). These results further suggest that social pressures are an antecedent of cognitive-behavioral control, the presence of which can facilitate or hinder behavioral performance (Ajzen, 2006 & 2011; Wollast, Schmitz, Bigot, & Luminet, 2021; Laurel P Gibson, Renee E Magnan, Emily B Kramer, Angela D Bryan, 2021). Table 4 shows that the social pressure factor has the most substantial impact on the behavioral intention to participate in response to the COVID-19 pandemic of healthcare workers in Vietnam compared with other variables in the research model. It proves that medical staff in Vietnam are under tremendous pressure from society.

Fifthly, the research results show that hypothesis H5 is accepted. In the context of Vietnam, social pressure is the variable that moderates the relationship between subjective norms and the intention to deal with the COVID-19 pandemic. Regression coefficient ( $\beta = 0.154$ ) and 95% confidence ( $p.value = 0.00$ ). This result shows the significant role of the social pressure factor as a context-specific proxy of goal-directed behavior in regulating other behavioral-oriented variables (Bloom, 2000; Athiyaman, 2002; Tariq). et al., 2017; Warshaw & Davis, 1984; Locke & Braver, 2008; Braver et al., 2009; Dambacher et al., 2011; Padmala & Pessoa, 2011; Chiew & Braver, 2013 & 2014; Fröber & Dreisbach, 2014). Research results show that social pressures on the intention to participate in the COVID-19 pandemic response in Vietnam adjust thinking and actions to pursue behavioral goals (Robertson et al., 2015; Pitesa et al., 2013).

Finally, the research results show that theory of planned behavior and social pressure can be applied to predict behavior in participating in the fight against the COVID-19 pandemic (Wollast, Schmitz, Bigot, & Luminet, 2021; Laurel P Gibson, Renee E Magnan, Emily B Kramer, Angela D Bryan, 2021). Theory of planned behavior should be combined with other approaches to predict health behavior (Godbersen, Hofmann, & Ruiz-Fernández, 2020). These results also show that the theory of planned behavior tends to manifest the same across countries in explaining health behaviors in different national contexts (Wollast, Schmitz, Bigot, & Luminet, 2021). This study support the effectiveness of theory of planned behavior and social pressure in explaining intentions to perform behaviors as mentioned in previous studies (Aldalaykeh et al. et al., 2019; Fishbein & Ajzen, 2010; Mak & Davis, 2014; Mo & Mak, 2009; Şimşekoğlu & Lajunen, 2008; Thornton & Calam, 2010; Woods, 2013).

## LIMITATIONS

As with other empirical studies, this study has limitations that should be considered when discussing the results. First, our survey method reflects the subjective perception of the respondents toward the questions being investigated. Subjective data has some inherent disadvantages that are hard to avoid in surveys (Pakpour et al., 2014). Our data is collected over a single period, so there are certain limitations in analyzing and evaluating the results (Xin & Zhanyou, 2019). The intentional sampling method has certain limitations, which do not fully reflect population characteristics (Lin et al., 2016; Strong et al.,



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2018). In addition, our survey was collected in a Vietnamese cultural context. Therefore more general statements are needed than could be made by applying the development research model and research conclusions to other countries and cultures (Sun et al., 2012).

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### Conflict of interest

All authors declare that there is no conflict of interest.

### REFERENCES

- 1) Adiyoso, W., Wilopo. (2021). Social distancing intentions to reduce the spread of COVID-19: The extended theory of planned behavior. *BMC Public Health*, 21, 1836. <https://doi.org/10.1186/s12889-021-11884-5>.
- 2) Ajzen I. (1991). Theory of planned behavior. *Organ Behav Hum Decis Process*, 50(2), 179–211.
- 3) Ajzen I, Madden TJ (1986) Prediction of goal-directed behavior: attitudes, intentions, and perceived behavioral control. *J Exp Soc Psychol*, 22(5), 453–474.
- 4) Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. In Action control (pp. 11-39). Springer, Berlin, Heidelberg.
- 5) Ajzen, I. (1987). Attitudes, traits, and actions: dispositional prediction of behavior in personality and social psychology. *Adv Exp Soc Psychol*. 20(1),1–63
- 6) Ajzen, I. (1991). Theory of planned behavior. *Organ Behav Hum Decis Process*, 50(2),179–211.
- 7) Ajzen, I. (2006). Constructing a TpB Questionnaire: Conceptual and Methodological Considerations. Retrieved June 27, 2011 from the World Wide Web: <http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf>.
- 8) Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.
- 9) Ajzen, I., & Timko, C. (1986). Correspondence between health attitudes and behavior. *Basic and applied social psychology*, 7(4), 259-276.
- 10) Ajzen, Icek. (2011). *Behavioral Interventions: Design and Evaluation Guided by theory of Planned Behavior*. in Social Psychology and Evaluation, edited by M.M. Mark, S.I. Donaldson, and B. Campbell. New York: Guilford Press. Pp. 75-103.
- 11) Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and theory of planned behavior. *Journal of Applied Social Psychology*, 32, 665-683.
- 12) Albarracin, D., Johnson, B. T., Fishbein, M., & Muellerleile, P. A. (2001). Theories of reasoned action and planned behavior as models of condom use: a meta-analysis. *Psychological bulletin*, 127(1), 142.
- 13) Alberta, L. T., Proboningsih, J., & Almahmudah, M. (2014). The improvement of low salt diet behavior based on theory of planned behavior on elderly with hypertension. *Jurnal Ners*, 9(2), 297-304.
- 14) Aldalaykeh, M., Al-Hammouri, M. M., & Rababah, J. (2019). Predictors of mental health services help-seeking behavior among university students. *Cogent Psychology*, 6, 1660520. DOI: <https://doi.org/10.1080/23311908.2019.1660520>.
- 15) Amponsah-Tawiah, Kwesi & Adu Appiah, Michael. (2016). Work Pressure and Safety Behaviors among Health Workers in Ghana: The Moderating Role of Management Commitment to Safety. *Safety and Health at Work*. 7. 10.1016/j.shaw.2016.05.001.
- 16) Andersen, L. B. (2009). What determines the behaviour and performance of health professionals? Public service motivation, professional norms and/or economic incentives. *International Review of Administrative Sciences*, 75(1), 79–97. <https://doi.org/10.1177/0020852308099507>.
- 17) Andrykowski, M. A., Beacham, A. O., Schmidt, J. E., & Harper, F. W. (2006). Application of theory of planned behavior to understand intentions to engage in physical and psychosocial health behaviors after cancer diagnosis. *Psycho-oncology*, 15(9), 759–771. <https://doi.org/10.1002/pon.1007>.
- 18) Armitage, C. J., & Conner, M. (2001). Efficacy of theory of planned behaviour: A meta-analytic review. *British journal of social psychology*, 40(4), 471-499.
- 19) Arnsten, A. F., Cai, J. X., Murphy, B. L., and Goldman-Rakic, P. S. (1994). Dopamine D1 receptor mechanisms in the cognitive performance of young adult and aged monkeys. *Psychopharmacology (Berl.)* 116, 143–151. doi: 10.1007/BF02245056.

## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam

- 20) Barch, D. M., Braver, T. S., Nystrom, L. E., Forman, S. D., Noll, D. C., and Cohen, J. D. (1997). Dissociating working memory from task difficulty in human prefrontal cortex. *Neuropsychologia*, 35, 1373–1380. doi: 10.1016/S0028-3932(97)00072-9.
- 21) Baudouin, B. S., Wongsawat, P., & Sudnongbua, S. (2020). Using theory of planned behaviour to predict preventive intention on sexual behaviours among junior high school students in lower Northern region of Thailand. *International Journal of Adolescence and Youth*, 25(1), 364-372.
- 22) Belrhiti, Z., Van Damme, W., Belalia, A. et al., (2019). Does public service motivation matter in Moroccan public hospitals? A multiple embedded case study. *Int J Equity Health*, 18, 160. <https://doi.org/10.1186/s12939-019-1053-8>.
- 23) Biddle, B. J., Bank, B. J., & Slavings, R. L. (1987). Norms, preferences, identities and retention decisions. *Social psychology quarterly*, 322-337.
- 24) Bloom L. (2000). Intentionality and theories of intentionality in development. *Hum Dev*, 43(3), 178–185.
- 25) Botvinick, M. M., Braver, T. S., Barch, D. M., Carter, C. S., and Cohen, J. D. (2001). Conflict monitoring and cognitive control. *Psychol. Rev.* 108, 624–652. doi: 10.1037/0033-295X.108.3.624.
- 26) Braver, T. S. (2012). The variable nature of cognitive control: a dual mechanisms framework. *Trends Cogn. Sci.* 16, 106–113. doi: 10.1016/j.tics.2011.12.010.
- 27) Braver, T. S., and Barch, D. M. (2000). *On the control of control: the role of dopamine in regulating prefrontal function and working memory*. In *Attention and performance XVIII*, eds S. Monsell and J. Driver (Cambridge, MA: MIT Press), 713–737.
- 28) Braver, T. S., and Bongiolatti, S. R. (2002). The role of frontopolar cortex in subgoal processing during working memory. *Neuroimage* 15, 523–536. doi: 10.1006/nimg.2001.1019.
- 29) Braver, T. S., Barch, D. M., Keys, B. A., Carter, C. S., Cohen, J. D., Kaye, J. A., et al. (2001). Context processing in older adults: evidence for a theory relating cognitive control to neurobiology in healthy aging. *J. Exp. Psychol. Gen.* 130, 746–763. doi: 10.1037/0096-3445.130.4.746.
- 30) Braver, T. S., Gray, J. R., and Burgess, G. C. (2007). *Explaining the many varieties of working memory variation: dual mechanisms of cognitive control*. In *Variation in working memory*, eds A. R. A. Conway, C. Jarrold, M. J. Kane, A. Miyake, and J. Towse (New York, NY: Oxford University Press), 76–106.
- 31) Braver, T. S., Paxton, J. L., Locke, H. S., & Barch, D. M. (2009). Flexible neural mechanisms of cognitive control within human prefrontal cortex. *Proceedings of the National Academy of Sciences*, 106(18), 7351-7356.
- 32) Braver, T. S., Satpute, A. B., Rush, B. K., Racine, C. A., and Barch, D. M. (2005). Context processing and context maintenance in healthy aging and early stage dementia of the Alzheimer's type. *Psychol. Aging* 20, 33. doi: 10.1037/0882-7974.20.1.33.
- 33) Cerny, B. A., & Kaiser, H. F. (1977). A study of a measure of sampling adequacy for factor-analytic correlation matrices. *Multivariate Behavioral Research*, 12(1), 43–47. [https://doi.org/10.1207/s15327906mbr1201\\_3](https://doi.org/10.1207/s15327906mbr1201_3).
- 34) Chiew, K. S., and Braver, T. S. (2013). Temporal dynamics of motivation-cognitive control interactions revealed by high-resolution pupillometry. *Front. Psychol.* 4-15. doi: 10.3389/fpsyg.2013.00015.
- 35) Chiew, K. S., and Braver, T. S. (2014). Dissociable influences of reward motivation and positive emotion on cognitive control. *Cogn. Affect. Behav. Neurosci.* 14, 509–529. doi: 10.3758/s13415-014-0280-0.
- 36) Cialdini, R. B., Levy, A., Herman, C. P., Kozlowski, L. T., and Petty, R. E. (1976). Elastic shift of opinion: determinants of direction and durability. *J. Pers. Soc. Psychol.* 34, 663–672. doi: 10.1037/0022-3514.34.4.663.
- 37) Cohen, Jonathan & Braver, Todd & O'Reilly, Randall. (1996). A Computational Approach to Prefrontal Cortex, Cognitive Control and Schizophrenia: Recent Developments and Current Challenges. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences.* 351. 1515-27. 10.1098/rstb.1996.0138.
- 38) Collins, S. K., & Collins, K. S. (2002). Micromanagement--a costly management style. *Radiology management*, 24(6), 32-35.
- 39) Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334. <https://doi.org/10.1007/BF02310555>.
- 40) Curley, S. P., Yates, J. F., and Abrams, R. A. (1986). Psychological sources of ambiguity avoidance. *Organizational Behavior and Human Decision Processes.* 38, 230–256. doi: 10.1016/0749-5978(86)90018-X.
- 41) Dambacher, M., Hübner, R., and Schlösser, J. (2011). Monetary incentives in speeded perceptual decision: Effects of penalizing errors versus slow responses. *Front. Psychol.* 2:248. doi: 10.3389/fpsyg.2011.00248.
- 42) Dieleman, M., Gerretsen, B., & van der Wilt, G. J. (2009). Human resource management interventions to improve health workers' performance in low and middle income countries: a realist review. *Health Research Policy and Systems*, 7(1), 1-13.

## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam

- 43) Edberg, Mark. (2015). *Individual Health Behavior Theories*. in Essentials of Health Behavior: Social and Behavioral Theory in Public Health. 2nd ed. Burlington: Jones & Bartlett Learning, 37-52.
- 44) Engelmann, J. B., Damaraju, E., Padmala, S., & Pessoa, L. (2009). Combined effects of attention and motivation on visual task performance: transient and sustained motivational effects. *Frontiers in human neuroscience*, 3, 4. <https://doi.org/10.3389/neuro.09.004.2009>.
- 45) Fan, C. W., Chen, I. H., Ko, N. Y., Yen, C. F., Lin, C. Y., Griffiths, M. D., & Pakpour, A. H. (2021). Extended theory of planned behavior in explaining the intention to COVID-19 vaccination uptake among mainland Chinese university students: an online survey study. *Human vaccines & immunotherapeutics*, 17(10), 3413–3420. <https://doi.org/10.1080/21645515.2021.1933687>.
- 46) Fillol, A., Lohmann, J., Turcotte-Tremblay, A. M., Somé, P. A., & Ridde, V. (2019). The Importance of Leadership and Organizational Capacity in Shaping Health Workers' Motivational Reactions to Performance-Based Financing: A Multiple Case Study in Burkina Faso. *International journal of health policy and management*, 8(5), 272–279. <https://doi.org/10.15171/ijhpm.2018.133>.
- 47) Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- 48) Franco, L. M., Bennett, S., & Kanfer, R. (2002). Health sector reform and public sector health worker motivation: a conceptual framework. *Social science & medicine*, 54(8), 1255–1266. [https://doi.org/10.1016/s0277-9536\(01\)00094-6](https://doi.org/10.1016/s0277-9536(01)00094-6).
- 49) Fröber, K., and Dreisbach, G. (2014). The differential influences of positive affect, random reward, and performance-contingent reward on cognitive control. *Cogn. Affect. Behav. Neurosci.* 14, 530–547. doi: 10.3758/s13415-014-0259-x.
- 50) Frounfelker, R. L., Santavicca, T., Li, Z. Y., Miconi, D., Venkatesh, V., & Rousseau, C. (2021). COVID-19 Experiences and Social Distancing: Insights From theory of Planned Behavior. *American Journal of Health Promotion*, 35(8), 1095–1104. <https://doi.org/10.1177/08901171211020997>.
- 51) George, A., Scott, K., Govender, V., & World Health Organization. (2017). *A health policy and systems research reader on human resources for health*. World Health Organization.
- 52) Godbersen H, Hofmann LA and Ruiz-Fernández S. (2020). How People Evaluate Anti-Corona Measures for Their Social Spheres: Attitude, Subjective Norm, and Perceived Behavioral Control. *Front. Psychol.* 11:567405. doi: 10.3389/fpsyg.2020.567405.
- 53) Godin, G., & Kok, G. (1996). Theory of planned behavior: a review of its applications to health-related behaviors. *American journal of health promotion*, 11(2), 87-98.
- 54) H. A. B. Logo, Y. Betan and Y. Dion. (2018). Factors Related to HIV/AIDS Prevention Behavior of Sex Workers in Localization of Karang Dempel. *CHMK Health Journal*, 2(3), 31-39.
- 55) Hagger, M. S., Chatzisarantis, N. L.D., & Biddle, S. J.H. (2002). A meta-analytic review of theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport & Exercise Psychology*, 24(1), 3–32. <https://doi.org/10.1123/jsep.24.1.3>.
- 56) Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010). *Multivariate Data Analysis* (7th Edition), Pearson, New York.
- 57) Hickman, D. C., and Metz, N. E. (2015). The impact of pressure on performance: evidence from the PGA TOUR. *J. Econ. Behav. Organ.* 116, 319–330. doi: 10.1016/j.jebo.2015.04.007 .
- 58) Hou T, Zhang T, Cai W, Song X, Chen A, Deng G, et al. (2020) Social support and mental health among health care workers during Coronavirus Disease 2019 outbreak: A moderated mediation model. *PLoS ONE* 15(5): e0233831. <https://doi.org/10.1371/journal.pone.0233831>.
- 59) Jimura, K., Locke, H. S., and Braver, T. S. (2010). Prefrontal cortex mediation of cognitive enhancement in rewarding motivational contexts. *Proc. Natl. Acad. Sci. U.S.A.* 107, 8871–8876. doi: 10.1073/pnas.1002007107.
- 60) Jokonya, Osden. (2015). Validating Technology Acceptance Model (TAM) during IT Adoption in Organizations. *IEEE 7th International Conference on Cloud Computing Technology and Science (CloudCom)*, 509-516, doi: 10.1109/CloudCom.2015.56..
- 61) Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>.
- 62) Kan M.P.H., Fabrigar L.R. (2017). *Theory of Planned Behavior*. In: Zeigler-Hill V., Shackelford T. (eds) Encyclopedia of Personality and Individual Differences. Springer, Cham. [https://doi.org/10.1007/978-3-319-28099-8\\_1191-1](https://doi.org/10.1007/978-3-319-28099-8_1191-1).
- 63) Kane, S., Gandidzanwa, C., Mutasa, R., Moyo, I., Sismayi, C., Mafaune, P., & Dieleman, M. (2019). Coming Full Circle: How Health Worker Motivation and Performance in Results-Based Financing Arrangements Hinges on Strong and Adaptive

## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam

- Health Systems. *International journal of health policy and management*, 8(2), 101–111. <https://doi.org/10.15171/ijhpm.2018.98>.
- 64) Klimoski, R., and Inks, L. (1990). Accountability forces in performance appraisal. *Organ. Behav. Hum. Decis. Process.* 45, 194–208. doi: 10.1016/0749-5978(90)90011-W.
- 65) Latham, G. P., and Locke, E. A. (2006). Enhancing the benefits and overcoming the pitfalls of goal setting. *Organ. Dyn.* 35, 332–340. doi: 10.1016/j.orgdyn.2006.08.008.
- 66) Laurel P Gibson, Renee E Magnan, Emily B Kramer, Angela D Bryan. (2021). Theory of Planned Behavior Analysis of Social Distancing During the COVID-19 pandemic: Focusing on the Intention–Behavior Gap. *Annals of Behavioral Medicine*, 55(8), 805–812, <https://doi.org/10.1093/abm/kaab041>.
- 67) Lerner, J. S., and Tetlock, P. E. (1999). Accounting for the effects of accountability. *Psychol. Bull.* 125, 255–275. doi: 10.1037/0033-2909.125.2.255.
- 68) Lin CY, Updegraff JA, Pakpour AH. (2016). The relationship between theory of planned behavior and medication adherence in patients with epilepsy. *Epilepsy & Behavior*, 61,231–6.
- 69) Locke, H. S., and Braver, T. S. (2008). Motivational influences on cognitive control: behavior, brain activation, and individual differences. *Cogn. Affect. Behav. Neurosci.* 8, 99–112. doi: 10.3758/CABN.8.1.99.
- 70) Loewenstein, G., Lerner, J. S., Davidson, R., Scherer, K., & Goldsmith, D. (2009). *Handbook of affective sciences* (1st edition). Oxford University Press.
- 71) Malek, L., Umberger, W. J., Makrides, M., & Shaoljia, Z. (2017). Predicting healthy eating intention and adherence to dietary recommendations during pregnancy in Australia using theory of Planned Behaviour. *Appetite*, 116, 431–441. <https://doi.org/10.1016/j.appet.2017.05.028>.
- 72) McDonald, A. W., and Carter, C. S. (2003). Event-related fMRI study of context processing in dorsolateral prefrontal cortex of patients with schizophrenia. *J. Abnorm. Psychol.* 112, 689–697. doi: 10.1037/0021-843X.112.4.689.
- 73) McEachan, C., Conner, M., Taylor, N., & Lawton, R. (2011). Prospective prediction of health-related behavior with the TPB: a meta-analysis. *Health Psychology Review*, 5(2), 97 – 144.
- 74) Miller, E. K., and Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annu. Rev. Neurosci.* 24, 167–202. doi: 10.1146/annurev.neuro.24.1.167.
- 75) Mo, P.K.H., Mak, W.W.S. (2009). Help-seeking for mental health problems among Chinese. *Soc Psychiat Epidemiol*, 44, 675–684. <https://doi.org/10.1007/s00127-008-0484-0>.
- 76) Nchise, Abinwi. (2012). An Empirical Analysis of theory of Planned Behavior, A Review of Its Application on E-democracy Adoption Using the Partial Least Squares Algorithm. *JeDEM.* 4. 171-182. 10.29379/jedem.v4i2.129.
- 77) Nguyen, Thuong & Tran, Quang & Phan, Lan & Vu, Long & Truong, Dung & Truong, Hieu & Le, Tu & Vien, Linh & Nguyen, Thinh & Luong, Quang & Pham, Quang. (2021). In the interest of public safety: Rapid response to the COVID-19 epidemic in Vietnam. *BMJ Global Health.* 6. e004100. 10.1136/bmjgh-2020-004100.
- 78) Padmala, S., and Pessoa, L. (2011). Reward reduces conflict by enhancing attentional control and biasing visual cortical processing. *J. Cogn. Neurosci.* 23, 3419–3432. doi: 10.1162/jocn\_a\_00011.
- 79) Pakpour AH, Gellert P, Asefzadeh S, Updegraff JA, Molloy GJ, Sniehotta FF. (2014). Intention and planning predicting medication adherence following coronary artery bypass graft surgery. *Journal of Psychosomatic Research*, 77(4), 287–95. <https://doi.org/10.1016/j.jpsychores.2014.07.001> PMID: 25280826.
- 80) Paxton, J. L., Barch, D. M., Racine, C. A., and Braver, T. S. (2008). Cognitive control, goal maintenance, and prefrontal function in healthy aging. *Cereb. Cortex* 18, 1010–1028. doi: 10.1093/cercor/bhm135.
- 81) Paxton, J. L., Barch, D. M., Storandt, M., and Braver, T. S. (2006). Effects of environmental support and strategy training on older adults' use of context. *Psychol. Aging* 21, 499. doi: 10.1037/0882-7974.21.3.499.
- 82) Peters, R. M., & Templin, T. N. (2010). Theory of planned behavior, self-care motivation, and blood pressure self-care. *Research and theory for nursing practice*, 24(3), 172–186. <https://doi.org/10.1891/1541-6577.24.3.172>.
- 83) Phong Thu. (2021). *White blouse soldiers on the frontline*. Available at: <https://vietnam.vnnet.vn/english/white-blouse-soldiers-on-the-frontline/490956.html>.
- 84) Pitesa, M., Thau, S., and Pillutla, M. M. (2013). Cognitive control and socially desirable behavior: the role of interpersonal impact. *Organ. Behav. Hum. Decis. Process.* 122, 232–243. doi: 10.1016/j.obhdp.2013.08.003.
- 85) Pourmand, G., Doshmangir, L., Ahmadi, A. et al. (2020). An application of theory of planned behavior to self-care in patients with hypertension. *BMC Public Health* 20, 1290 (2020). <https://doi.org/10.1186/s12889-020-09385-y>



## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam

- 86) Quinn, A., and Schlenker, B. R. (2002). Can accountability produce independence? Goals as determinants of the impact of accountability on conformity. *Pers. Soc. Psychol. Bull.* 28, 472–483. doi: 10.1177/0146167202287005.
- 87) R. P. Bagozzi, The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the Association of Information Systems*, 8(4), 244-254.
- 88) Riebl, S. K., Estabrooks, P. A., Dunsmore, J. C., Savla, J., Frisard, M. I., Dietrich, A. M., Peng, Y., Zhang, X., & Davy, B. M. (2015). A systematic literature review and meta-analysis: Theory of Planned Behavior's application to understand and predict nutrition-related behaviors in youth. *Eating behaviors*, 18, 160–178. <https://doi.org/10.1016/j.eatbeh.2015.05.016>.
- 89) Robertson, B. D., Hiebert, N. H., Seergobin, K. N., Owen, A. M., and MacDonald, P. A. (2015). Dorsal striatum mediates cognitive control, not cognitive effort per se, in decision-making: an event-related fMRI study. *Neuroimage*, 114, 170–184. doi: 10.1016/j.neuroimage.2015.03.082.
- 90) Rowe, A. K., De Savigny, D., Lanata, C. F., & Victora, C. G. (2005). How can we achieve and maintain high-quality performance of health workers in low-resource settings?. *The Lancet*, 366(9490), 1026-1035.
- 91) Sawaguchi, T., and Goldman-Rakic, P. S. (1991). D1 dopamine receptors in prefrontal cortex: involvement in working memory. *Science*, 251, 947–950. doi: 10.1126/science.1825731.
- 92) Schmid, P. C., Kleiman, T., and Amodio, D. V. (2015). Neural mechanisms of proactive and reactive cognitive control in social anxiety. *Cortex* 70, 137–145. doi: 10.1016/j.cortex.2015.05.030.
- 93) Sen, A. (2008). Neurology of emotional intelligence: interpreted for managers. *Vision*, 12(1), 11-18.
- 94) Shahnazi, H., Ahmadi-Livani, M., Pahlavanzadeh, B., Rajabi, A., Hamrah, M. S., & Charkazi, A. (2020). Assessing preventive health behaviors from COVID-19: a cross sectional study with health belief model in Golestan Province, Northern of Iran. *Infectious diseases of poverty*, 9(1), 157. <https://doi.org/10.1186/s40249-020-00776-2>.
- 95) Şimşekoğlu, Ö., & Lajunen, T. (2008). Social psychology of seat belt use: A comparison of theory of planned behavior and health belief model. *Transportation Research: Part F*, 11(3), 181–191. DOI: <https://doi.org/10.1016/j.trf.2007.10.001>.
- 96) Siuki, H. A., Peyman, N., Vahedian-Shahroodi, M., Gholian-Aval, M., & Tehrani, H. (2019). Health education intervention on HIV/AIDS prevention behaviors among health volunteers in healthcare centers: An applying theory of planned behavior. *Journal of Social Service Research*, 45(4), 582-588.
- 97) Snedecor, George W. and Cochran, William G. (1989). *Statistical Methods* (8<sup>th</sup> Edition) .Iowa State University Press.
- 98) Strong C, Lin CY, Jalilolghadr S, Updegraff JA, Brostrom A, Pakpour AH. (2018). Sleep hygiene behaviours in Iranian adolescents: an application of theory of Planned Behavior. *Journal of Sleep Research*, 27(1), 23–31. <https://doi.org/10.1111/jsr.12566> PMID: 28593637.
- 99) Sun Y, Fang Y, Lim KH, Straub D. (2012). User satisfaction with information technology services: A social capital perspective. *Information Systems Research*, 23(4), 1195–211.
- 100) Taber, K.S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Res Sci Educ*, 48, 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>.
- 101) Tariq J, Sajjad A, Usman A, Amjad A (2017) The role of intentions in facebook usage among educated youth in Pakistan: an extension of theory of planned behavior. *Comput Hum Behav*, 74, 188–195.
- 102) Tarkang, E. E., & Zotor, F. B. (2015). Application of the health belief model (HBM) in HIV prevention: a literature review. *Central African Journal of Public Health*, 1(1), 1-8.
- 103) Taylor, S. F., Welsh, R. C., Wager, T. D., Phan, K. L., Fitzgerald, K. D., and Gehring, W. J. (2004). A functional neuroimaging study of motivation and executive function. *Neuroimage* 21, 1045–1054. doi: 10.1016/j.neuroimage.2003.10.032.
- 104) Tetlock, P. E. (1983). Accountability and complexity of thought. *J. Pers. Soc. Psychol.* 45, 74–83. doi: 10.1037/0022-3514.45.1.74.
- 105) Tetlock, P. E., Skitka, L., and Boettger, R. (1989). Social and cognitive strategies for coping with accountability: conformity, complexity, and bolstering. *J. Pers. Soc. Psychol.*, 57, 632–640. doi: 10.1037/0022-3514.57.4.632.
- 106) Thai Binh. (2021). *The COVID-19 pandemic causes 60% of medical staff to work more*. Available at: <https://suckhoedoisong.vn/dai-dich-covid-19-khien-60-nhan-vien-y-te-phai-lam-viec-tang-len-169211218191419976.htm>.
- 107) Thanh Nam. (2021). *Great encouragement given to frontline medical forces in COVID-19 fight*. Available at: <https://en.nhandan.vn/society/item/10552902-great-encouragement-given-to-frontline-medical-forces-in-covid-19-fight.html>.

## Planned Behavior and Social Pressure on Healthcare Workers' Intention to Participate in the COVID-19 Pandemic Response in Vietnam

- 108) Thornton, S., & Calam, R. (2010). Predicting intention to attend and actual attendance at a universal parent-training programme: A comparison of social cognition models. *Clinical Child Psychology and Psychiatry*, 16(3), 365–383. DOI: <https://doi.org/10.1177/1359104510366278>
- 109) Trautmann, S. T., Vieider, F. M., and Wakker, P. P. (2008). Causes of ambiguity aversion: known versus unknown preferences. *J. Risk Uncertainm*, 36, 225–243. doi: 10.1007/s11166-008-9038-9.
- 110) Vieider, F. M. (2009). The effect of accountability on loss aversion. *Acta Psychol*, 132, 96–101. doi: 10.1016/j.actpsy.2009.05.006.
- 111) Viet Nam Government. (2009). *Decree No. 92/2009/ND-CP regarding titles, quantities, regimes and policies for public servants and civil servants at communes, wards, towns and persons working part time at the communal level*. Hanoi, Vietnam.
- 112) Vietnam Ministry of Health. (1996). *Decree No. 2088/BYT-QĐ regarding "regulations on medical ethics"*. Hanoi, Vietnam.
- 113) Wang, H., Zhou, X., Jia, X. et al. (2021). Emotional exhaustion in front-line healthcare workers during the COVID-19 pandemic in Wuhan, China: the effects of time pressure, social sharing and cognitive appraisal. *BMC Public Health*, 21, 829. <https://doi.org/10.1186/s12889-021-10891-w>.
- 114) Warshaw PR, Davis FD .(1984). Self-understanding and the accuracy of behavioral expectations. *Personal Soc Psychol Bull*, 10(1),111–118.
- 115) Wolff K .(2021). COVID-19 Vaccination Intentions: Theory of Planned Behavior, Optimistic Bias, and Anticipated Regret. *Front. Psychol*. 12:648289. doi: 10.3389/fpsyg.2021.648289.
- 116) Wollast R, Schmitz M, Bigot A, Luminet O .(2021). Theory of Planned Behavior during the COVID-19 pandemic: A comparison of health behaviors between Belgian and French residents. *PLOS ONE* 16(11): e0258320. <https://doi.org/10.1371/journal.pone.0258320>.
- 117) Woods, K. C. (2013). *The strong black woman archetype and intentions to seek therapy for depression: A cultural application of theory of planned behavior*. ProQuest Dissertations and Theses. Retrieved from: <http://search.proquest.com/docview/1461804481?accountid=11835>.
- 118) Xin Z, Liang M, Zhanyou W, Hua X .(2019). Psychosocial factors influencing shared bicycle travel choices among Chinese: An application of theory planned behavior. *PLoS ONE*, 14(1), e0210964. <https://doi.org/10.1371/journal.pone.0210964>.
- 119) Yanti, B., Mulyadi, E., Wahiduddin, W., Novika, R. G. H., Arina, Y. M. D. A., Martani, N. S., & Nawan, N. (2020). Community knowledge, attitudes, and behavior towards social distancing policy as prevention transmission of COVID-19 in indonesia. *Jurnal Administrasi Kesehatan Indonesia*, 8, 4-14.
- 120) Yavuzer, Y., Karatas, Z., Civilidag, A. & Gundogdu, R. (2014). The role of peer pressure, automatic thoughts and self-esteem on adolescents' aggression. *Eurasian Journal of Educational Research*, 54, 61-78.



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