

# The Mediating Effect of Perceived Behavioral Control in the Relationship between Participation Intention and Practice Effect in Educational Practice

Yu Kang<sup>1\*</sup>, Yoon Fah Lay<sup>2</sup>

<sup>1</sup> Xianyang Normal University, CHINA

<sup>2</sup> Universiti Malaysia Sabah, MALAYSIA

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## ABSTRACT

Many researches have been carried out in the aspects of management and organization, preparation, implementation, summary and evaluation of educational practice, but there is no in-depth research on the students' behavior in the process. However, students' own problems, such as attitude, frustration ability, adaptability to the new environment and family factors, all affect the educational practice effect, greatly hinder the improvement of students' teaching skills, which is the basic quality of qualified teachers, and are not conducive to students' career development and lifelong growth. This research is from the perspective of students who participate in educational practice, focuses on analyzing the relationship between students' perceived behavioral control, participation intention and practice effect used PLS-SEM. A pilot study was conducted with 60 students to test the reliability and validity of the instruments. Subsequently, 200 students who had completed the educational practice were selected for actual research through purposeful and random sampling. The results indicated that perceived behavioral control and participation intention positively predict the practice effect, as well as participation intention mediates the relationship between perceived behavioral control and practice effect. This current research offered theoretical support and practical suggestions for the educational practice, and education administrators can better adjust and improve education policies, so as to promote the improvement of teacher education quality, further promote educational curriculum reform.

**Keywords:** perceived behavioral control, participation intention, practice effect, educational practice, PLS-SEM

## INTRODUCTION

Throughout the development of education in countries around the world, the quantity and quality of teachers are primarily addressed through teacher education, and educational practice is a crucial component. In recent years, countries have increasingly focused on researching educational practice, carefully designing the objectives and content, and innovating its models and system management in order to enhance the quality and effectiveness of educational practice [1].

Educational practice is a crucial opportunity for education majors to gain practical experience in a teaching environment. Through this practice, students are able to apply theoretical knowledge learned in the classroom to real-world teaching scenarios, understand the practical operations and challenges of teaching, and also have the opportunity to observe and learn from the teaching methods of experienced teachers. The development of educational practice gradually has evolved from initial apprenticeships into more organized professional experiences that integrate modern technology and research, and often extends from the beginning of a program through to post-graduation

employment [2]. Liu [3] believes that educational practice is a process in which pre-service teachers, with the help of instructors, learn about educational realities, apply educational theories in teaching, develop their teaching skills, and continually enhance their understanding of the teaching profession. Baek and Ham [4] believe that educational practice provides students with the opportunity to teach in real classes and organize and manage students, which plays a critical role in developing the teaching abilities of prospective teachers and serving as an indispensable part of pre-service education.

An examination of educational practice in the United States, the United Kingdom, and Japan shows that these countries place significant importance on it, with clear goals and requirements, and high relevance in assessment and evaluation. Their common characteristics are: extended practice durations and frequency; students are required to have high ability in practice; focus on training students' practical ability and innovative spirit. At the same time, these countries emphasize the periodicity and comprehensiveness of educational practice, which takes students as the main body [5], [6]. In China, research on educational practice is also diverse, most of the research is aimed at the practice mode, practice reform, organization and management, practice base construction and so on [7], [8], [9], [10]. Only a few studies are carried out from the students' perspective, and it has been proposed that we should pay attention to the emotional communication of students in the process of educational practice, and promote students to complete the transformation from "want me to practice" to "I want to practice", so as to improve the practice effect.

To sum up, research on educational practice primarily focuses on management and organization, preparation, implementation, summary and evaluation, and there is a lack of in-depth research on students' behavior during their participation in educational practice. However, students' own problems, such as attitude, self-management and participation intention, all affect the practice effect. These factors hinder the development of students' teaching skills - an essential quality for qualified teachers, and adversely impacts their career development and lifelong growth. Educational practice is very important to both students, as the main participants and beneficiaries, and their own feelings in educational practice are more authentic, which can truly highlight the existing problems in practice.

Practice effect is a crucial criterion for evaluating the success and impact of educational practice. Previous research indicates that the practice effect is affected by various factors. The internal factors include the students' teaching potential, practice attitude, professional identity, and personal qualities, while the external factors include the organizational form of practice, practice conditions, practice time, the ability of teachers and the students of the practice school [11], [12], [13], [14], [15]. This research suggests that the primary factor affecting the practice effect is the students' own intention to participate in educational practice. Only when students have a strong participation intention can they enhance their initiative and improve the practice effect. In current research, the practice effect is defined as the ability of students to engage effectively in education and teaching work through personal active learning and external environmental support.

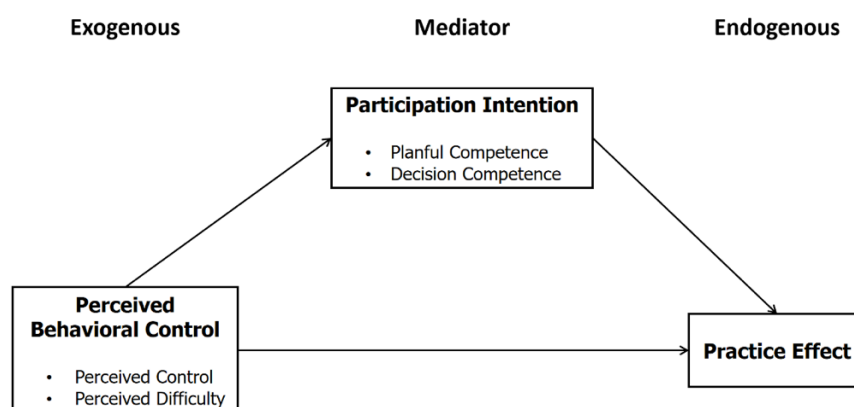
Perceived behavioral control (PBC) is an important concept in psychology and behavioral science, especially within the Theory of Planned Behavior [16], [17]. It refers to an individual's belief or confidence in their ability to perform a certain action successfully. This concept plays a crucial role in understanding and predicting individual behavior.

Research in fields such as consumption, management, innovation, and learning shows that PBC can significantly affect the formation of individual behavior intentions and behaviors [18], [19], [20], [21]. In this research, PBC refers to the perception of the controllable scope and the ease or difficulty of participation in educational practice. This perception may impact students' participation intentions and the effectiveness of their practice, and it includes both perceived control and perceived difficulty [22].

Behavioral intention refers to an individual's tendency to engage in a specific behavior and has a certain degree of predictive power regarding that behavior. Rational Action Theory and the Theory of Planned Behavior (TPB) have been widely used to study various aspects of teacher education, such as teachers' decision-making regarding the use of educational technology [23], teachers' interpersonal behavior in the classroom [24], the intentions of science teachers [25], and the impact of teacher behavior on student learning outcomes [26]. Educational practice is a practical teaching activity that requires students to have solid theoretical knowledge, practical experience, and strong communication and cooperation skills. Xu [27] analyzed students' intentions to practice, noting that behavioral intention can enhance practice participation, learning efficiency, communication and cooperation abilities, and teaching skills. Feng & Zhang [28] found that behavioral intention significantly impacts college students' learning behavior, with strong behavioral intention serving as a subjective reason for more effective learning behavior. The stronger the intention to engage in a particular behavior, the higher the likelihood of that behavior occurring. In this research, participation intention refers to the behavioral tendency and attitude of students toward participating in educational practice activities, which reflected in two aspects: planful competence and decision competence [29].

The research aim was to explore the relationship of PBC, participation intention and practice effect in educational practice, mainly determine the mediating effect of participation intention between perceived behavioral control and practice effect. This study addressed the following research questions: (a) Is there a positive and significant effect of PBC and participation intention on practice effect in educational practice? (b) Is there a positive and significant effect of PBC on participation intention in educational practice? (c) Is there a significant mediating effect of participation intention in the relationship between PBC and practice effect in educational practice?

The current research presents a conceptual framework illustrated in Figure 1, and the structural model shown in Figure 2 has been developed to provide a clearer picture of the relationships between variables [30], [31]. The aspects of each variable would be measured to represent the perceptions of PBC, participation intention and practice effect.



**Figure 1.** Conceptual framework for the structural model

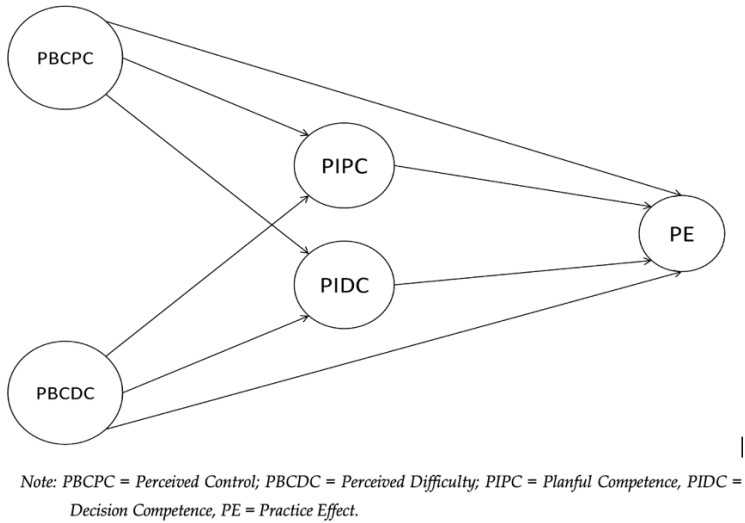


Figure 2. Proposed structural model

For research purpose, this study aimed to prove several hypotheses: (1) The PBC and participation intention has a positive and significant effect on practice effect in educational practice; (2)The PBC has a positive and significant effect on participation intention in educational practice; (3) The participation intention mediate the relationship between PBC and practice effect in educational practice.

## MATERIAL AND METHODS

Surveys are the most consistent way to measure human attitudes, opinions, beliefs, and perceptions about a subject. As the main purpose of the current research is to investigate the key factors affecting practice effect in educational practice, and use quantifiable methods to predict the causal relationship between variables [31], [30]. Therefore, this research adopts quantitative research method. The study focuses on undergraduates who have attended educational practice from three universities in Shaanxi Province, China. Initially, a pilot study was conducted with 60 students to test the reliability and validity of the instruments. Subsequently, 200 students were selected through purposive sampling and random sampling, who have finished the educational practice.

This study was guided by Theory of Planned Behaviour (TPB) [17], the application of the TPB in educational fields can help educators better understand students' behavior and decision-making process, help educators develop more effective teaching strategies and education plans, and improve students' learning effect and behavior performance [32], [33], [34], [35].

### Instruments

Informed by prior studies, this research project employs an 11-step Semantic Differential Scale (from 0 = strongly disagree to 10 = strongly agree). Unlike the Likert scale, the 11-point semantic difference scale performs better than the 5-point and 7-point Likert scales in terms of unidimensionality and normality, providing more sensitive perception and higher reliability [36], [37]. In addition, the survey was conducted for intellectually sound and sensitive university students who were capable of self-rating scores using the 11-point semantic difference scale [38].

In current research, the PBC measurement scale was adapted, modified and translated into English from the research of You et al. [39] and Wall & Knapp [40]. Specifically, the dimension of perceived control was adapted and measured by using You et al. [39], and another dimension of perceived difficulty was adapted and measured by using Wall & Knapp [40]. The participation intention measurement scale was adapted, modified and translated into English from the intention scale in the research of Code [29], used to measure two dimensions of students' participation intention towards educational practice, namely planful competence and decision competence. And the practice effect measurement scale was adapted, modified and translated into English from the questionnaire on the practice effect of pre-service physical education teachers compiled by Meng [41]. The researcher modified the instrument based on the background of educational practice in China, making it compatible with the current research objectives and able to measure the structure with higher accuracy.

### Pilot study

Pilot study used SPSS 29.0 for exploratory factor analysis (EFA) to enhance the reliability and validity of the questionnaire and to eliminate unnecessary items. The specific criteria were as follows: Bartlett's test of sphericity ( $p < 0.05$ ), explained cumulative variance ( $\geq 50\%$ ), communalities ( $\geq 0.30$ ), Kaiser-Meyer-Olkin (KMO) test ( $> 0.60$ ), and eigenvalues ( $\geq 1.00$ ) [42], [43], [44]. Items with Cronbach's alpha lower than 0.70 were deleted [45]. The preliminary findings indicated that the questionnaire had good reliability and validity, with all items meeting the specified criteria. The results for each scale are shown in Table 1.

**Table 1.** Results of pilot study

Scale	Cronbach's alpha	KMO	Sphericity Bartlett test	Cumulative variance explained	The smallest items communalities	Eigenvalue
Perceived Control	0.873	0.817	0.000	57%	0.318	$\geq 1.00$
Perceived Difficulty	0.824	0.688	0.000	74%	0.639	$\geq 1.00$
Planful Competence	0.786	0.746	0.000	50%	0.621	$\geq 1.00$
Decision Competence	0.791	0.703	0.000	71%	0.684	$\geq 1.00$
Practice effect	0.909	0.861	0.000	53%	0.498	$\geq 1.00$

### Data collection and data analysis

Permission was obtained from relevant authorities and schools before the study was conducted. In this research, all questions were answered using an online questionnaire survey platform (i.e., Sojump), with questions set as required answers, ensuring that students answered all questions and selected the most appropriate responses. A total of 210 questionnaires were returned in the formal survey conducted, of which 200 were valid, resulting in a validity rate of 95%.

Data were analyzed using Partial Least Squares (PLS) with SmartPLS 4 software, and outliers were removed prior to analysis. To assess the structure and measurement model, the PLS method proposed by Hair et al. [46] was used for structural equation modeling (SEM). Finally, following Hair et al. [30], the standard PLS algorithm was applied with

5,000 bootstrap samples to calculate the estimated significance levels for hypothesis testing.

## RESULTS AND DISCUSSION

### Descriptive statistics of variables

Descriptive statistics of the variables were analyzed using SPSS 29.0. The results showed that each variable was at a medium to high level: students' perceived control [PBCPC, M (Mean) = 8.795, SD (Standard Deviation) = 1.427], perceived difficulty [PBCPD, M = 7.537, SD = 2.157], planful competence [PIPC, M = 8.639, SD = 1.522], decision competence [PIDC, M = 7.737, SD = 1.913], and practice effect [PE, M = 8.596, SD = 1.367].

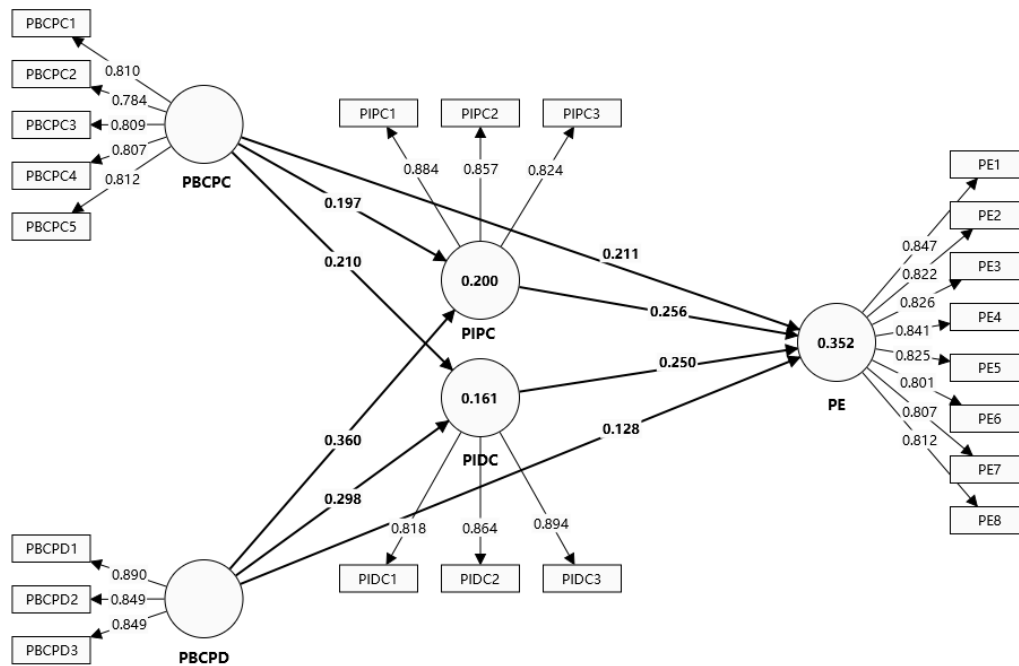
### Measurement model

According to Hair et al. [30], a two-step approach was used in this research. The first step was to evaluate the reliability and validity of the survey questionnaires. Convergent validity is achieved when the model meets the following conditions: Firstly, the outer loading should be 0.708 or higher; however, items with outer loadings below 0.70 should only be considered for removal if their removal results in an increase in composite reliability and average variance extracted (AVE) [46]. Second, composite reliability values range from 0 to 1, with higher values indicating greater reliability. For exploratory research, composite reliability values between 0.60 and 0.70 are considered acceptable, while values between 0.70 and 0.90 are recommended for more advanced research [30]. Finally, Fornell & Larcker [47] stated that the AVE should be greater than 0.50, indicating that each construct explains more than half of the variance of its items, thus demonstrating a high level of convergent validity. Therefore, after removing items with outer loadings less than 0.70, the model satisfies all the above conditions, as shown in Table 2 and Figure 3.

**Table 2.** Evaluation of measurement model

Scale	Cronbach's alpha	rho_A	Composite reliability	Average variance extracted (AVE)
Perceived Control	0.864	0.866	0.902	0.647
Perceived Difficulty	0.829	0.837	0.897	0.745
Planful Competence	0.817	0.828	0.891	0.732
Decision Competence	0.824	0.853	0.894	0.738
Practice effect	0.932	0.933	0.944	0.677





**Figure 3.** PLS-path analysis of path coefficients and  $R^2$  values ( $n = 200$ )

### Discriminant validity

In the subsequent stage, the Heterotrait-Monotrait Ratio (HTMT) criterion proposed by Henseler et al. [48] was used to assess discriminant validity. The threshold for HTMT is 0.90 when the path model contains conceptually similar constructs. In this research model, the HTMT values ranged from 0.263 to 0.511, indicating that discriminant validity was achieved. The evaluations confirmed the model's convergent validity, reliability, and discriminant validity.

### Structural model

To test these hypotheses, the structural model was evaluated for covariance, and all predictors met the initial criteria. Specifically, the variance inflation factor (VIF) ranged from 1.652 to 2.766, which is greater than 1 and well below 5, indicating very satisfactory reliability [30]. This suggests that there are no multicollinearity issues.

Additionally, as suggested by Hair et al. [30], a bootstrap procedure with a resampling rate of 5000 was used to obtain the Beta coefficients, p-values, t-values, and bootstrap confidence intervals. The one-tailed t-test thresholds used in this analysis were 1.645 (significance level  $< 0.05$ ), 2.327 (significance level  $< 0.01$ ), and 3.092 (significance level  $< 0.001$ ) (Hair et al., 2017). The standardized path coefficients estimated by the path model for the direct effects of the two sub-dimensions of PBC (PBCPC and PBCPD) and the two sub-dimensions of PI (PIPC and PIDC) on PE, based on the bootstrap process, are as follows: PBCPC → PE = 0.211, PBCPD → PE = 0.128, PIPC → PE = 0.256, and PIDC → PE = 0.250. These results indicate positive relationships between the variables, as shown in Table 3 and Figure 3.

**Table 3.** Assessment of structural model (n = 200).

Relationship	Standard path coefficients	Sample mean (M)	Std. Dev.	T statistics	P values	Results
PBCPC -> PE	0.211	0.214	0.072	2.923	0.003	supported
PBCPD -> PE	0.128	0.129	0.071	1.800	0.072	supported
PIPC -> PE	0.256	0.256	0.080	3.214	0.001	supported
PIDC -> PE	0.250	0.252	0.066	3.787	0.000	supported
PBCPC -> PIPC	0.197	0.201	0.070	2.814	0.005	supported
PBCPC -> PIDC	0.210	0.215	0.070	2.990	0.003	supported
PBCPD -> PIPC	0.360	0.360	0.068	5.327	0.000	supported
PBCPD -> PIDC	0.298	0.301	0.064	4.635	0.000	supported
PBCPC -> PIPC -> PE	0.050	0.050	0.022	2.250	0.024	supported
PBCPC -> PIDC -> PE	0.052	0.054	0.022	2.378	0.017	supported
PBCPD -> PIPC -> PE	0.092	0.092	0.034	2.741	0.006	supported
PBCPD -> PIDC -> PE	0.075	0.076	0.026	2.905	0.004	supported

### R<sup>2</sup> value and Q<sup>2</sup> value

In addition, assessing the model's predictive power is essential, which can be achieved by evaluating its coefficient of determination (i.e., R<sup>2</sup> value). According to Hair et al. [46], the R<sup>2</sup> value ranges from 0 to 1, with higher values indicating greater predictive accuracy. Cohen et al. [31] suggest that R<sup>2</sup> values of 0.26, 0.13, and 0.02 correspond to large, medium, and small effect sizes, respectively. In this research, the R<sup>2</sup> values were: PIPC = 0.200, PIDC = 0.161, and PE = 0.352 (as shown in Figure 3). These results indicate that the model has good predictive accuracy.

As noted by Stone [49] and Henseler & Fassott [50], the Q<sup>2</sup> value is a crucial criterion for evaluating the predictive relevance of research models. The blindfold procedure was used to assess the predictive validity of the model using Partial Least Squares (PLS). A Q<sup>2</sup> value greater than zero indicates that the exogenous construct has predictive relevance for the endogenous construct. In this study, the Q<sup>2</sup> results were: PIPC = 0.139, PIDC = 0.112, and PE = 0.231, indicating that the research model has excellent predictive relevance.

### Discussion

Educational practice is not only essential for teacher education but also holds a special position within pre-service teacher education. In the field of educational practice research, many studies have focused on the management, organization, preparation, implementation, summary, and evaluation of educational practice. However, there has been limited in-depth research on students' behavior during their participation in educational practice, including issues such as practice attitude, frustration tolerance, adaptability to new environments, and family factors. These factors affect the practice effect, significantly hindering the improvement of students' teaching skills, which are fundamental qualities of competent teachers, and are detrimental to students' career



development and lifelong growth [51], [52], [53], [54], [55]. Therefore, this research explores the relationship between students' PBC, participation intention, and practice effect, with a particular focus on the mediating role of participation intention between PBC and practice effect. As this is exploratory research, the underlying variables of the proposed structural model are derived from an extensive review of existing concepts.

### **The direct effect of PBC on practice effect**

Based on empirical evidence from the current research, the sub-dimension of PBC (i.e., perceived control) has a positive and significant effect on the practice effect in educational practice, while another sub-dimension (i.e., perceived difficulty) has a positive but insignificant effect. In educational practice, perceived control is typically represented by students' confidence in their own learning and teaching abilities, whereas perceived difficulty reflects their assessment of the complexity of practice tasks. Thus, students may successfully implement practices even if they perceive greater difficulties due to other factors, such as perceived control or external support. While perceived difficulty may lead to resistance or avoidance of practice, strong perceived control can help students overcome these difficulties and complete the task, thereby weakening the impact of perceived difficulty on the practice effect [56]. This suggests that emphasis should be placed on enhancing individual perceived control while taking measures to mitigate the impact of perceived difficulty. Such strategies can effectively improve the success rate and overall practice effect in educational practice.

### **The direct effect of participation intention on practice effect**

Another contribution of this research is the finding of a positive and significant effect in the relationship between both sub-dimensions of participation intention (i.e., planful competence and decision competence) and practice effect. Results show that planful competence and decision competence are key components of participation intention, directly impacting an individual's success in performing certain behaviors. These abilities influence how individuals respond to challenges, develop strategies, and make effective decisions in real-world situations. In this research, planful competence and decision competence are particularly important for the practice effect in educational practice. The evidence supports the notion that planful competence impacts the achievement of learning goals [57]. When students develop a comprehensive teaching plan and effectively organize educational practice, they provide a structured learning experience that enhances student engagement and learning outcomes. Additionally, decision competence is crucial for guiding educational practice [58]. Students' decision competence affects their flexibility and adaptability in educational practice, with those who make decisions quickly and effectively generally better able to handle classroom challenges and maintain practice effect.

### **The direct effect of PBC and participation intention on practice effect**

According to the empirical evidence from this research, PBC has a positive and significant effect on participation intention in educational practice. Ajzen [17] and other researchers [59], [60], [61] suggest that when individuals perceive they can effectively control or implement a behavior, they are more likely to form a strong behavioral intention. High PBC usually enhances students' participation intention, promotes their active involvement in practice tasks, and effectively supports teaching activities. By improving students' PBC, participation intention can be significantly enhanced, thereby improving the practice

effect.

### **The mediating effect of participation intention between PBC and practice effect**

In addition to direct effects between latent variables, the current research has revealed significant findings regarding the role of sub-dimensions of participation intention as mediators in the relationship between PBC and the practice effect. The results indicate that the two sub-dimensions of participation intention (i.e., planful competence and decision competence) have a partial mediating effect on the relationship between PBC and practice effect. This supports Ajzen's [17] suggestion that factors affecting behavior indirectly influence behavior performance through behavioral intention, including PBC, a notion supported by subsequent research in various fields [62], [63], [64]. Thus, participation intention influences practice effect by affecting students' PBC. When students have high participation intention and strong confidence in their ability to control behavior, they are more likely to engage actively in practice and achieve better outcomes.

## **CONCLUSION**

The structural model proposed in this research is an important step in integrating the scope of teacher education research. Theoretically, this research helps to reconceptualize students' perceived behavioral control, participation intention and practice effect from a theoretical perspective. And the secondary data analysis method which is the Partial Least Square Structural Equation Modeling (PLS-SEM) was used to re-validate the research instrument and provide empirical data for the literature.

Based on the results of Structural Equation Model (SEM) path model analysis, the current research finds that perceived behavioral control and participation intention positively predict the practice effect, as well as participation intention mediates the relationship between perceived behavioral control and practice effect in educational practice. The researcher would like to point out that students, as the subject of educational practice, should be paid enough attention. Under the dual background of teacher education and China's educational reform, only students with a accurate perceived behavioral control, and strong participation intention can input into educational practice, and obtain the better practice effect.

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## REFERENCES

- [1] Gao F. & Hei J.M. (2022). Expectations and Improvement of educational practice in the context of high-quality education system construction. *Journal of Henan Normal University(Philosophy and Social Sciences Edition)*, 02, 151-156. DOI:10.16366/j.cnki.1000-2359.2022.02.19
- [2] Yang C K, Ou Y S, Wang Q R, Tang W L. (1994). *Comparison of internship systems in different countries*. Normal University Library (Taipei ).
- [3] Liu B. (2002). New Encyclopedia of Chinese Teachers. Secondary Education Volume. *Encyclopedia of China Publishing House*, 150.
- [4] Baek, S., & Ham, E.H. (2009). An evaluation study on the educational value of teaching practicum in secondary schools. *Asia Pacific Education Review*, 10, 271-280. DOI:10.1007/S12564-009-9018-Z
- [5] Zhu H., Karen Arnold, & Chen Y.L. (2012). The Foundation, Guarantee and function of the system: A comparison between Chinese and American college students' internship and its implications for employment. *Peking University Education Review*, 01, 107-123+190. DOI:10.19355/j.cnki.1671-9468.2012.01.009
- [6] Gu Y. & Cui Y.J. (2014). The Japanese teacher education curriculum reform since the 21st century. *International and Comparative Education*, 08, 8-11 + 17. Doi: 10.20013 / j.carol carrollnki operator 2014.08.002
- [7] Zhao Y. F., Wen B., & Liang J.X. (2012). Sports education professional education practice mode of employment pressure, the optimization of the study - "selective" centralized and decentralized internship model. *Journal of Nanjing Sports Institute*, 05, 1-4. DOI:10.15877/j.cnki.nsin.2012.05.005
- [8] Pan Y. S. (2013). Investigation on current situation and reform of undergraduate Education practice in Shandong University of Physical Education. *Journal of Shandong Sport University*, 03, 98-102. DOI:10.14104/j.cnki.1006-2076.2013.03.019.
- [9] Liu J. (2010). Discussion on the educational practice management model of normal university students in China. *Continuing Education Research*, 05, 142-145. DOI:CNKI:SUN:JIXE.0.2010-05-056.
- [10] Li W. W. & Xu W. (2019). Research on Improvement of Management System of Off-campus Practice Base in PE Normal Colleges Based on Student Satisfaction Survey. *Abstracts of the 11th National Convention on Sport Science of China*, 3410-3411. DOI:10.26914/c.cnkihy.2019.030343
- [11] Zhen Z.P. , Lang J., Ding T. C., Liu R.S., & Li X.P. (2012). Relationship between professional identity and educational practice effect of free normal college students in Physical education. *Sports Culture Guide*, 12, 97-101. DOI:CNKI:SUN:TYWS.0.2012-12-028
- [12] Cai Z.L. (2012). Problems and countermeasures of undergraduate primary education practice. *Education Exploration*, (04),59-61. DOI:CNKI:SUN:SEEK.0.2012-04-025
- [13] Yu Y. (2015). Research on the problems and measures of physical education practice -- taking Baotou Normal University as an example. *Contemporary Sports Technology*, 27, 125-126. DOI:10.16655/j.cnki.2095-2813.2015.27.125
- [14] Wang X. X., Jiang X P. (2019). Research on the problems and countermeasures of teacher professional education practice in local universities. *Science & Technology Information*, 04, 160-161+163. DOI:10.16661/j.cnki.1672-3791.2019.04.160
- [15] Xie A. G., Wang B.J., Wang B., Xu B.T., Yang A.H., & Zhang Y. (2022). Study on improving the effect of practice teaching of basic geological knowledge: Taking the practice of basic geological knowledge in Nanjing University as an example. *Geological Journal of China Universities*, 03, 378-381. DOI:10.16108/j.issn1006-7493.2021069
- [16] Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. *Action Control*, 11-39. [https://doi.org/10.1007/978-3-642-69746-3\\_2](https://doi.org/10.1007/978-3-642-69746-3_2)
- [17] Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- [18] Kefu, L. (2013). Research on the influence mechanism of consumer innovation on green consumption behavior. *Nankai Business Review* , 4, 106-113+132. DOI:CNKI:SUN:LKGP.0.2013-04-011
- [19] Sun, Y. A., Zhao, B., He, S., Yu, S. C., Li, Y. L., & An, W. X. (2016). Analysis of influencing factors of clinical nurses' willingness to engage in geriatric nursing based on planned behavior theory. *Chinese Journal of Modern Nursing*, 10, 1416-1419. DOI:10.3760/cma.j.issn.1674-2907.2016.10.023
- [20] Majeed, A., Ghumman, A. R., Abbas, Q., & Ahmad, Z. (2021). Role of entrepreneurial passion between entrepreneurial attitude, subjective norms, perceived behavioral control, and entrepreneurial intention: measuring the entrepreneurial behavior of Pakistani students. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 15(3), 636-662. <http://hdl.handle.net/10419/246075>
- [21] Ahmad, A. B., Straatmann, T., Mueller, K., & Liu, B. (2021). Employees' Change Support in the Public Sector – A Multi-Time Field Study Examining the Formation of Intentions and Behaviors. *Public Administration Review*, 81(2), 231-243. <https://doi.org/10.1111/puar.13275>
- [22] Trafimow, D., Sheeran, P., Conner, M., & Finlay, K. A. (2002). Evidence that perceived behavioural control is a multidimensional construct: Perceived control and perceived difficulty. *British journal of social psychology*, 41(1), 101-121. <https://doi.org/10.1348/014466602165081>
- [23] Lee, J., Cerreto, F. A., & Lee, J. (2010). Theory of planned behavior and teachers' decisions regarding use of educational technology. *Journal of Educational Technology & Society*, 13(1), 152-164. <http://www.jstor.org/stable/jeductechsoci.13.1.152>
- [24] Pelletier, L. G., & Sharp, E. C. (2009). Administrative pressures and teachers' interpersonal behaviour in the classroom. *Theory and research in education*, 7(2), 174-18. <https://doi.org/10.1177/1477878509104322>

- [25] Zint, M. (2002). Comparing three attitude-behavior theories for predicting science teachers' intentions. *Journal of research in science teaching*, 39(9), 819-844. <https://doi.org/10.1002/tea.10047>
- [26] Hein, V. (2012). The effect of teacher behaviour on students motivation and learning outcomes: A review. *Acta Kinesiologiae Universitatis Tartuensis*, 18, 9-19. <https://doi.org/10.12697/akut.2012.18.02>
- [27] Xu, J. F. (2014). Investigation on practice behavior intention of Physical education students in Physical Education colleges -- A case study of 4 universities in Fujian Province. *Journal of Jiamusi Vocational Institute*, 1, 434-435. DOI:CNKI:SUN:JMSJ.0.2014-01-287
- [28] Feng, Y. H. & Zhang, S. W. (2023). Research on influencing factors of mobile learning behavior of local undergraduate students. *Survey of Education*, 2, 12-16+26. DOI:10.16070/j.cnki.cn45-1388/g4s.2023.02.030
- [29] Code, J. (2020). Agency for learning: Intention, motivation, self-efficacy and self-regulation. *Frontiers in Genetics*, 5, 19. <https://doi.org/10.3389/feduc.2020.00019>
- [30] Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, 2nd Edn. SAGE Publication ( NY:).
- [30] Lay, Y. F., & Khoo, C. H. (2014). *pengenalan kepada pendekatan kuantitatif dalam penyelidikan pendidikan* (Edisi Ketiga). Kota Kinabalu: Venton Publishing (M) Sdn. Bhd.
- [31] Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (7th ed.). Routledge (NY).
- [32] Cheon, J., Lee, S., Crooks, S. M., & Song, J. (2012). An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & education*, 59(3), 1054-1064. <https://doi.org/10.1016/j.compedu.2012.04.015>
- [32] Dunn, R., Hattie, J., & Bowles, T. (2018). Using the Theory of Planned Behavior to explore teachers' intentions to engage in ongoing teacher professional learning. *Studies in Educational Evaluation*, 59, 288-294. <https://doi.org/10.1016/j.stueduc.2018.10.001>
- [34] Gao, M., Chen, X., Sun, X., Wang, F., Fan, L., & Sun, X. (2020). Predicting stage of exercise among patients with type 2 diabetes: A test of the extended theory of planned behavior. *Patient preference and adherence*, 277-285. <https://doi.org/10.2147/PPA.S236813>
- [35] Lin, L., Sun, P., Feng, Y., Gao, J. J. & Luo, Y. (2021). Influencing factors of doctor-patient communication behavior of medical interns based on Planned behavior theory. *Chinese Health Service Management*, 2, 89-93+108. DOI:CNKI:SUN:ZWSSG.0.2021-02-004
- [36] Alwin, D. F. (1997). Feeling Thermometers Versus 7-Point Scales: Which are Better? *Sociological Methods & Research*, 25(3), 318-340. <https://doi.org/10.1177/0049124197025003003>
- [37] Leung, S. O. (2011). A comparison of psychometric properties and normality in 4-, 5-, 6-, and 11-point Likert scales. *Journal of Social Service Research*, 37(4), 412-421. <http://doi.org/10.1080/01488376.2011.580697>
- [38] Gulo, E. V. (1966). University Students' Attitudes as Measured by the Semantic Differential. *The Journal of Educational Research*, 152-158.
- [39] You, S., Hong, S., & Ho, H. Z. (2011). Longitudinal effects of perceived control on academic achievement. *The Journal of Educational Research*, 104(4), 253-266. <https://doi.org/10.1080/00220671003733807>
- [40] Wall, J. D., & Knapp, J. (2014). Learning computing topics in undergraduate information systems courses: Managing perceived difficulty. *Journal of Information Systems Education*, 25(3), 245. <https://aisel.aisnet.org/jise/vol25/iss3/8>
- [41] Meng H. (2022) A study on the structure and scale compilation of pre-service PE teachers' educational practice effect. (Masters Thesis) East China normal university
- [42] Barrett, K. C., and Morgan, Jr. G. A. (2005). *SPSS for Intermediate Statistics: Use and Interpretation*. Psychology Press (London).
- [43] Hair, J. F., Hult, G. T. M., and Ringle, C. M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage publications ( London).
- [44] Pallant, J. (2011). *SPSS Survival Manual: A Step by Step Guide to data Analysis Using SPSS*, 4th Edn. Allen and Unwin (London).
- [45] Hair, J. F., Anderson, R. E., and Babin, B. J. (2010). *Multivariate Data Analysis: A Global Perspective*, 7th ed. Hoboken, Pearson Prentice Hall (NJ).
- [46] Hair, J. F., Sarstedt, M., Hopkins, L. G., and Kuppel wieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) an emerging tool in business research. *European Business Review*, 26, 106-121. DOI: 10.1108/EBR-10-2013- 0128
- [47] Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: algebra and statistics. *J. Market. Res.* 18, 382-388. DOI: 10.1177/002224378101800313
- [48] Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International marketing review*, 33, 405-431. <https://doi.org/10.1108/IMR-09-2014-0304>
- [49] Stone, M. (1974). Cross-validators choice and assessment of statistical predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36, 111-133. <https://doi.org/10.1111/j.2517-6161.1974.tb00994.x>
- [50] Henseler, J., & Fassott, G. (2009). *Testing moderating effects in PLS path models: An illustration of available procedures*. Handbook of partial least squares: Concepts, methods and applications, 713-735.Springer (Berlin).
- [51] Young, W. B., Lehrer, E. L., & White, W. D. (1991). The effect of education on the practice of nursing. *Image: The Journal of Nursing Scholarship*, 23(2), 105-108. <https://doi.org/10.1111/j.1547-5069.1991.tb00652.x>
- [52] McGaghie, W. C., Issenberg, S. B., Petrusa, E. R., & Scalese, R. J. (2006). Effect of practice on standardised learning

- outcomes in simulation-based medical education. *Medical education*, 40(8), 792-797. <https://doi.org/10.1111/j.1365-2929.2006.02528.x>
- [53] Roediger III, H. L., & Karpicke, J. D. (2006). The power of testing memory: Basic research and implications for educational practice. *Perspectives on psychological science*, 1(3), 181-210. <https://doi.org/10.1111/j.1745-6916.2006.00012.x>
- [54] Roediger III, H. L., & Pyc, M. A. (2012). Inexpensive techniques to improve education: Applying cognitive psychology to enhance educational practice. *Journal of Applied Research in Memory and Cognition*, 1(4), 242-248. <https://doi.org/10.1016/j.jarmac.2012.09.002>
- [55] Grapragasem, S., Krishnan, A., & Mansor, A. N. (2014). Current Trends in Malaysian Higher Education and the Effect on Education Policy and Practice: An Overview. *International Journal of Higher Education*, 3(1), 85-93. <http://dx.doi.org/10.5430/ijhe.v3n1p85>
- [56] Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of applied social psychology*, 32(4), 665-683. <https://doi.org/10.1111/j.1559-1816.2002.tb00236.x>
- [57] Kitsantas, A., & Zimmerman, B. J. (2009). College students' homework and academic achievement: The mediating role of self-regulatory beliefs. *Metacognition and Learning*, 4, 97-110. DOI:10.1007/s11409-008-9028-y
- [58] Simon, H. A. (1997). *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations*. (pp. 352). Free Press.
- [59] Kidwell, B., & Jewell, R. D. (2003). An examination of perceived behavioral control: Internal and external influences on intention. *Psychology & Marketing*, 20(7), 625-642. <https://doi.org/10.1002/mar.10089>
- [60] Yang-Wallentin, F., Schmidt, P., Davidov, E., & Bamberg, S. (2004). Is there any interaction effect between intention and perceived behavioral control. *Methods of psychological research online*, 8(2), 127-157. <https://doi.org/10.23668/psycharchives.12787>
- [61] Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis. *Health Psychology*, 41(2), 155. <https://doi.org/10.1037/hea0001153>
- [62] Budu, K. W. A., Yinping, M., & Mireku, K. K. (2018). Investigating The Effect of Behavioral Intention on E-learning Systems Usage: Empirical Study on Tertiary Education Institutions in Ghana. *Mediterranean Journal of Social Sciences*, 9(3), 201-216. DOI: 10.2478/mjss-2018-0062
- [63] Nassar, A. A., Othman, K., & Nizah, M. A. B. M. (2019). The impact of the social influence on ICT adoption: Behavioral intention as mediator and age as moderator. *International Journal of Academic Research in Business and Social Sciences*, 9(11), 963-978. <http://dx.doi.org/10.6007/IJARBS/v9-i11/6620>
- [64] Alam, T., Aftab, M., Abbas, Z., Ugli, K. M. M., & Bokhari, S. A. A. (2023). Impact of e-government initiatives to combat corruption mediating by behavioral intention: A quantitative analysis from emerging economies. *Sustainability*, 15(3), 2694. <https://doi.org/10.3390/su15032694>

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