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Factors Influencing Willingness to Continue Continuously in the Context of Adult Online Education

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Abstract

In recent years, adult online education in China has emerged and become one of the most popular training methods. This trend is mainly driven by deep thinking about the source of students, namely how to continuously increase the number of students. This study aims to combine relevant literature, introduce factors such as perceived value, perceived cost and past behavior, and use the theoretical model of planned behavior (TPB) to construct a theoretical model and propose hypotheses to study the influencing factors of the willingness to continue learning in adult online education. By building a behavioral model of the willingness to continue learning, the model and hypothesis were tested using SPSS 23.0 and PROCESS tools. The study of adult students participating in online education aimed to explore the effects of behavioral attitudes, subjective norms, and perceptual behavioral control on willingness to continue learning. The results show that the willingness to learn continuously is directly influenced by past behavior. Finally, this paper makes suggestions on the management of adult online education and training schools.

Keywords: adult distance education online education continuous learning willingness

Research Background

In recent years, the rapid evolution of information technology has promoted the vigorous development of the online education industry. Many higher education schools engaged in adult academic education have also responded positively and have built corresponding online course platforms and created a series of diversified curriculum resources. For adult education, this is not only a booming opportunity, but also a serious challenge that needs to be valued. Both the large-scale open online courses and the adult academic education provided through the distance learning model inevitably face the problem of low completion rate. According to the survey, the adult education of the network education college, long for two and a half years of upgrading this education program, its student turnover rate is as high as 30%. Even in the restricted online learning environment, the attrition rate is still so high, which actually reflects the lack of learners' willingness to keep learning. In view of this, scholars have focused on factors affecting completion rates, especially on an in-depth analysis of learners' willingness to continue learning.

Through systematic modeling research of factors affecting learners' willingness to continue learning, it is helpful to educate policy makers and management to conduct fundamental causal analysis, so as to make more accurate causal diagnosis. This will help to optimize and improve the instructional design and provide more appropriate and accurate support for learners. At the same time, it is also helpful for teachers to have a comprehensive understanding of students' learning situation, so as to evaluate learning

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more accurately, identify academic risks, and give early warning in advance, so as to further improve the completion degree of learning. These efforts are of great value for the sustainable and healthy development of the field of online education.

Literature Review

In 1991, Ajzen formally proposed the theory of planned behavior (Theory of Planned Behavior), which has become one of the most influential behavioral prediction theories in the field of social psychology. It has been widely used in various research fields, and has aroused the strong interest of scholars in the management field, and has achieved remarkable research results in [1]. The core concerns of the theory include behavioral intention, attitudes, and subjective norms, as well as perceptual behavioral control. In the theory of planning behavior, the formation of behavioral intention is influenced by two main types of factors. First, an individual's attitude towards a specific behavior is a key element in determining the intention of the behavior, and this attitude originates from the internal individual beliefs and values. Secondly, subjective norms also have an impact on behavioral intentions, referring to the views and suggestions of others that individuals consider important and trustworthy

Moreover, perceptual behavioral control is also an important element in the theory of planning behavior. It refers to the self-assessment of an individual's ability to control their own resources and the outcome of the behavior to determine whether to adopt a certain behavior. In summary, planned behavior theory provides us with a framework for a deep understanding of the key factors behind behavioral decisions. The following is a schematic diagram of the theory:



Figure 1: Theoretical Model of Planning Behavior (TPB)

Source: Ajzen, 1991

In the field of sociology, the study of Ajzen and Driver (1992) focused on the outdoor activity choice of college students, and concluded that the perceptual behavioral control, attitude and subjective norms of college students all had significant effects on their behavioral intentions [2]. It is particularly noteworthy that for outdoor activity, perceptual behavioral control had the most significant effect on behavioral intention of the three variables, while the effect of subjective norms was relatively weak. Scholars at home and abroad have verified the applicability of the theory of planning behavior in predicting behavior in different fields. However, these studies also suggest that the magnitude of attitudes, subjective norms, and perceived behavioural control that influence behavioral intention varies across domains and across behaviors. For example, this theory has been applied to predict the choice of environmentally friendly vehicles [3], the recycling of household waste [4], and the payment of urban park protection fees, etc. [5]. Because each domain has its own unique characteristics, researchers often

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combine the theory of planning behavior with domain-specific variables to build extended models aimed at improving the prediction and interpretation of domain-specific behaviors. Based on the synthesis of previous studies, considering the characteristics of this study, we constructed a new model and propose relevant hypotheses.

Proposed Assumptions and Model Construction

Make hypotheses

H1: Behavioral attitude (AT) positively affects the continuous learning intention.

H2: Subjective norms (SN) positively affect the willingness to continue learning.

H3: Perceptual behavior (PBC) control positively influences the willingness to continue learning.

H4a: Perceived cost (PC) positively influences behavioral attitudes.

H4b: Perceived cost (PC) positively affects continuous learning intention.

H5: Perceived value (PV) positively affects the continuous learning intention.

H6a: Past behavior (PB) positively influences the behavioral attitude.

H6b: Past behavior (PB) positively affects continuous learning intention.

Model construction

Through the assumptions proposed above, perceived value, perceived cost and past behavior are introduced into the theoretical foundation model of planned behavior, and the TPB expansion model of continuous learning is constructed, see Figure 2

Figure 2 A. Continuous learning of the TPB extension model



Object sampling and questionnaire design

- (1) The sample subjects are adults participating in online learning.
- (2) Questionnaire design:

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variable	Question item	reference documentation	Item source
BehaviAttitude (AT)	(AT1) I think it is worth attending online adult education(AT2) I think participating in online adult education is necessary(AT3) I think it is right to attend online adult education(AT4) I think it is beneficial to attend online adult education(AT5) I think it is helpful to attend online adult education		There + study + revision
Subjective Specifications (SN)	(SN1) To participate in online adult education, I will refer to the advice of my family members and relatives(SN2) To participate in online adult education, I will refer to the advice of my current teacher(SN 3) To participate in online adult education, I will refer to the advice of my friends	Ajzen (2002) [17]	There + study + revision
Perceptual Behavioral Control (PBC)	(PBC 1) I have the resources to participate in online adult education(PBC 2) I have the financial resources to participate in online adult education(PBC 3) I have the energy to participate in online adult education(PBC 4) I have the time to participate in online adult education		There + study + revision
Continuing Learning Intention (BI)	(B11) I am interested in attending online adult education (B12), if someone else recommends me, I would recommend online adult education		Existing research + revision + self- compilation
Perceived Cost (PC)	 (PC1) I will consider the amount of tuition fees (PC2) I will consider the transportation cost in my study (PC3) I will consider the amount of subsequent investment costs (material costs, clothing costs, etc.) (PC4) The cost of online adult education is too costly (PC5) It takes too much time attending online adult education (PC6) In short, participating in online adult education has increased my great ideological burden 	KimB (2010) [12]	Existing research + revision + self- compilation
Perceived Value (PV)	 (Pv 1) After attending online adult education (Pv 2) After participating in online adult education, they can pass the skill test (Pv 3) After participating in online adult education, they can participate in professional competitions (Pv 4) Get a good exercise after participating in online adult education (Pv 5) After participating in online adult education, personality deficiencies have improved (Pv 6) Participating in online adult education enriches your free time (Pv 7) Participation in online adult education has increased, and their own effective time 	Keene(199) [15]	Existing research + revision + self- compilation

	(PB 1) I will think back to my past learning experience						
	(PB 2) I will pay attention to my experience of attending						
	online adult education						
	(PB 3) I will consult my relatives and friends about the Norman p (2006) There + study +						
Past behavior (PD)	experience of online adult education [18] revision						
	(PB 4) I will pay attention to the experience of my family						
	members and relatives who have participated in online						
	adult education						

To the scale has made a prediction, prediction questionnaire 40,38 qualified, the samples is divided into 27 and 73 digits, seven dimensions after high and low group T verification, verification results that in addition to the title "PC6" does not need to be deleted, the rest of the topic p value is less than 0. 5, significant difference, represent the test item has a certain discrimination to retain, prediction after delete PC6 formal issue after 350 questionnaires, which recovered to 312 qualified questionnaire.

Test of the measurement model

Test of reliability, convergent validity and discriminative validity

As shown in the table below, the model has good reliability, convergent validity and discriminative validity.

dimension	Subject re	eliability	AVE	dimension	Subject reliability		AVE
Behavioral attitude	AT1	.865	.653	Perceived the cost	PC1	.755	.571
	AT2	.742			PC2	.763	
	AT3	.845			PC3	.742	
	AT4	.767			PC4	.770	
	AT5	.816			PC5	.747	
Subjective norms	SN1	.733	.632	Perceived value	PV1	.779	.594
	SN2	.805			PV2	.748	
	SN3	.827			PV3	.779	
	SN4	.811			PV4	.798	
Perceptual behavioral control	PBC1	.788	679		PV5	.764	
	PBC2	.831			PV6	.755	
	PBC3	.827			PV7	.772	
	PBC4	.850		Past behavior	PB1	.787	.634
Continuous learning intention	BI1	.819	.660		PB2	.760	
	BI2	.804			PB3	.792	
	BI3	.815			PB4	.844	

Table 2 Measurement item reliability table

Table 3 Data tables detecting reliability, convergent and validity and discriminative validity

dimension	inter- scorers reliability	Convergence validity Differential validity		Convergence validity		Differential validity					Desc stat	riptive istics
	Cronbach Alpha	nbach AVE AT SN PBC BI pha		BI	РС	PV	PB	average value	standard deviation			
AT	.864	.653	0.808							5.49	.969	
SN	.804	.632	.476	0.795						5.03	1.077	
PBC	.842	.679	.690	.558	0.824					5.21	1.067	
BI	.742	.660	.784	.540	.761	0.812				5.36	.982	
PC	.811	.571	.378	.626	.415	.433	0.756			4.84	1.024	
PV	.868	.594	.767	.525	.757	.790	.409	0.771		5.35	.929	

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PB	.807	.634	.726	.577	.734	.740	.445	.761	0.796	5.31	.960

Analysis of the hypothesis test results

Table 4: hypothesis H2 and H4b do not true. The most powerful effect on continuous learning intention (BI) is behavioral attitude (AT), followed by perceived value and perceptual behavioral control.

Table 5 shows: P value of perceived cost (PC) > 0.5, so the assumption of H4a is not true.

model		Unsta coe	undardized efficients	Standardization coefficient	t	conspicuousness	The conf inter	95.0% iidence val in B	Collinearity statistics	
		В	standard error	Beta		-	lower limit	superior limit	VIF	R square
	(constant)	.104	.190		.550	.583	269	.477		.744
	AT	.324	.049	.320	6.573	.000	.227	.421	2.818	
	SN	.036	.038	.040	.943	.346	039	.111	2.097	
BI	PBC	.218	.045	.237	4.818	.000	.129	.308	2.891	
	PC	.040	.036	.041	1.103	.271	031	.111	1.679	
-	PV	.264	.058	.250	4.584	.000	.151	.377	3.536	
	PB	.104	.053	.102	1.975	.049	.000	.208	3.163	

Table 4 Pathway Analysis Table (BI)

Table 5 Path Analysis Table (AT)

model		Unstandardized coefficients		Unstandardized Standardization coefficients coefficient		conspicuousness	The 95.0% confidence interval in B		Collinearity statistics	
		В	standard error	Beta			lower limit	superior limit	VIF	R square
	(constant)	1.446	.233		6.214	.000	.988	1.904		.531
AT	PC	.065	.041	.068	1.572	.117	016	.146	1.248	
	PB	.702	.044	.695	15.978	.000	.616	.789	1.248	

Table 6 Description of hypothesis test results

argument	dependent variable	Р	hypothesis	Whether to establish
Behavioral attitude	Learning willingness	***	H1	found
Subjective norms	Learning willingness	.358	H2	false
Perceptual behavior	Learning willingness	***	Н3	found
Past behavior	Learning willingness	.012*	H6b	found
Perceived value	Learning willingness	***	H5	found
Perceived the cost	Learning willingness	.301	H4b	false
Past behavior	Behavioral attitude	***	H6a	found
Perceived the cost	Behavioral attitude	.127	H4a	false

Mediation effect test

The mediation effect of behavioral attitude was tested for the presence of PROCESS's Model (4). The results are shown in Table 7, which did not include 0 between the confidence interval values, and as shown in Table 8, the confidence interval range of significant indirect effect did not include 0, thus supporting the mediation effect of behavioral attitude.

Table 7. Direct effects

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DV	IV	Coeff	Se	Т	р	LLCI	ULCI
AT	constant	1.578	.214	8.500	.000	1.297	325.0
	PB	.746	.041	17.385	.000	.338	.811
BI	constant	.482	.181	3.196	.011	.128	.880
	AT	.519	.038	1071.0	.000	.453	.872
	PB	.334	.049	826.6	.000	.297	.404
BI	constant	1.289	.209	4.982	.000	.918	1.816
	PB	.722	.041	.31721	.000	.710	.823

Table 8 Total impact effects

	Effect	SE	t	р	LLCI	ULCI
Total	.723	.031	18.167	.000	.780	.813
Direct	.350	.056	.6882	.000	.225	.474
Indirect	.321	.078	6.198	.000	.287	.427

Conclusions and Enlightenment

Study conclusions

1. While we assume that H1 and H3 are valid, H2 is not, which contradicts the previously proposed idea that behavioral attitude, subjective norms, and perceptual behavioral control positively impact behavioral willingness [1]. This suggests that in this study field, adult learners place greater emphasis on their personal perspectives and understanding of continuous learning. Additionally, they take into account factors such as personal finances, time constraints, and energy levels, potentially placing less importance on the opinions and recommendations of others.

2. Despite the assumption that H4a and H4b are not supported, this contrasts with some viewpoints, such as KimB's assertion that costs directly influence attitudes and intentions [12]. This discrepancy might be attributed to the modern society's economic development and evolving talent demands. Adult learners now prioritize acquiring diverse professional knowledge and skills through learning, with personal education costs no longer being the primary consideration.

3. Assuming that H5 holds true, it indicates that adult learners highly value the benefits derived from learning. These gains encompass not only knowledge and skill improvement but also personal growth on various fronts, as well as the pursuit of a rich and meaningful leisure life. All these aspects contribute to psychological growth.

4. Assuming that H1, H6a, and H6b are established, behavioral attitude and past behavior directly and positively influence the willingness to continue learning. Furthermore, behavioral attitude partially mediates the impact of past behavior on the willingness to continue learning. This suggests that past learning experiences and habits of information retention influence the perception of continuous learning, ultimately shaping the willingness and behavior toward it.

Research and enlightenment

The factors influencing the willingness to continue learning were ranked by importance as follows: behavioral attitude ($\beta = 0.32$, P < 0.001), perceived value ($\beta = 0.250$, P < 0.001), perceptual behavioral control ($\beta = 0.237$, P < 0.001), and past behavior ($\beta = 0.102$, P < 0.05). Additionally, past behavior has a direct effect on behavioral attitudes.

Therefore, adult learners' consistent participation in online adult education primarily depends on their recognition of this behavior. This recognition stems from the perception of social needs and the benefits

of specialty learning for personal development. Practical experience, rather than misleading promotion, often contributes to this recognition. Moreover, adult learners prioritize what they gain through learning, and schools can enhance their willingness to learn by emphasizing the value they provide.

In terms of school services and curriculum design, the following strategies can be employed:

- 1. Strengthen teaching services, including skills performances and providing learning guidance.
- 2. Optimize market services to make learning more efficient, reducing conflicts between learning, time, and energy.

A well-designed curriculum facilitates adult learners in acquiring knowledge and skills easily, sparks their interest in learning, and offers courses that align with societal needs, fostering diverse thinking, comprehensive knowledge, and innovative thinking. Ultimately, genuine benefits are the driving force behind adult learners' determination to continue their education.

Finally, if we assume that H2, H4a, and H4b do not apply, meaning that subjective norms and perceived costs don't influence willingness to continue learning, this implies that school tuition and advocacy have a diminished impact on student turnover. Moreover, the relationship between behavioral attitudes and past behaviors is only partially mediated, and additional variables may also contribute, necessitating further investigation.

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