The Influence of Internet Violence on The Mental Health of College Students in The New-media Era

Ziyuan Luo[1,a], Yuxuan Zhang[2,b] and Yangyang Zhao[3,c,*]

[1]*School of Public Health, Applied Psychology, Shaanxi University of Traditional Chinese Medicine, 712000, China*

[2]*Department of Journalism and Communication, Tianjin Normal University, Jingu College, Tianjin, 300382, China*

[3]*James Cook University, Singapore, 387380, Singapore*

a. 2178893850@qq.com, b. 1025773418@qq.com, c. yangyang.zhao@my.jcu.edu.au

*corresponding author

Abstract: The advent of the era of "new media" makes the online social environment more open. College students, as one the mainstream users of online social media, will inevitably have conflicts when communicating with the virtual network environment, and the phenomenon of online violence happens from time to time, which has a great impact on the mental health of college students. This study selected the college students to participate in the network violence groups as the investigation object, the construction of college students to participate in the theoretical model of network violence, and then put forward the research hypothesis, and design the questionnaire. Finally, it was concluded that the occurrence of network violence will cause psychological harm to the participants or victims of college students, and although college students do not approve of network violence, they still have deficiencies in behavior control, and they still use network violence to achieve their own goals. The results of this study had reference significance for the psychological rehabilitation of college students after the occurrence of cyber violence.

Keywords: Cyber violence, mental health, new media, college students.

1. Introduction

1.1. Research Background

With the popularization and application of network technology, a more diversified communication platform has been created for Chinese netizens. The booming development of Weibo, Douyin, and other online communities has made the real life of Chinese netizens more closely related to the online world. Everyone is a disseminator of information, and everyone has a microphone in the "new media" era. At the same time, in a more open network environment, various forms of network violence such as personal attacks on others, insulting remarks, disclosure of others' privacy, and even slander emerge in an endless stream, causing extremely bad social impact. At present, most of the existing research results focus on the harm of network violence to society, and there are few studies on college students as the target group. According to the 47th Statistical Report on Internet Development in China in 2021, among 989 million Internet users in China, students account for 21.0% [1]. Among

the student netizens, college students are the most active with strong language ability and a strong desire to express themselves on the network platform. Through the observation of the phenomenon of network violence in recent years, such as the "Tongxumen Incident" and "Yu Shuxin fan human flesh students of Central South University", college students are often the most vulnerable to the influence of network violence and become the main victims of network violence. College is an important stage for young people to mature psychologically. In the era of "new media", the phenomenon of online violence can easily affect the mental health of college students to varying degrees.

1.2. Research Gap

There are many studies on the phenomenon of online violence, but most of them focus on the harm that the phenomenon of online violence produces to fan groups and society. For example, Li Tingting in her article "Countermeasures for the Governance of Online Violence of Fan Groups in the Self-Media Perspective" talks about the reasons and countermeasures for fan groups being more vulnerable to the phenomenon of online violence [2]. Mu Xiaxi elaborated on the adverse effects of the phenomenon of cyber violence on society in her article "The Social Impact of Cyber Violence and Its Control" [3]. With the continuous development of self-media, college students are facing the problems of online violence and online addiction, which also include mental health problems, and there are few studies on the mental health of college students. Jiang Genyuan published in 2012 that 83.3% of the respondents were victims of online violence, and 58.89% of the respondents believed that the negative effects of online violence brought them were inattention, fear, and anxiety [4]. Wang Gengfu and his group conducted a study on the phenomenon of cyber violence and suicide-related behaviors in Anhui Province in 2015, and found that 32.7% of the respondents indicated that they had four suicide-related psychologies: suicidal ideation, suicide planning, suicide preparation, and suicide attempt after suffering from cyber violence through a self-administered questionnaire [5]. The research question of this report is thus proposed to analyze the causes of online violence from the perspective of TPB. Violence on the Internet is a serious violation of social norms of moral behavior and endangers the physical and mental health of the victims. Only by clearly understanding the causes of online violence can prevent and protect ourselves from online violence.

1.3. Fill the Gap

In order to verify whether the hypothesis that the phenomenon of online violence is extremely harmful to the psychological health of both participants and victims of online violence is correct, this study will first analyze the factors and motives of online violence by using the Theory of Planned Behavior (TPB). This paper will then use questionnaires to collect data on students' understanding of the phenomenon of online violence and whether they have participated in or been subjected to online violence, and analyze and verify the data by employing statistical tests in SPSS software.

2. Literature Review

2.1. Cognitive Mediation Model

The theory of planned behavior (TPB) has a very long history, having been proposed by Ajzen in 1985 [6]. Ajzen believes that although Theory of Reasoned Action (TRA) has a certain degree of explanatory power for behavioral decision processes, its theory is still limited, and in practice many behaviors are not entirely controlled by one's own will, so Ajzen improves on TRA and proposes TPB. Attitude, subjective norms, and perceived behavioral control are the three independent variables in TPB, while behavioral intention is the lone dependent variable [6].

Attitude is an ongoing assessment of an individual's reaction to a particular object or idea as to whether he or she likes or dislikes it, and the performance of attitude predicts his or her likely behavior. Attitudes are the positive and negative evaluations an individual maintains about a particular behavior. The lower the behavioral intention will be [7].

The term "subjective norms" refers to the social pressure that a person feels when engaging in a particular conduct, specifically the pressure that a person feels from close friends, family members, or other groups (such as parents, coworkers, or coworkers). The likelihood that an individual will have the behavioral intention to engage in the conduct increases with the strength of the positive subjective norm [7]

Perceived behavioral control is defined as the belief that one has command over the circumstances in which a desired behavior is possible. Self-efficacy, or the belief in one's capacity to carry out the conduct, and external resources, which refer to the resources' accessibility and the degree of an impediment to the person, are two components of perceived behavioral control. Both could have an impact on the person's choice to engage in a behavior [7].

A person's tendency and degree of desire to engage in a certain activity, as well as their level of intensity in deciding whether or not to act throughout the behavioral choice process, are referred to as behavioral intention. By using this variable to describe and forecast how well a person performs in completing the action, it may be measured by asking if a person is willing to strive hard or how much effort he or she is willing to put in [7].

In conclusion, TPB holds that behavioral intents drive individual behavior, and behavioral intentions determine individual behavior in conjunction with attitudes, subjective standards, and perceived behavioral control. Therefore, if a person retains a favorable attitude toward a certain conduct, the stronger the perceived behavioral control over the behavior and the more subjective norms support engaging in the behavior, the higher the person's intention to engage in the behavior. The theory is illustrated in detail (See Figure 1).
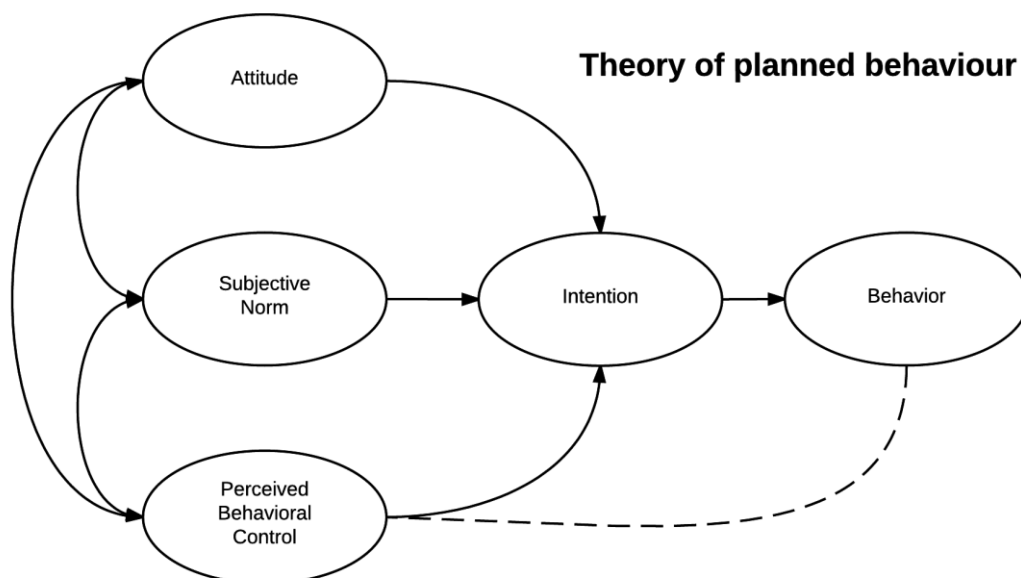

Figure 1: The Theory of Planned Behavior [8].

2.2. Important Results

According to existing research, TPB theory can be used to explain and predict individual behavior and willingness. Many scholars have used this theory to study the formation process of individual behavioral intention in many fields. By way of illustration, with regards to the expanding Chinese sportswear business, researchers applied TPB to study college students' consumption behavior of buying sportswear and concluded that in college students' consumption behavior of sportswear, suggestions from classmates and friends have the greatest influence on college students' purchase of sportswear. In terms of travel, Yang Yazao, Wu Yao TPB research scholar applications such as the choice of the ways of college students' travel, eventually conclude that college students' behavioral attitude, subjective norm, perceived behavior control of its choice has a positive influence on bus and rail travel, subjective norm and perceived behavior control have a positive impact on their choice taxi [9].

In previous studies, Li Jingcheng used the TPB theory to explain exercise behavior in 1999. In his article, Li Jingcheng believed that attitude and perceived behavior control had a good effect in predicting the frequency and time of exercise behavior [10]. Scholars Yang Jian, Liu Zhaolei, and other scholars pointed out in their articles that college students' exercise intention is the main influencing factor of exercise behavior, and perceptual behavior control factors have the greatest impact on exercise intention [11]. In addition, scholars Fang Min and Sun Ying verified the universal applicability of TPB research in the field of adolescent group exercise behavior in their article Generalization of Planned Behavior Theory: Prediction Model of Adolescent Exercise Behavior, and concluded that there is a strong correlation between how much power one feels they have over their own conduct and their actual actions [12].

Many studies have confirmed the positive effect of subjective norms on behavioral intentions. As Chen and Tung (2014) found in their research on the relationship between environmental concerns and perceived moral obligations in predicting consumers' intentions to visit green hotel, TPB theory and questionnaires confirmed that consumers' environmental concerns do positively influence their subjective norms towards green hotels [13]. Jalilvand and Samiei (2012), in their study of the effect of electronic word of mouth (e-WOM) on consumers' choice of tourist destinations, investigated the effect of e-WOM on subjective norms and travel intentions to visit Isfahan through TPB theory and structural equation modeling procedures. Their findings indicated that e-WOM has a significant positive effect on subjective norms and travel intention to visit Isfahan [14]. Tan and Goh (2017) in their research on the determinants of consumers' willingness to buy energy-saving household appliances (Penang population, Malaysia), through the application of TPB's subjective norms and self-administered questionnaires, also showed that subjective norms are predictors of consumers' willingness to buy [15].

Therefore, some previous studies have proved that TPB theory can predict and explain individual behavioral intentions.

2.3. Theory of Planned Behavior

Some studies have hypothesized the factors and purposes of the occurrence of consumer behavior and social media use behavior in college through the Theory of Planned Behavior, suggesting that the Theory of Planned Behavior can be applied to the study of college students' cyber-violence behavior. Finally, this paper will collect data on whether university students can control themselves from cyber violence or control their emotions after experiencing cyber violence, and combine the data from the first two factors to analyze the degree of intention to commit cyber violence among university students, and to explore the causes and mechanisms of cyber violence and how to effectively prevent

it. The study also explores how to prevent the occurrence of cyber violence and how to reassure the victims so that they remain psychologically healthy.

3. Methodology

3.1. Research Design

In terms of experimental design, this study used a quantitative study in the form of a questionnaire. Questionnaires can cover a wide range of aspects, and the variables involved in this study are attitudes, subjective norms, perceived behavioural control, and behavioural intentions. The questionnaire can be distributed to many subjects at the same time, and the subjects can think independently to answer the questions in a freer state, which makes the conclusions more objective to a certain extent; the results obtained from the questionnaire can be analysed quantitatively at different levels.

3.2. Data Collection

In this questionnaire, questionnaire was used to rewrite the questions, and a total of 20 "7-point items" (1 = "strongly disagree" and 7 = "strongly agree") were asked of the respondents to fill in the factors that influence cyber violence. The independent variables were subjects' attitudes toward cyber violence, subjective norms, and perceived behavioral control; the dependent variable was the behavioral intention of engaging in cyber violence. For each variable, there are 5 questions. The complete questionnaire was distributed through the Questionnaire Star platform. All subjects were college students from China, and the sample size was 211 excluding incomplete data (see Table 1).

Table 1: Questionnaire.

Variables	Items	Questions
Attitude	ATT1	Engaging in online bullying makes me feel good about myself
	ATT2	I think it is okay for students to make fun of other students, call them names and insult them online
	ATT3	In some cases, a student deserves to be bullied online by other students
	ATT4	I believe that it is crucial for students to stand up for themselves when faced with bullying online
	ATT5	Intervening or preventing against cyber bullying is a good and positive thing to do for the bullied victim
Subjective Norms	SNO1	I feel like I should do according to what my friends think at any period of time
	SNO2	I value what the adults in the school like administrations, teachers and staff think and their opinions
	SNO3	Significant others in my life, like my parents, uncle, aunt, grandparents and teachers would not approve of me stepping out of line when dealing with others online during the school period or any other period
	SNO4	My closet peers would disapprove of me interacting without civility online at any time, now or in the future
	SNO5	Individuals whose opinion I value, like a brother/sister and friends engage in online harassment

Table 1: (continued).

Perceived Behavior Control	PBC1	when in trouble, I can usually extricate myself out of it
	PBC2	when confronted with problems, I can usually come up with several solutions
	PBC3	I easily get angry with things that are minor to others
	PBC4	Faced with oppositions, I can usually determine ways to get my away
	PBC5	I usually remain calm when faced with difficulties by using my coping abilities
Behavioral Intention	BIN1	My non-involvement in bullying behavior saves lives, prevents trauma, distress, depression and discomfort of others
	BIN2	I feel that I should retaliates to those who harass or threaten me online
	BIN3	People whose opinions I value are bullying me online
	BIN4	In the face of difficulties, I usually use my coping skills to stay calm
	BIN5	Students should stand for themselves when experiencing bullying online

3.3. Data Analysis

Through a panel of online survey participants, the data for this study was gathered. A worldwide research company with vast expertise in business and academic opinion research, Questionnaire Star, conducted the web-based survey. Quotas were established based on gender and age in order to overcome the restrictions of Internet users and to guarantee a representative sample. When it came to age and gender, demographic data revealed that the respondents were between the ages of 18 and 25 (M=20.34, SD=1.27), and that 56% of them were female. The data obtained were analysed for validity, reliability, correlation, and regression analysis using SPSS software to analyse the respondents' opinions about the reasons for generating cyber violence.

Table 2: Frequency.

		Number	Percentage	Total
Gender	Male	91	43%	
	Female	118	56%	
	Asexuality	2	1%	211
Age	1994-1999	23	11%	
	2000-2004	188	89%	

4. Results

The results of this study are divided into four parts, namely, reliability analysis, validity analysis, correlation analysis, and regression analysis.

4.1. Reliability Analysis

Reliability analysis refers to the reliability, the degree of consistency, or the reliability of research results. Reliability analysis is used to measure whether the sample answers in the questionnaire are reliable or not, and to test whether the participants answer carefully. According to the results of the reliability analysis, the higher the reliability of the test, the more reliable the results are. According to the data in the following table, the reliability coefficient value of this study is 0.937. If the value is greater than 0.8, the reliability quality of the data in this study is high and can be used for further analysis and research. In addition, the reliability analysis results of independent variables in this study -- attitude, behavioural norms, perceived behavioural control, and behavioural intention of dependent variables are as follows (See Table 3).

Table 3: Reliability statistics.

Variable	Cronbach's Alpha	N of Items
Attitude	.786	5
Subjective norms	.770	5
Perceived behavior control	.820	5
behavior intention	.719	5
Total	.937	20

4.2. Validity Analysis

Validity analysis is used to analyse the validity and accuracy of questionnaire design and measure the rationality of the design of questions in the questionnaire. Invalidity analysis, according to the data in the following table, KMO is 0.944 and greater than 0.7, indicating that there is a certain relationship between the independent variables designed in the questionnaire and the questionnaire's effectiveness. Sig data was less than 0.001, indicating compliance with factor analysis criteria. Therefore, it can be seen that the questionnaire has high validity and accuracy (See Table 4).

Table 4: KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.944
Bartlett's Test of Sphericity	Approx. Chi-Square	3184.390
	df	190
	Sig.	.000

4.3. Correlation Analysis

Correlation analysis refers to the analysis between independent variables and dependent variables, to measure the degree of correlation between two variable factors. The correlation analysis results of this study are shown in the table below. According to the correlation analysis results of this questionnaire, the correlation coefficient is between -1 and 1, so it meets the standard. In addition, the absolute value of the test results of this questionnaire is about 0.83, while the maximum absolute value is 1. Therefore, the larger the absolute value is, the correlation between variables is relatively close. According to the data of the questionnaire test results, the data with significance <0.001 indicates that the data is significant, and the correlation between variables in this study is positive.

Table 5: Correlations.

		behavior intention	Perceived behavior control	Subjective norms	Attitude
behavior intention	Pearson Correlation	1	.835**	.849**	.804**
	N	211	211	211	211
Perceived behavior control	Pearson Correlation	.835**	1	.846**	.775**
	N	211	211	211	211
Subjective norms	Pearson Correlation	.849**	.846**	1	.849**
	N	211	211	211	211
Attitude	Pearson Correlation	.804**	.775**	.849**	1
	N	211	211	211	211

4.4. Regression Analysis

Regression analysis is an analytical method to study the influence of independent variables on dependent variables. In this study, the model fitting situation is analysed firstly, that is, the model fitting situation is analysed by the R square value. R square is the explanation of the independent variable to the dependent variable. According to the data in the following table, the R square is 0.782, and the R square after adjustment is 0.779, which is close to the adjusted R square. It can be seen that the data in this study are relatively stable. Then author used ANOVA to verify the hypothesis. According to the data displayed in the ANOVA table, Sig data is 0.00, with a significantly less than 0.05, indicating that the regression equation is meaningful. Finally, according to the data in the coefficient table below, the Sig data of the three independent variables are all 0.00, and the significance coefficient is less than 0.05, indicating that this variable has statistical significance for the model in this study.

Table 6: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884a	.782	.779	.65264

a. Predictors: (Constant), Attitude, Perceived behavior control, Subjective norms

Table 7: ANOVA.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	316.297	3	105.432	247.532	.000b
	Residual	88.168	207	.426		
	Total	404.465	210			

Table 8: Coefficient.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.732	.164		4.469	.000
	Perceived behavior control	.364	.062	.366	5.900	.000
	Subjective norms	.324	.069	.348	4.679	.000
	Attitude	.191	.053	.225	3.589	.000

a. Dependent Variable: behavior intention

5. Discussion

In this research, could find that network violence exerts lots of negative influence on the psychology of college students who may negate the behavior of network violence, but there is no direct influence of attitude on the probability of occurrence of this behavior. Therefore, college students still tackle online conflicts with recourse to network violence. It is easy to notice from the scale data which have collected that most college students participate in network violence. However, some people involved in network violence are called violent parties because they want to retort or stop another behavior of network violence or because they have to use network violence to protect their reputation, such as scolding, slandering, and threatening. Thereupon, it will create a vicious cycle where people become the culprits or victims of network violence. Since the research never advocate the behavior of network violence, this research would like to propose the following suggestions according to the TPB theory in order to reduce its occurrence of it.

Firstly, suppose to change the attitude of college students toward network violence, so that they will firmly object to this behavior. Negligible as the influence of attitude is, so never ignore the role played by it. Secondly, as is indicated in this finding, the involvement of network violence for college students is associated with their subjective norms and perceived behavioral control. In light of this, it is suggested to formulate norms for the usage of the Internet, so that college students can navigate the Internet in good manners. However, if there is any uncivilized phenomenon, that should take steps to execute punishment in order to make the college students develop a normative habit for the usage of networks and create a harmonious environment for the development of such a habit from the perspective of the subjective norm.

In addition, people still need to strengthen the perceived behavioral control of college students, which is aimed at making them aware of the enormous damage and destruction of network violence. In this way, when faced with network violence, college students will consider the fact that they are unable to undertake the consequence of network violence and then reduce the occurrence of this behavior. Nevertheless, the research is still limited to certain aspects, because there are lots of influencing factors for their behavior that can't be analyzed comprehensively.

Specifically speaking, the experience and development of college students in the past also have an impact on the propensity for violence. However, people just focus on the analysis and research on adulthood instead of the bygone experience of college students. What's more, considering the various content on the Internet, that can't ensure the purity of the network environment for college students. Furthermore, this research highlights factors to control network behavior, but people overlook the

psychological counseling for college students who are victims of network violence and the psychological motives of the culprits and participants in network violence, which can be said of the limitations of the research.

6. Conclusion

Under the popularization of college education and the booming development of network technology, the paper offers a platform for various activities and exchanges to the public in myriads of portal websites. As the main groups in the usage of the network, college students may find it inevitable to have conflicts with others in the communication of a virtual network environment. Therefore, under the research background of the occasional occurrence of network violence, it conducts research on the influencing factors of network violence and studies the devastating injuries of the psychological health for both the participants and victims of the network violence. Besides, as for how to purify the network environment and implement psychological counseling for unhealthy psychological states emerging from network violence, it summarizes the attitude, subjective norm, and behavioral control of the theory of planned behavior, and discovers that most students hold a negative attitude towards network violence and think it is an ill social behavior. Although they think that they shouldn't attack people in the network according to the subjective norm, they will sometimes resort to network violence to protect their reputation or resist and object to the opinions of others.

Based on the methods of questionnaire and SPSS data analysis, this paper is analyzed the attitude of college students toward network violence and the reasons for this behavior. Finally, this paper conclude that the occurrence of network violence will cause psychological damage to the participants or victims of college students. What's more, even though college students aren't in favor of network violence, they can't completely control their behavior and try to achieve their goals with recourse to network violence, which is consistent with what research supposed before. Besides, after discussion, that supposed to create a peaceful and friendly environment for network communication, where can frequently promote correct values. Next, it can also enhance the construction of social morality in the daily learning of college students to help them better control their behavior.

Moreover, as for those who undergo network violence, people are required to find a vent for them with a patient and friendly attitude, help them defuse their negative emotions, achieve the goal of treatment and offer the college students healthy states of mind. In addition, based on the TPB theory, this paper is still capable of formulating network regulations to help college students develop splendid habits in the usage of the network from the perspective of the subjective norm which can well restrict the behavior of network violence. Furthermore, it is recommended to naturally publicize the right values on the Internet with the intention of strengthening the perception of college students, activating the function of perceived behavioral control, and limiting the behavior of network violence. Therefore, the research makes certain contributions to controlling the network violence of college students. It is the study of TPB theory that helps us find the measure of carrying out the psychological intervention of college students from the following two factors including subjective norm and perception control so as to reduce the probability of network violence.

According to hypothesis, this paper think it can cut back on the probability of the appearance of network violence among college students and contribute to a more civilized and harmonious cyber environment after the development of their subjective norms and perceived control. However, there are still some defects and limitations, because it is unavoidable to encounter self-promotion and dissimulation of facts in a society where network violence isn't approved.

What's more, that feel it impossible to precisely control the quality of content in a great network environment. Moreover, when it comes to perception control, that can't do a quantitative analysis of the repulsive degree of college students toward network violence in the aspect of perception control. In addition, in view of the fact that are lacking psychological treatment for the participants or victims

in the later stage, paper will pay more attention to the factor of psychological inducement of the violent parties and highlight the means of psychological treatment for the victims in future research.

References

[1] China Internet Network Information Center (2021) The 47th statistical report on the development of Internet in China.

[2] Li T.T(2021). research on the Countermeasures of online violence management of fan groups from the perspective of we media. Vol 5, pp:22-26.

[3] Mu X.X (2012). social impact and control of cyber violence.

[4] Jiang G.N. (2012). Adolescent cyber violence: an interactive construction behavior between online community and individual living environment Journalism University, pp: 116-124.

[5] Wang G.F., Fang Yu, J. Zhou G.Y., Yuan S.S., Wang X.X, Su P.Y. (2015). A study on the relationship between Internet bullying and suicide related psychological behavior of middle school students in Anhui Province Health research, pp: 896-903.

[6] Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In: Kuhl, J., Beckmann, J. (eds) Action Control. SSSP Springer Series in Social Psychology. Springer, Berlin, Heidelberg.

[7] Ajzen, I. (1985), "From intentions to actions: a theory of planned behavior", in Kuhl, P.D.D.J. and Beckmann, D.J. (Eds), Action Control, Springer, Berlin and Heidelberg, pp. 11-39.

[8] Buhmann, & Brønn P. S., (2018) Applying Ajzen's theory of planned behavior to predict practitioners' intentions to measure and evaluate communication outcomes. Corporate Communications, pp:377–391,2018.

[9] Yang Y.X., Wu Y., Liu Y.Y（2018）. Research on College Students' travel mode choice behavior based on planned behavior theory 2018. (08)

[10] Li J.C.（1999）, A comparative study of rational behavior, planned behavior and social cognitive theory in predicting physical exercise behavior [j] Journal of Tianjin Institute of physical education, 1999 (02)

[11] Yang J., Liu Z.L., Ji T., etc（2020）The relationship between exercise intention and behavior of College Student- - the explanatory role of executive function [j] Journal of Fujian Normal University (PHILOSOPHY AND SOCIAL SCIENCES EDITION) 2020(03)

[12] Fang M., Sun Y（2010）. Generalization of planned behavior theory: prediction model of adolescent exercise behavior [j] Journal of Tianjin Institute of physical education, 2010,25 (03)

[13] Chen, & Tung, P.-J. (2014). Developing an extended Theory of Planned Behavior model to predict consumers' intention to visit green hotels. International Journal of Hospitality Management, 36, 221–230. https://doi.org/10.1016/j.ijhm.2013.09.006

[14] Jalilvand, & Samiei, N. (2012). The impact of electronic word of mouth on a tourism destination choice: Testing the theory of planned behavior (TPB). Internet Research, 22(5), 591–612. https://doi.org/10.1108/10662241211271563 （04）

[15] Tan, Ooi, H.-Y., & Goh, Y.-N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. Energy Policy, 107, 459–471. https://doi.org/10.1016/j.enpol.2017.05.027