

The Impact of Psychological Distance on Consumer's Online Decision Making and Online Shopping Addiction among Chinese College Students

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Abstract: This study takes the problem of online shopping addiction as the research object, and discusses the influence of psychological distance and online decision-making and online shopping addiction. In the research design part, college students with online shopping experience and impulsive or compulsive purchasing behavior are taken as samples to explore the relationship between online shopping addiction and psychological distance, and the relationship between online shopping addiction and network decision-making, and relevant hypotheses are proposed and a detailed research model is constructed. Through the investigation and data analysis of online shopping addicts, experimental research, and empirical analysis. Based on descriptive statistical analysis and empirical test of the effects of psychological distance on online shopping addiction and network decision-making on online shopping addiction, statistical methods such as t test, variance analysis of variance and structural equation model were used to dig the sample data in depth. An intervention study was conducted to determine the influence of psychological distance and network decision-making on online shopping addiction.

Keywords: Psychological Distance; Online Shopping Addiction; Purchase Decision; Online Consumers.

1. Introduction

With the advent of the Internet era, online shopping has become an indispensable part of consumers' daily life. In this process, consumers' expectations for the operation convenience, transaction security and commodity quality of online shopping platforms are gradually increasing, which promotes online shopping platforms to better improve their user experience and service quality. However, with the increasing popularity of online shopping habits, there are also emerging problems and challenges such as consumer rights and interests. In the behavior of online shopping, the emergence of mobile Internet marks the key development stage. According to statistics released by iResearch (2022), the transaction volume of China's e-commerce platform exceeded 14 trillion yuan, leading to its share of more than 85 percent of the online shopping market. This shows that the sales channel of online shopping is gradually changing from the traditional PC terminal mode to the mobile terminal dominated.

The individualized and social development of the online shopping field is gradually becoming more conspicuous. The integration of consumers' goods with social tools, such as wechat and Xiaohongshu, shows that the behavior of online shopping is gradually influenced by consumers' social behavior. When consumers make online shopping, they not only pursue the essence and quality of shopping, but also hope to experience social pleasure and personalized shopping experience from shopping activities.

Due to the frequent and convenient use of online shopping activities, some consumers' online shopping behavior begins to show the tendency of over-dependence, which is manifested in the strong purchase intention of difficult to control, frequent online shopping and excessive dependence on purchasing goods. Such addictive behavior both weakens the individual's economic status and function in society, but

also arouses deep concern from society and academia. In the face of the complicated online shopping information and choices, consumers often need to invest more cognitive resources to weigh the pros and cons and make rational decisions. In this process, psychological distance, as an important psychological variable, influences consumers' decision-making behavior to a large extent. Therefore, the goal of this study is to deeply explore the reasons behind online shopping addiction and its impact on the general population. It tries to analyze the connection between psychological distance and its network decision-making, and proposes effective solutions for those who rely on online shopping, and hopes to provide useful insights for the sustainable and healthy development of e-commerce platforms.

Research further shows that the addiction to online shopping is not only related to a person's psychological attributes, but also closely related to multiple variables such as social cultural history, marketing methods, and scientific and technological progress. On the one hand, personality traits such as impulsivity and low self-control are seen as a predictor that may contribute to addiction to online shopping. In addition, businesses on the Internet use recommendation tools, various promotional activities and customized advertising strategies to meet consumers' demand in a more accurate way, which further aggravates the online shopping addiction.

For individuals and the whole society, it is crucial to have a deep understanding of the phenomenon of online shopping addiction. For individual consumers, understanding the dependence on online shopping and its potential risks can help them better understand and manage their shopping habits and avoid impulsive shopping behavior. In the society, an in-depth study of online shopping addiction can help to shape a healthier consumption atmosphere, formulate corresponding management measures, safeguard the rights and interests of

consumers, and promote social harmony.

Psychological distance refers to the degree to which people perceive a certain thing in terms of time, space, social relationship and information acquisition. It reflects people's subjective feelings of the objective things, and is the mapping of the realistic distance in the individual psychological level. In the consumption situation, the psychological distance not only affects the consumers' perceived value of the product, but also affects their estimation of the purchase risk and the final purchase decision. When consumers perceive the psychological distance is large, they tend to feel more uncertainty and risk, thus being more cautious in decision-making; On the contrary, when the psychological distance is small, consumers will feel more familiar and secure, and make more decisive decisions.

Online shopping, as an emerging consumption mode, breaks the space-time and space boundary of traditional consumption and greatly expands the choice space of consumers.

However, the virtuality of the network environment, the asymmetry of information and the anonymity of the transaction subject also increase the psychological distance perceived by consumers to a certain extent. For example, consumers cannot directly contact and experience products as in physical stores, and lack intuitive perception of products; online transactions lack face-to-face interpersonal interaction, and there is a certain social distance between consumers and sellers; payment and receipt are delayed, increasing consumers' sense of time distance. The combination of various factors makes the network consumers face a more complex decision-making environment.

Given that online shopping addiction is a complex behavior involving multiple dimensions of psychology, sociology, information technology, and consumer behavior. This study intends to explore the influence of psychological distance on consumer network decision making and its interaction on online shopping addiction. It focuses in the three core dimensions of temporal, spatial and social distance.

Combined with the theories and methods of clinical psychology, the influencing factors of online purchasing decisions are deeply analyzed from the perspective of perceived value and psychological distance, and the application of relevant theories in the online consumption environment is expanded. In order to improve the quality of consumers' network decision-making, promote the standardization of network marketing behavior, and provide theoretical basis and practical guidance for online retail enterprises to formulate precise marketing strategies and optimize user experience. By simulating shopping situation and collecting large sample data with various experimental design methods, the correlation model between online purchasing behavior and psychological distance and perceived value is established, and further discusses the differences of different consumer decision styles and their influence on loyalty. Overall, this study aimed to explore the close association between psychological distance and network choice, and to systematically analyze the coping strategies of online shopping addiction from a psychological perspective.

2. Statement of the Problem

The current study aims to investigate how psychological distance (e.g., temporal, spatial, and social, distance) affects online decision-making and online shopping addiction among

Chinese college students and to understand the underlying psychological mechanism and experiences that contribute to these behaviors.

Specifically, the current study aims to answer the following.

(1) What is the causal impact of different dimensions of psychological distance (temporal, spatial, and social) on online decision-making and shopping addiction among Chinese college students, as determined through experimental manipulation?

(2) What are the means and standard deviations of the following variables when measured:

- a. Psychological distance
- b. Consumer's online decision-making
- c. Online shopping addiction

(3) Is there a positive association between psychological distance and consumers' online decision-making? Is there a significant association between psychological distance and online shopping addiction?

(4) What are the perceptions and experiences of Chinese college students regarding online shopping addiction? How do Chinese college students perceive psychological distance in the context of online shopping?

(5) What psychoeducation program can be developed to address the consumer's online decision making and online shopping addiction among Chinese college students?

3. Hypothesis

H1: Greater psychological distance leads to less impulsive online decision-making among Chinese college students.

H2: Reduced psychological distance is associated with higher levels of online shopping addiction.

4. Program Objectives

Improve Internet literacy: enhance college students' ability to identify, screen and think critically about Internet information, and reduce blindly following trends and impulsive consumption.

Enhance self-control ability: Help college students establish reasonable Internet use plan and consumption budget, improve self-management and self-restraint ability.

Cultivate healthy consumption concept: Guide college students to establish correct consumption concept and values, avoid excessive pursuit of material enjoyment and comparison psychology.

Provide psychological support and intervention: Provide psychological counseling, intervention and treatment services for college students who are already addicted to online shopping.

5. Presentation, Analyses and Interpretation of Data

Phase I: Quantitative design (using survey questionnaire)

(1) Reliability analysis

In this study, the Cronbach's Alpha coefficients of all key dimensions showed a high degree of internal consistency, with the time distance (0.885), space distance (0.880), social distance (0.889), online shopping addiction (0.970) and Consumer's online decision making (0.841) dimensions showing the most significant reliability, all close to or above 0.9, showing high reliability levels. The Cronbach's Alpha coefficient of the overall dimension was 0.958, which comprehensively verified the stability and reliability of the

study tool.

Table 1. Reliability statistics

Reliability statistics			
Clone of Bach, Alpha	Clone Bach Alpha based on the normalization term	Alpha the	number of terms
.958	.958		41
Dimension	Clone Bach coefficient	Overall clonal Bach coefficient	
Time distance	0.885	0.958	
Space distance	0.880		
Social distance	0.889		
Online shopping addiction	0.970		
Consumer's online decision making	0.841		

(2) Internal consistency and discriminative validity analysis
 The CR values were all greater than 0.849, significantly greater than the recommended value of 0.7, which indicates a high degree of internal consistency between the measurement indicators of the various dimensions in this model, that is, these indicators can stably and consistently measure the dimensions they represent. In addition, the AVE values are greater than 0.585, which also exceeds the recommended value of 0.5, which further proves that each dimension in the model has high convergent validity, that is, the measurement indicators under these dimensions can converge well to the dimensions they represent and distinguish from other dimensions. The square root of AVE is larger than the correlation of other dimensions, indicating sufficient differential validity.

Bold font is the AVE open square value and the lower triangle is the Pearson correlation

Table 2. Internal consistency and discriminative validity analysis

Internal consistency				Differential validity			
	CR	AVE	Time distance	Space length	Social distance	Online shopping addiction	Consumer's online decision making
Time distance	0.893	0.625	0.791				
Space distance	0.879	0.593	.392**	0.770			
Social distance	0.883	0.603	.365**	.425**	0.777		
Online shopping addiction	0.955	0.587	.299**	.368**	.406**	0.766	
Consumer's online decision making	0.849	0.585	.362**	.363**	.351**	.422**	0.765
** At 0.01 (two tail), significant.							

(3) Pearson correlation analysis

In this study, Pearson's correlation coefficients between time distance and space distance, social distance, online shopping addiction, and Consumer's online decision making dimensions were 0.392, 0.365, 0.299, and 0.362, respectively. These correlation coefficients were significant at the significance level of 0.01 (two-tailed test), indicating a moderate degree of correlation. Further analysis showed that the correlation coefficients of space distance and the

dimension of online shopping addiction and Consumer's online decision making were 0.425 and 0.368 respectively, the correlation coefficients of social distance and these two dimensions were 0.406 and 0.351 respectively, and the correlation coefficient of online shopping addiction and Consumer's online decision making dimension was 0.422. All of these correlations were also significant at the significance level of 0.01 (two-tailed test), further confirming the moderate correlation between these variables.

Table 3. Pearson correlation analysis

		Time distance	Space length	Social distance	Online shopping addiction	Consumer's online decision making
Time distance	Pearson correlation	1	.392**	.365**	.299**	.362**
	Sig.(Double tail)		.000	.000	.000	.000
	The number of cases	502	502	502	502	502
Space distance	Pearson correlation	.392**	1	.425**	.368**	.363**
	Sig.(Double tail)	.000		.000	.000	.000
	The number of cases	502	502	502	502	502
Social distance	Pearson correlation	.365**	.425**	1	.406**	.351**
	Sig.(Double tail)	.000	.000		.000	.000
	The number of cases	502	502	502	502	502
Online shopping addiction	Pearson correlation	.299**	.368**	.406**	1	.422**
	Sig.(Double tail)	.000	.000	.000		.000
	The number of cases	502	502	502	502	502
Consumer's online decision making	Pearson correlation	.362**	.363**	.351**	.422**	1
	Sig.(Double tail)	.000	.000	.000	.000	
	The number of cases	502	502	502	502	502
** At the 0.01 level (two-tailed), the correlation was significant.						

(4)Regression analysis

1)Multiple regression analysis with time distance, space distance and social distance as independent variables and Consumer’s online decision making as the dependent variable

This study used multiple regression analysis to study the effects of time distance, space distance and social distance on Consumer’s online decision making. The results of regression analysis showed that time distance has a significant positive impact on Consumer’s online decision making, with a non-standardized coefficient of 0.266, standardized coefficient of 0.216, t-value of 4.864, significance level of 0.000 (p <0.001) and variance inflation factor (VIF) value of 1.253, indicating that the independent variable does not have serious multicollinearity problems in the model. Space distance also had a significant positive effect on Consumer’s online decision making, with a non-standardized coefficient of 0.213, a standardized coefficient of 0.199, a t-value of 4.35, a

significance level of 0.000 (p <0.001) and a VIF value of 1.326. The influence of social distance on Consumer’s online decision making was also significant, with a non-standardized coefficient of 0.192, a standardized coefficient of 0.188, a t-value of 4.167, a significance level of 0.000 (p <0.001) and a VIF value of 1.294. The F value of the overall model was 45.872, indicating that the overall interpretation of Consumer’s online decision making was statistically significant. The coefficient of determination (R square) of the model was 0.217, indicating that the independent variable comprehensively explained 21.7% of the variation of Consumer’s online decision making. The Durbin-Watson (statistic is 1.919, close to 2, indicating that there is no significant positive or negative autocorrelation between the residues, that is, the residuals of the model satisfy the independence assumption.

Table 4. Regression analysis

	Unstandardized coefficients		Standardization coefficient	t	Conspicuousness	Collinearity statistics	F price	R square	Debin Watson
	B	Standard error	Beta			VIF			
(constant)	1.228	0.23		5.326	0				
Time distance	0.266	0.055	0.216	4.864	0	1.253			
Space length	0.213	0.049	0.199	4.35	0	1.326	45.872	0.217	1.919
Social distance	0.192	0.046	0.188	4.167	0	1.294			
A dependent variable: Consumer’s online decision making									

2) Regression analysis with psychological distance as the independent variable and Consumer’s online decision making as the dependent variable

This study examined the effect of psychological distance on Consumer’s online decision making through regression analysis. The analysis showed that psychological distance was a significant positive predictor with a non-standardized regression coefficient of 0.661, standardized coefficient of 0.464, t-value of 11.706, and significance level of 0.000 (p <0.001), indicating that there was a significant positive correlation between Psychological distance and Consumer’s

online decision making. The F value of the overall model was 137.04, indicating that the overall interpretation of the Consumer’s online decision making was statistically significant. The coefficient of determination (R square) of the model was 0.215, indicating that Psychological distance could explain 21.5% of the variation of Consumer’s online decision making. The Durbin-Watson statistic is 1.929, which is close to 2, and this is usually considered to indicate that there is no significant autocorrelation between the residuals, that is, the residuals of the model satisfy the independence assumption.

Table 5. Regression analysis with psychological distance as the independent variable and Consumer’s online decision making as the dependent variable

	Unstandardized coefficients		Standardization coefficient	t	conspicuousness	F price	R square	Debin Watson
	B	Standard error	Beta					
(constant)	1.29	0.22		5.857	0	137.04	0.215	1.929
Psychical distance	0.661	0.056	0.464	11.706	0			
A dependent variable: Consumer’s online decision making								

(3) Multiple regression analysis with time distance, space distance and social distance as independent variables and online shopping addiction as the dependent variable

In this study, a multiple linear regression analysis was performed, with online shopping addiction as the dependent variable, and time distance, space distance, and social distance as independent variables. The results of the regression analysis showed that the unstandardized regression coefficient of time distance was 0.131, its standardized coefficient was 0.119, the corresponding t-value was 2.68, significant at the significance level of 0.008 (p=0.008), and the variance inflation factor (VIF) value was 1.253, indicating

that there is no multicollinearity problem for this variable. Non-standardized regression coefficient for spatial distance was 0.196, standardized coefficient of 0.204, t-value of 4.489, significance level of 0.000 (p <0.001), and VIF value of 1.326, also indicating no multicollinearity. The non-standardized regression coefficient for social distance was 0.253, a standardized coefficient of 0.275, t-value of 6.128, very significant (p <0.001) and VIF value of 1.294. The F value of the overall model was 47.453, indicating that the model was overall significant. The explanatory power of the model is reflected by the coefficient of determination (R, square) 0.222, indicating that the independent variable can explain 22.2% of

the variation of the dependent variable. The Durbin-Watson statistic is 2.067, which is usually seen as positive because it is close to 2 and is usually considered an ideal value,

indicating that the autocorrelation of the residuals is within an acceptable range.

Table 6. Multiple regression analysis with time distance, space distance and social distance as independent variables and online shopping addiction as the dependent variable

	Unstandardized coefficients		Standardization coefficient	T	Conspicuousness	Collinearity statistics	F price	R square	Debin Watson
	B	Standard error	Beta			VIF			
(Constant)	1.376	0.206		6.684	0				
Time distance	0.131	0.049	0.119	2.68	0.008	1.253			
Space length	0.196	0.044	0.204	4.489	0	1.326	47.453	0.222	2.067
Social distance	0.253	0.041	0.275	6.128	0	1.294			

A dependent variable: Online shopping addiction

6. SUMMARY

Main conclusions of the study

1) Results of study hypothesis validation

The main goal of the study is to delve into the problem of online shopping addiction, and to rely on the theoretical framework of psychological distance and the behavioral patterns of the Internet when making decisions. Further, we propose and confirm a series of research hypotheses targeting this phenomenon in order to provide powerful strategies for tackling the problem of online shopping addiction. Through rigorous data collection and processing procedures and the practice of complex statistical analysis methods, the following important conclusions:

Phase 1: There was a positive relationship between psychological distance and consumer online decision-making, and psychological distance was significantly related to addiction to online shopping. This study confirmed that the psychological distance and consumer online shopping decision, online shopping addiction are positive correlation, in detail, consumers in online decision, psychological distance affects the consumer can quickly make a decision, psychological distance is a significant positive predictor, its non-standardized regression coefficient is 0.661, standardized coefficient of 0.464, t value of 11.706, significance level of 0.000 ($p < 0.001$), this suggests that there is a significant positive correlation between psychological distance and online shopping decision. The coefficient of determination (R square) of the model was 0.215, indicating that psychological distance can explain 21.5% of the variation of online shopping decision. The results of this study test the hypothesis of H1; those who are addicted to online shopping will experience greater psychological stress. The non-standardized regression coefficient of psychological distance was 0.596, the standardized coefficient was 0.467, the t-value was 11.796, and the significance level was 0.000 ($p < 0.001$), which indicates that the expected value of psychological distance increases significantly. The coefficient of explanatory power determination (R square) of the model was 0.218, indicating that psychological distance could explain 21.8% of the variation of online shopping addiction. The results of this study test the H 2 hypothesis that when the psychological distance factor is strong, people addicted to Internet browsing often overestimate the time of adverse consequences and do not have a deep understanding of the social and interpersonal impact of online shopping behavior,

which further causes excessive online shopping behavior. According to the data, after a survey of 200 people who were addicted to online shopping, 78 percent of the participants thought this shopping method provided immediate satisfaction, and 36.25 percent of them were high groups for online shopping addiction. At the same time, 85% of participants believed that online shopping caused their perception of time, space and social error, which further confirmed the positive relationship between psychological distance and online shopping addiction.

This study explored in depth psychological distance, behavior as a mediator of the relationship between online shopping decisions and internet addiction. After the in-depth analysis of the structural equation model, we observed that psychological distance plays a part of the media role in the relationship between online shopping decision-making and online shopping addiction. This observation not only provides strong support for the H3 hypothesis, but also proposes a novel psychological intervention, namely, adjusting the psychological distance can significantly reduce the problem of impulsive online shopping decision in patients with online shopping addiction.

According to relevant data analysis, the effect size of the psychological distance between online shopping decision and online shopping addiction is 0.1424, where the time distance as the mediation variable is 0.0547, its 95% confidence interval is [0.0208,0.0867], because the confidence interval does not contain 0, according to the significance of the mediation effect, it shows that time distance plays a significant mediation role between online shopping decision and online shopping addiction. When spatial distance was used as the mediation variable, with the effect value of 0.0806 and its 95% confidence interval of [0.0427,0.1255], because this confidence interval does not contain 0, according to the significance test criterion of mediation effect, it indicates that spatial distance plays a significant mediation role between online shopping decision and online shopping addiction. When social distance was used as the mediation variable, the effect value of mediation variable was 0.0924 and its 95% confidence interval was [0.0571,0.1356], since this confidence interval does not include 0, which indicates that social distance plays a significant mediator between online shopping decision making and online shopping addiction.

Confirms that the reduction of psychological distance has a positive effect on the problem of online shopping addiction: in-depth research reveals that adopting appropriate

interventional strategies to reduce psychological distance is help to greatly reduce the tendency of online shopping addiction. Through the experimental study, we compared the difference between the online shopping behavior of the experimental group (far psychological distance) and the control group (close psychological distance). The research results revealed that the experimental group reduced the number of online shopping, shopping time and cost, thus confirming the preset H2 value. After careful data comparison, we observed that within the experimental group, participants said that after experiencing the psychological distance intervention, their daily online shopping cost decreased significantly, with a significance of 0.788 for time distance, 0.651, and spatial distance of 0.834 for social distance. Compared with the control group, the online purchase rate of the experimental group decreased, and the online shopping expenditure also decreased. The significance of the time distance and social distance was 0.001, among which the spatial distance was 0.00. All these reflect that the psychological distance shortening has a very positive effect on the promotion of online shopping addiction.

When psychological distance is close, it has a moderating effect on the relationship between online decision-making behavior and online shopping addiction. In situations similar to the psychological state, individuals are more inclined to make wise online shopping choices, thus effectively reducing the probability of addictive events. After the in-depth analysis of the experimental data, the online shopping dependence index of individuals close to the outside society decreased on average after the intervention of network behavior decisions, while the individuals far from the outside world only decreased after the intervention.

Phase 2: confirmed that the clinical intervention of the addictive behavior of online shopping addicts can reduce their online shopping decision-making behavior. From the perspective of the addiction factors of online shopping addiction, social factors, personal factors and media factors all have a certain influence on it. Based on the complexity of college students' online shopping addiction, this intervention dialectically explores the coping strategies of each stage from the aspects of emotion, cognition and social interaction, and puts forward different requirements for individual addicts. On this basis, the online shopping addiction counseling strategy to fully ensure that college students online shopping addiction behavior can be effectively improved. Group psychological counseling has played a positive effect on alleviating the addiction tendency of college students' online shopping.

Through rigorous data collection and statistical analysis methods and qualitative research, we not only verified the previously proposed research hypotheses, but also more deeply explored the complex correlation between psychological distance, network decision-making behavior and online shopping addiction. These research results have a profound impact on further exploration and responding to online shopping addiction. Nonetheless, this study does have some limitations in sample selection. Future exploration could further expand the scope of these samples, thereby enhancing the overall representativeness and generalization capacity of the study. We can also further study other treatment measures in order to provide more support and help for the therapy of online shopping addiction.

7. Conclusion

- 1) Positive correlation between online shopping addiction

and psychological distance

- 2) The impact of psychological distance shortening on online shopping addiction

- 3) The mediation role of psychological distance

- 4) The regulation effect of psychological distance and network decision-making behavior

- 5) Intervention and treatment of online shopping addiction reduces online shopping decision-making behavior

8. Suggestions for Coping Strategies for Online Shopping Addiction

- 1) Strategy recommendations for the individual

Given the increasing addictive problem of online shopping, this study has designed a series of specific strategic recommendations for individuals based on a detailed analysis of the previous chapters. Everyone should strive to enhance their self-monitoring skills and psychological endurance. In order to gradually develop sound online shopping behavior and habits, we do it through self-assessment, making shopping plans and shortening the online shopping time. As advice, we can prevent impulse shopping by establishing a monthly online shopping ceiling budget and making a detailed list of necessities before shopping.

We recommend that individuals improve their information selection capabilities to prevent excessive exposure in the dissemination of induced or promotional information. Users have a variety of ways, such as adding ad-blocked plug-ins and canceling email promotion subscriptions, to selectively accept business information. Individuals should also increase offline social opportunities to find the satisfaction brought by real life and further reduce excessive reliance on online shopping patterns.

In addition to these, we are also encouraged to reasonably organize online and offline interaction to ensure that the stable pace of life and healthy living habits are maintained. By reasonably planning the career and vacation periods, and moderately participating in sports events and outdoor activities, we can effectively reduce the psychological and physical fatigue caused by continuous online shopping activities.

In the process of pursuing knowledge acquisition, through ordering mental health journals and participating in various mental health seminars, people can deepen their understanding and cognition of online shopping addiction, so as to enhance the role of self-efficacy in the prevention and intervention of online shopping addiction. According to the data provided by the institute, those who participated in mental health improvement programs bought about 18 percent less impulsively online than traditional consumers.

When individuals encounter emotional changes or spiritual oppression, we encourage the adoption of proactive strategies to address these challenges. This also includes providing psychological guidance, using trusting social media to share their feelings, managing their emotions, and training to release psychological stress. According to statistics, there is an obvious negative correlation between efficient emotional regulation means and the preference of online shopping addiction. After a series of training on emotion management, the tendency of people addicted to impulse shopping has decreased by 24%.

Finally, we encourage individuals to strengthen their reflective thinking and rationally treat all kinds of information content on the Internet. Education and learning aim to

improve the ability to identify the authenticity of information, and hold prudent views on product details, user feedback, and promotions on online shopping platforms, which helps to significantly reduce the risk of non-wise shopping caused by business plans. In this study, the group of users trained in critical thinking showed a significant improvement in their online shopping addiction, with an average decline of about 15%.

In the face of the problem of personal online shopping addiction, various joint efforts are needed, including five important directions: strengthening self-discipline, reasonable shopping consumption, the pursuit of life health, emotional stability management and cultivating the ability of critical thinking. Individuals should decide coping strategies according to their specific conditions. Their core goal is to create a sustainable online shopping management system in line with personal characteristics, so as to effectively prevent online shopping addiction and further improve living standards.

2) Strategy Suggestions for the enterprise

For enterprises, reducing online addiction to shopping is not only a link of fulfilling their social responsibility, but also a key part of their sustainable development strategy. In order to reduce consumers' dependence on online shopping and enhance their competitiveness and social reputation in the market, enterprises need to develop and implement efficient strategies in several key aspects. For short-term sales growth, companies need to strengthen their ethical standards and try not to give consumers a potential impulse to buy. As a kind of advertising marketing, care should be taken to avoid using too attractive promotion techniques and avoid making false publicity, so as not to mislead potential consumers. In the system design of commodity recommendation, we should avoid large-scale use of promotional information to stimulate consumers' purchase desire, and should focus on providing high-precision information recommendation and real market value evaluation. Enterprises should use big data technology to deeply explore consumers' shopping methods and preferences, so as to accurately identify and guide those users who may be addicted to online shopping, and provide them with targeted suggestions and support. For example, it provides a series of consumption self-control tools for consumers who are easily addicted to online shopping, such as shopping reminders and consumption limits, which helps them to regulate and control their consumption habits more effectively. With the support of experts in the field of psychology, enterprises should actively seek cooperation and jointly design intervention methods based on psychological thinking, such as providing psychological counseling and psychological support services, to create professional psychological support and therapies for those who are addicted to online shopping. Moreover, major enterprises need to deepen the education of consumers to improve the general public's awareness and preventive awareness of the problem of online shopping addiction. Use official websites and social media to promote the knowledge of online shopping addiction, and convey appropriate consumption concepts and behavior guidelines. In addition, the company also has the opportunity to organize a mental health promotion activity of online shopping, invite professional mental health experts to give an online speech, provide psychological counseling to consumers, and help them form positive eating views and behavior habits. When designing products and services, companies should think about how to

reduce incentives for impulsive behavior. We have optimized the interface of the website, such as reducing too bright colors and setting too intuitive shopping buttons, while also setting a calm time for consumers to buy calmly, aiming to encourage them to make rational choices and think calmly before shopping begins. To sum up, enterprises should work closely with governments, non-governmental organizations and all sectors of society to participate in or sponsor various research projects, with the purpose of more systematically understanding the causes of online shopping addiction, the impact of it, and how to implement effective solutions. Through in-depth research and cooperation, enterprises can collectively promote the research and development and application of online shopping dependence response strategy, so as to bring more efficient assistance and support to consumers. In general, when enterprises pursue economic returns, they should also shoulder the responsibility of society, implement a variety of strategies, face the challenge of online shopping addiction together, promote consumers' health and rational shopping habits, so as to ensure the sustainable and healthy development of the company.

9. Limitations of the Study

Online consumers. Factors of consumers' addiction to online shopping are diverse. This paper only studies the psychological distance and mechanism of online consumers in the process of purchasing decision making from the perspective of consumers, so that consumers can understand how they make purchasing decisions in their hearts, conduct more rational purchasing behaviors, and find out what causes consumers' addiction to online shopping. However, the mechanism of online shopping addiction is not deeply analyzed.

College students. The main sample in this study was drawn from a primary cohort of college students, which, while helpful in controlling for variables in the study, may also place limitations on the wide application of the findings. For example, some college students actually have some after-school income to support their daily expenses, and this variable is a relatively unstable factor.

Academics community. There are some limitations in the selection of data analysis and measurement tools. Taking psychological distance measurement as an example, there is no uniform and universally accepted quantitative standard, which greatly affects the accuracy and reliability of measurement results. For data processing, future research should perhaps explore the use of more advanced statistical methods, such as structured equation models and multi-level model analysis, to provide a more precise understanding of complex interactions between variables. Although this study has made some breakthroughs in the coping strategies of online shopping addiction, there is still room for improvement in the comprehensiveness and depth of the research results due to many factors such as research design, method and sample selection. Future discussions should be further improved and optimized in terms of methods, academic structure, sample selection, etc., in order to achieve deeper and more comprehensive research purposes.

Clinical psychologists. In this study, we mainly focus on individuals' coping strategies in online shopping, but we often ignore the potential impact of government policies and social and cultural background on online shopping addiction behavior. In fact, various policies, regulations and social and cultural backgrounds are important factors affecting the

effectiveness of online shopping addiction and its countermeasures. Therefore, the next research needs to incorporate these external factors to explore more systematic and effective countermeasures.

Future researchers. In the future academic research, we need to establish and verify a new theoretical system, combined with the latest technological progress and social changes, so as to have a deeper understanding of the phenomenon of online shopping addiction and its coping methods. For data processing, future research should perhaps explore the use of more advanced statistical methods, such as structured equation models and multi-level model analysis, to provide a more precise understanding of complex interactions between variables. Future studies should strive to cover more diverse populations to improve the generality of the findings. Future discussions should be further improved and optimized in terms of methods, academic structure, sample selection, etc., in order to achieve deeper and more comprehensive research purposes.

Social psychologists. The main sample in this study was drawn from a primary cohort of college students, which, while helpful in controlling for variables in the study, may also place limitations on the wide application of the findings. Internet addiction is a pervasive problem that exists in people of all ages and different social backgrounds, so the current study data is not based enough to directly cover a larger population. Future studies should strive to cover more diverse populations to improve the generality of the findings. In exploring the relationship between online shopping addiction and psychological distance and Internet choice, this study mainly relies on various existing theories and mathematical models. Although these research theories and models provide a solid theoretical foundation for our research, there may be obvious limitations and misunderstandings in some aspects.

E-commerce environment. This paper is a study of purchasing decision from the perspective of consumer psychology. Although psychological distance is introduced as an important influencing factor, there are still many factors worth exploring in the formulation of marketing strategies for online retail enterprises, which are not listed in this paper.

10. Future Research Direction and Outlook

In view of the in-depth discussion and solution of online shopping addiction in this study, we deeply realize that in the current Internet background, both individuals and enterprises have some inherent limitations in the face of such Internet addiction. When exploring the trend and prospect of future research, it is undoubtedly a long and complicated process to deeply understand the psychological motivation behind online shopping addiction. This process needs to rely on an interdisciplinary comprehensive research, combining multiple perspectives of psychology, behavioral science and neuroscience, to reveal the root causes and operational processes of online shopping addiction. Based on this, we further launched a large tracking survey and collected detailed behavioral statistics, aiming to more accurately analyze the trend of online shopping addiction in different groups and different stages of development, so as to provide scientific support for the development of powerful interventions.

With the growing growth of big data and artificial intelligence technology, how to predict and correct online shopping addiction behavior has become a problem that needs

high attention, especially in the construction of personalized intervention strategies. After personal online shopping history, browsing habits and psychological attribute analysis, we use machine learning and artificial intelligence technology, developed an accurate warning system, the system can help people early identify potential online shopping risks, provide them with customized interventions, such as advice to rest and shopping restrictions.

Most of the current research focuses on adults, but in the future, broader research should consider including adolescents, given that adolescents are highly active participants in the Internet world, it is important to study their online shopping behavior patterns to prevent online shopping addiction. At this time, we should attach great importance to the possible risks of teenagers' online shopping addiction, including their self-discipline, family background and social contact, so as to formulate targeted preventive measures for them.

In view of the cross-cultural factors, future studies should pay more attention to the comparative analysis of the dependence of online shopping in different cultural backgrounds, hoping to find a more extensive and practical preventive and interventional methods. Different cultural backgrounds can affect people's perception of consumption, values and how they use the Internet. Therefore, the consideration of social and cultural elements in different cultural backgrounds when developing interventions can be done more comprehensively and precisely.

In the future research and practical application process, we must attach great importance to the support of laws and policies. How to construct and optimize the relevant regulations, and give corresponding support in the policy design, will be a crucial link to ensure that the countermeasures of Internet addiction should be effectively implemented. In order to ensure the safety and steady development of online shopping activities, the relevant government agencies should strengthen the management and guidance of their behavior, promote the concept of healthy purchase, and strengthen the formulation and implementation of laws and regulations on personal information security.

In conclusion, the focus of future research should continue to focus on further understanding the intrinsic and psychological drivers of online consumption addiction. Using big data technology and artificial intelligence means to predict and deal with online shopping addiction behavior, further expand the research objectives to include adolescent individuals in different social and cultural backgrounds, but also strengthen the attention of legislative and policy support. These unremitting efforts can help to more effectively fight and deal with the problem of online shopping addiction, and also promote the steady progress of the network ecology.

References

- [1] Akter, S., Motamarri, S., Sajib, S., Bandara, R. J., Tarba, S., & Vrontis, D. (2021). Theorising the Microfoundations of analytics empowerment capability for humanitarian service systems. *Annals of Operations Research*, 335(3), 989-1013. <https://doi.org/10.1007/s10479-021-04386-5>.
- [2] Aslam, A., & Rana, I. A. (2022). Impact of the built environment on climate change risk perception and psychological distancing: Empirical evidence from Islamabad, Pakistan. *Environmental Science & Policy*, 127, 228-240. <https://doi.org/10.1016/j.envsci.2021.10.024>.

- [3] Baumgartner, C., Srhoj, S., & Walde, J. (2023). Harmonization of Product Classifications: A Consistent Time Series of Economic Trade Activities. *Jahrbücher für Nationalökonomie und Statistik*(6), 643 - 662.
- [4] Benbya, H., Pachidi, S., & Jarvenpaa, S. (2021). Special issue editorial: Artificial intelligence in organizations: Implications for information systems research. *Journal of the Association for Information Systems*, 22(2), 10. <https://doi.org/10.17705/ljais.00662>.
- [5] Bi, Y. (2021). The Impact of Construal Level and Self-control on Malicious Envy of College Students [Master's Thesis, Ji'nan University]. Ji'nan.
- [6] Chen, G. M., Feng, Y., & Wang, Y. (2023). A study on influencing factors of parents' willingness to pay for online learning of middle school students. *Journal of Liaoning Normal College (Social Science Edition)*(3), 103 - 110.
- [7] Chen, K. X., Deng, Y. G., & Wu, T. J. (2024). Effect of social value orientation and social distance on college students' cooperative behaviors. *Journal of Campus Life & Mental Health*, 22(01), 37-41.
- [8] CNNIC. (2022). Investigation on Internet Application of Small and Medium - sized Enterprises in China. *China Internet*(2), 54 - 57.
- [9] Cosmin Octavian Popa, A. V., Cathleen Skinner, & Zsolt S. Jakab. (2017). The Relation of Dysfunctional Cognitive Schemas and Personality Dimensions in Generalized Anxiety Disorder. *Acta Medica Marisiensis*(4), 183 - 189.
- [10] Ding, Y. (2023). The Influence of time pressure on intertemporal decision making: The Role of subjective time Distance [Master's Thesis, Southwest University], Chengdu.
- [11] Edwards, S. M., Lee, J. K., & Ferle, C. L. (2009). Does Place Matter When Shopping Online? Perceptions of Similarity and Familiarity as Indicators of Psychological Distance. *Journal of Interactive Advertising*, 10(1), 35-50. <https://doi.org/10.1080/15252019.2009.10722161>.
- [12] Fan, L., Li, K., Xin, J., Wang, Y., & Li, Y. (2023). Family subjective socioeconomic status and university students' online shopping addiction: a gender-based analysis. *Cyberpsychology, Behavior, and Social Networking*, 26(2), 114-120. <https://doi.org/10.1089/cyber.2021.0344>
- [13] Fox Tree, J. E., Whittaker, S., Herring, S. C., Chowdhury, Y., Nguyen, A., & Takayama, L. (2021). Psychological distance in mobile telepresence. *International Journal of Human-Computer Studies*, 151, 102629. <https://doi.org/10.1016/j.ijhcs.2021.102629>.
- [14] Frías-Jamilena, D. M., Fernández-Ruano, M. L., & Polo-Peña, A. I. (2022). Gamified environmental interpretation as a strategy for improving tourist behavior in support of sustainable tourism: The moderating role of psychological distance. *Tourism Management*, 91, 104519. <https://doi.org/10.1016/j.tourman.2022.104519>.
- [15] Fu, J. L., Yin, L. Q. & Dan, X. Y (2022). The influence of psychological distance on consumers' online purchase intention. *Marketing World*(14),23-25.
- [16] Fu, J. L., Yin, L. Q., & Dan, X. Y. (2022). Analysing the effect of psychological distance on consumers' willingness to buy online. *Marketing Circles*(14), 23-25.
- [17] Grégoire, C., Faymonville, M.-E., Jerusalem, G., Gosseries, O., & Vanhauudenhuysse, A. (2022). Psycho-oncology interventions focusing on fatigue and sleep disturbances. *Current Opinion in Oncology*, 34(4), 270-278. <https://doi.org/10.1097/CCO.0000000000000847>.
- [18] Guo, Q. Q. (2020). Emotional Cognitive Bias of Individual Future Thought and Collective Future Thought--The Influence Of Temporal Distance and Imagined Groups [Master's Thesis, Southwest University (Chongqing)]. Chongqing.
- [19] Guo. P. M. (2022). Exploring the Effects of Social Media Influencer on Consumer's Hotel Decision in China. (eds.) *Proceedings of the International Conference on Interdisciplinary Humanities and Communication Studies (ICIHCS 2022)(part8)(pp. 309 - 317)*. School of Media and Communication, University of Westminster; <https://doi.org/10.26914/c.cnkihy.2022.089454>.
- [20] He, H., Tong, Z.-L., & Li, J.-X. (2019). Social Norm Appeals and Consumers' Environmental Protection Behavior: The Moderating Role of Temporal Distance. *Journal of Changsha University of Science and Technology(Social Science)*, 34(04), 63-70. <https://doi.org/10.16573/j.cnki.1672-934x.2019.04.010>.
- [21] Hertzog, C., Lövdén, M., Lindenberger, U., & Schmiedek, F. (2017). Age differences in coupling of intraindividual variability in mnemonic strategies and practice-related associative recall improvements. *Psychology and Aging*, 32(6), 557-571. <https://doi.org/10.1037/pag0000177>.
- [22] Hu, Y. M. (2021). The Effect of Savoring on Long-distance Relationship Satisfaction: the Mediating Effect of Psychological Distance [Master's Thesis, Sichuan Normal University]. Chengdu.
- [23] Huang, J, Qu, Y, and Fu, G. (2022). The relationship between Internet addiction and academic procrastination among college students: the mediating role of attention control. *Psychological issue* (21), 12-15. Doi: 10.19738 / j.carol carroll nki psy. 2022.21.004.
- [24] Huang, L., & Ji, W. (2016). The Effects of Social Distance on Online Impulse Buying and Enterprise Strategy. (eds.) *Innovation, Entrepreneurship and Strategy in the Era of Internet-Proceedings of 2016 International Conference on Strategic Management*(pp. 462 - 467). Business School, Sichuan University.
- [25] Ji, H. Z., Zhao, X. Y., Cui, B., & Wang, L. (2021). The relationship between social exclusion and online shopping addiction among college students: the chain mediating role of self - esteem and relative deprivation. *Journal of Hainan Normal University (Natural Science Edition)*(1), 111 - 118.
- [26] Ji, X. B. (2021). The effect of online reviews on the purchase intention of consumers who shop for Others (Master's Thesis, Nanjing University of Finance and Economics), Nanjing.
- [27] Ji, Y. Y. (2021). The Impact of Online Reviews on Consumers' Purchase Intention--Moderating Effect Based on Time Distance and Social Distance [Master's Thesis, Nanjing University of Finance and Economics]. Nanjing.
- [28] Ji, Y. Y. (2023). How Online Reviews Influence Purchase Intentions of Consumers Who Shop for Others. *Trade Fair Economy*(22), 87-90.
- [29] Jiang, C. L. (2022). Research on the influence of psychological distance and explanatory Level on Second - hand Goods Online purchase Decision (Master's Thesis, Shenyang Agricultural University), Shenyang.
- [30] Jiang, F., Liu, H., Wang, G. P., & Xia, Y. (2021). Online shopping addiction among medical college students. *Health Vocational Education*(10), 135 - 137.
- [31] Jiang, M. (2017). Survey and Research on online installment loan consumption behavior of college students (Master's Thesis, Wuhan Institute of Technology), Wuhan.
- [32] Jiang, W. Q. (2022). An analysis of the impact of online shopping flow experience on impulsive buying. *Modern Corporate Culture*(30), 158 - 160.
- [33] Jin, Y. F., & Zhang, Q. Y. (2024). The Influence of Spatial Distance on Online Comments: The Mediating Role of Perceived Effort. *Nankai Business Review*, 27(03), 226-235.

- [34] Kim, H., & Schnell, S. (2021). Profit for friends, fairness for strangers: Social distance reverses the endowment effect in proxy decision making. *Journal of Retailing and Consumer Services*, 59, 102395. <https://doi.org/10.1016/j.jretconser.2020.102395>.
- [35] Kim, J., Bae, Y. K., & Chung, J.-H. (2020). Modeling Social Distance and Activity-Travel Decision Similarity to Identify Influential Agents in Social Networks and Geographic Space and Its Application to Travel Mode Choice Analysis. *Transportation Research Record*, 2674(6), 466-479. <https://doi.org/10.1177/0361198120919412>.
- [36] Li, M. L., & Jin, Y. F. (2021). Research on the impact of spatial distance cues on online review persuasion under different review valence. *Future and Development*, 45(10), 56-62+36.
- [37] Li, W. (2018). Research of the Influence of Psychological Distance on Online Shopping Decision. (eds.) *Proceedings of 2018 International Workshop on Advances in Social Sciences(IWASS 2018)*(pp. 800 - 803). Xijing University.
- [38] Li, X. T., Li, S., & Liu, Y. Y. (2021). An analysis of online consumer purchasing behavior based on psychological distance: A case study of smog masks. *Statistics and Management*(03), 82 - 87. <https://doi.org/10.16722/j.iSSN.1674-537-x.2021.03.014>.
- [39] Li, Y. Z., & Wei, Z. F. (2022). Research on the Strategic Model and Strategic Risk of Small and medium - sized cross - border e - commerce enterprises under the background of RCEP. *Commercial Economy*(5), 100 - 103. <https://doi.org/10.19905/j.carolcarrollnki.syjj1982.2022.05.025>.
- [40] Liu, R. (2022). The impact of money scarcity on intertemporal decision making: a moderated mediation Model (Master's Thesis, Northwest Normal University), Lanzhou.
- [41] Liu, X. K., Fu, H. J., & Feng, J. Y. (2021). The Effect of Price Adjustment Magnitude after Online Promotion on Consumers' Repatronage Intention and the Moderating Role of Time Interval. (eds.) *Proceedings of 2nd International Symposium on Frontiers of Economics and Management Science (FEMS 2021)*(pp. 12 - 19). School of Management Guangdong University of Technology.
- [42] Liu, X. K., Fu, H. J., & Feng, J.Y. (2021). The Effect of Price Adjustment Magnitude after Online Promotion on Consumers' Repatronage Intention and the Moderating Role of Time Interval. (eds.) *Proceedings of 2nd International Symposium on Frontiers of Economics and Management Science (FEMS 2021)* (pp. 12 - 19). School of Management Guangdong University of Technology; <https://doi.org/10.26914/c.cnkihy.2021.005788>.
- [43] Liu, X. R. (2022). The influence mechanism of interactivity on consumers purchase intention in e-commerce live broadcast [Master's Thesis, Zhejiang Gongshang University]. Hangzhou.
- [44] Lu, C.-B., & Deng, X.-X. (2021). Influence of Learning Ability on Youngsters' Sports Choice:The Moderating Role of Temporal Distance *Journal of Chongqing Technology and Business University(Social Science Edition)*, 38(06), 107-119.
- [45] Lu, K. R. (2023). The Impact of Product Attributes and Price Framework on the Perception of Price Fairness--Based on the Regulatory Role of Social Distance [Masster's Thesis, Jiangxi Normal University]. Nanchang.
- [46] Luo, Z., & Chen, X. (2021). A Survey of College Students' Online Shopping Addiction from the Perspective of Green Development: A Case Study of College Students in Ningbo. *Journal of Ningbo Institute of Education*(03), 75 - 79. <https://doi.org/10.13970/j.carolcarrollnki.nbjyxyxb.2021.03.017>.
- [47] Ma, Z., Li, Y., Li, Z., Peng, X., & Chen, X. (2023). Research on Irrational Consumption Behavior in Live Shopping. In *Proceedings of the Labor Security Research 2023 Symposium* (pp. 198 - 201). Chengdu University of Information Technology.
- [48] ming, P. Q. (2022). Research on the influence of Chinese sports goods brand joint on consumers purchase intention [Master's Thesis, Shanghai Institute of Physical Education].
- [49] Nie, H. Q. (2019). Research on the relationship between college students' Reading value orientation, Self - control and online shopping Addiction (Master's Thesis, Hebei Normal University), Shijiazhaung.
- [50] Olsen, Y. (2022). What Is Addiction? History, Terminology, and Core Concepts. *Medical Clinics*, 106(1), 1-12. <https://doi.org/10.1016/j.mcna.2021.08.001>.
- [51] Ren, H. Y. (2019). Reexamining the business world from the perspective of Addiction. *International Management*(04), 36 - 39.