

## The theory of planned behavior: Factors influencing the consumption intentions of Chinese international students

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**Abstract:** With the rapid economic development and increasing income levels among residents, China has become the world's largest source of international students, and the demand for studying abroad remains strong. Although the employment advantages of overseas university degrees are no longer as significant, and cross-border study abroad involves numerous risks, the scale of studying abroad has continued to grow substantially in recent years. Based on the theory of planned behavior, this study focuses on Chinese international students as its research subjects. It examines the influence of three key factors—subjective norms, perceived behavioral control, and behavioral intentions—on the consumption intentions of international students. It also employs a questionnaire survey method for empirical research. The results indicate that subjective norms, perceived behavioral control, and behavioral attitudes of Chinese international students have a significant positive impact on their consumption intentions. Additionally, behavioral attitudes serve as a mediating factor between subjective norms and consumption intentions, as well as between perceived behavioral control and consumption intentions. Based on these findings, the study proposes relevant recommendations across three levels: national policy, enterprise support, and student perspectives, to provide guidance for Chinese international students' decisions regarding studying abroad.

**Keywords:** Chinese international students, Consumption intentions, Theory of planned behavior.

### 1. Introduction

Since China implemented its reform and opening-up policy in 1978, the country has entered a new phase of comprehensive economic and cultural openness, marked by rapid development. Against the backdrop of deepening globalization and cross-cultural integration, the demand for overseas higher education among Chinese citizens has shown sustained and strong growth. According to official statistics from the Chinese Ministry of Education, from the beginning of reform and opening up to 2024, the cumulative total number of Chinese students studying abroad has exceeded 10 million [1]. In this historical process, early returnees from overseas studies, represented by Qian [2] made outstanding contributions that laid the foundation for China's science and technology development [3]. In this new period, contemporary overseas students have become a key intellectual capital force, systematically promoting China's modernization from multiple dimensions, including economics, society, science and technology, and industry, and effectively promoting China's comprehensive integration into the global system [4]. From the perspective of China's education policy evolution, the Provisional Regulations on Self-funded Study Abroad, issued by the State Council of China in 1984, provided the first institutional framework for individuals to study abroad at their own expense [5]. In 1993, the Chinese government further relaxed restrictions on self-funded study abroad for most groups, including secondary school graduates. This move became a key institutional turning point in the transition from elite to mass study

abroad [6]. By 1995, the proportion of self-funded Chinese students in the total number of students had risen to 60% [7]. In 2001, China officially joined the World Trade Organization (WTO), and the opening up of the education sector was further deepened, which in turn catalyzed the expansion of the scale of study abroad [8]. By 2019, the proportion of self-funded students in the total number of students studying abroad each year had stabilized at over 91% [9]. According to the Blue Book of China's Study Abroad Development Report (2023-2024), China has established its position as the world's largest source of international students, with the number of Chinese students enrolled in overseas higher education institutions in 2021 exceeding that of India, the second-largest source country, by more than double. This underscores China's central role in the global talent mobility landscape [10]. In recent years, with the in-depth advancement of the Belt and Road Initiative, Chinese students' choices of study abroad destinations have also shown a significant trend toward diversification [11]. Looking at the overall situation of Chinese students studying abroad, self-funded study abroad has become the dominant model [12]. The consumption behavior and consumption intentions of this large group of Chinese students studying abroad constitute an important academic research topic in the fields of behavioral science and related socioeconomics.

Consumer intention is a multidimensional concept that refers to the psychological expectations or behavioral tendencies that consumers develop based on intrinsic motivations and external environmental factors when considering the purchase of specific goods or services [13]. In the field of education consumption, especially in studies on Chinese students' study abroad behavior, consumption intentions reflect the combined influence of intrinsic motivations and external environmental factors when students and their families encounter educational products, such as study abroad services [14]. The inherent motivations and external environmental factors that influence consumer intentions depend on the research perspective chosen by the researcher. This study proposes to analyze the issue from the perspective of the Theory of Planned Behavior. The Theory of Planned Behavior was developed by American scholar [15] based on the Theory of Reasoned Action [15]. To enhance the explanatory and predictive power of the theory, Ajzen [15] introduced the key variable of "perceived behavioral control" in 1991 and formally proposed the Theory of Planned Behavior [16]. The Theory of Planned Behavior model includes three core variables: subjective norms, behavioral attitudes, and perceived behavioral control. These variables interact to influence an individual's behavioral intentions, ultimately determining their behavior [17, 18]. This study, situated in the context of Chinese college students studying abroad, examines the Impact of three factors—subjective norms, behavioral attitudes, and perceived behavioral control—on the intention to consume while abroad.

In the field of research on the individual consumption behavior of international students, the complex interaction mechanism between subjective norms, behavioral attitudes, perceived behavioral control, and consumption intentions remains largely unexplored. Although the interrelationships among these core constructs have received extensive empirical support and theoretical validation in other disciplines, from the specific perspective of consumer behavior, in-depth verification of how these factors interact among international students remains relatively scarce. Currently, existing academic research on this issue typically follows several distinct paths of dependency: some researchers tend to approach the topic from the perspectives of cognitive psychology [19, 20], motivation theory [21, 22], behavioral economics [23, 24], cross-cultural theory [25, 26] or service quality theory [27, 28] to explain and validate their findings. Another part of the research primarily employs positivist methods, observing and analyzing the specific behaviors of individual consumers, but may lack a solid theoretical framework for integration [29-31]. Another group of studies has focused on outcome variables, such as consumer satisfaction [32, 33] and post-purchase evaluations [34, 35], while paying insufficient attention to the antecedent variables of intention formation and their interactive processes. To address this gap in the current research field, future studies urgently need to develop an integrated analytical framework that organically combines diverse research theories, rigorous empirical research methods, and systematic evaluation models. This framework aims to provide a new, more macro-level perspective for analyzing how key influencing factors within different theoretical models interact to shape the

consumption intentions of international students. Based on this, this study uses the Theory of Planned Behavior as its core theoretical framework and Structural Equation Modeling as its empirical analysis tool. It aims to systematically explore and identify the key factors influencing Chinese college students' intentions to study abroad by combining consumer evaluation data on study abroad consumption behavior, with the goal of providing empirical answers to this issue.

This study aims to construct an integrated analytical framework to fill the gap in the existing literature regarding how the three core constructs of the Theory of Planned Behavior—behavioral attitude, subjective norm, and perceived behavioral control—jointly influence the consumption intentions of international students. Through the development and empirical testing of this model, this study aims to conduct a comprehensive and holistic assessment and understanding of the driving factors influencing the consumption behavior of Chinese international students. Especially in the macro context of the continuous expansion of the scale of Chinese students studying abroad, this study employs a cross-sectional research design, directly targeting Chinese college students as the primary group for individual behavior research, thereby obtaining firsthand data for analysis [36]. The theoretical and practical significance of this study lies in its systematic analysis of the comprehensive Impact of behavioral attitudes, subjective norms, and perceived behavioral control on the decision-making behavior of Chinese international students. The findings of this study not only provide scientific reference for the decision-making process of potential international students but also offer empirical evidence for relevant educational institutions and policymakers to improve and optimize study abroad guidance and services.

## 2. Literature Review

### 2.1. Theoretical Background

#### 2.1.1. Subjective Norm

In the Theory of Planned Behavior framework, subjective norm refers to the social pressure perceived by individuals when considering whether to perform a specific behavior. This pressure is explicitly manifested in individuals' perceptions of whether their significant others or reference groups (such as family, friends, classmates, and colleagues) approve or disapprove of their behavior, as well as the strength of their motivation to comply with these significant others' expectations. In the context of contemporary society, the sources of subjective norms also extend to the broader social environment, including public opinion, mainstream media, and online opinion leaders. The value of subjective norms lies in their reflection of an individual's tendency to conform to social expectations. In the context of study abroad decision-making, an individual's behavioural intention to engage in study abroad is strengthened when they perceive that the external environment, primarily their key reference group, is generally supportive and positively expects study abroad behaviour; on the other hand, their behavioural intention to engage in study abroad is weakened when they perceive opposing attitudes or negative expectations. Nguyen and Ho [37] researchers stated that subjective norms positively influence affective value and perceived quality, and that subjective norms have an indirect effect on consumption intentions through affective value Nguyen and Ho [37]. Kobylińska [38] researchers stated that external environmental factors can indirectly influence students' entrepreneurial consumption intentions by strengthening their subjective norms, and that developing students' entrepreneurial consumption intentions should be achieved by enhancing students' awareness of their subjective norms of entrepreneurship Kobylińska [38]. Kumar and Pandey [39] researchers suggest that social media influences subjective norms, which in turn affect the willingness to consume Kumar and Pandey [39]. Aslan [40] researchers found that subjective norms significantly affect Muslim consumers' desire to purchase halal cooking products [40]. Researchers at Kaba, et al. [41] stated that significant demographic factors influence the attitudes, subjective norms, and behavioral intentions of academic personnel [41].

In the specific study measurement process, the measurement of subjective norms followed academic conventions. It was constructed primarily by drawing on and adapting well-established scales with high confidence validity from previous studies. The operationalised measurement dimensions of this study cover three main areas. Firstly, your family members, classmates, and friends are supportive of your decision to study abroad [42]. Secondly, social networks, live broadcasting platforms, and other channels continue to recommend studying abroad, having a cognitive impact on individuals [43]. Thirdly, your neighbourhood and social trends think studying abroad is worth doing [44].

### 2.1.2. *Perceived Behavioral Control*

Perceived Behavioral Control refers to an individual's comprehensive assessment of the extent to which they possess the resources necessary to perform a specific behavior, as well as the opportunities and obstacles they face, and the resulting subjective judgment of the difficulty of performing that behavior. At the theoretical level, perceived behavioural control not only directly affects consumers' behavioural intentions but also predicts actual behaviour to a certain extent. In other words, when individuals believe that their resources are sufficient and external conditions are favourable, students will significantly strengthen their behavioural intentions; conversely, students will weaken them. In the context of this study, perceived behavioural control was specifically operationalised as prospective international students' comprehensive evaluation of their own study abroad abilities and conditions. This evaluation integrated multiple dimensions, including individual economic conditions, time availability, academic skills, ability to utilise social resources and the environment, efficiency in obtaining external study abroad information, and perception of the overall social recognition of study abroad. These factors collectively determine individuals' subjective motivation and feasibility for successfully implementing and completing study abroad behaviour. Li, et al. [45] researcher stated that the attitudes, subjective norms, and perceived behavior of international students have a significant impact on the decisions of Chinese high school students to study abroad. Still, the national image does not have a considerable effect Li, et al. [45]. Beltrán-Velasco, et al. [46] researchers suggest that the higher the level of education among college students, the more pronounced their perceptions are, particularly in terms of their attitudes towards interpersonal relationships and their views on healthy eating [46]. Researchers at Akhter, et al. [47] stated that subjective norms, attitude-behaviour, and individual norms positively influence the willingness to consume green food [47]. Researchers at Shen, et al. [48] indicated that climate risk perception exhibits significant differences in hospital staff's pro-environmental attitudes and intentions [48]. Hamad, et al. [49] stated that demographic factors, attitude, behavior, subjective norms, perceived behavioral control, self-efficacy, beliefs, behavioral intentions, and actual use had a positive impact on the acceptance of blended learning [49].

In setting specific measurement indicators, this study mainly drew on existing scales. The study selected three dimensions for measurement: financial resources, time resources, and energy resources. The measurement indicators are primarily reflected in the following three aspects. First, you have sufficient income to support the entire study abroad process [44]. Second, you have ample time to participate in study abroad activities [50]. Third, you have sufficient physical strength and energy to participate in the study abroad experience [51].

### 2.1.3. *Attitude behavior*

Within the framework of the Theory of Planned Behavior, attitude-behaviour is defined as an individual's overall positive or negative evaluation of a specific behaviour [52]. This evaluation reflects consumers' comprehensive judgment and feelings about the series of consequences that may result from implementing the behaviour. When consumers expect that a particular behaviour will produce positive or desirable results, they will form a favourable attitude towards the behaviour, thereby strengthening their behavioural intention. Conversely, if the expected results are harmful or undesirable, an unfavourable attitude towards the behaviour will be formed, thereby weakening their behavioural intention. Among the many influencing factors, attitude behaviour is often regarded as one of the most

direct and effective core constructs for predicting behavioural intentions Liu and Wang [53]. Ajzen [54] researchers conducted an in-depth analysis of the theoretical basis of attitude-behaviour in rational action theory and the theory of planned behaviour Ajzen [54]. Dutta and Hwang [55] researchers, explored the sustained influence of electric vehicle consumers' attitude and behavior on their willingness to purchase electric vehicles Dutta and Hwang [55]. Zhang and Gibson [56] researchers found that the emotions and cognitive behaviors of international students are crucial to the sustainable development of study abroad programs, and constructed a value-belief-norm model [56]. The researcher notes that, although international students in Mongolia face language barriers, they exhibit quality professional behaviour, cultural exchange behaviour, and professional development behaviours that foster a sustainable lifestyle Nyamsuren, et al. [57]. Abid and Moalla [58] researchers' willingness to engage in green consumption behaviors and individual consumer behavioral control are key drivers of implementing green consumption behaviors [58].

In the specific scale design process, the measurement of attitude behavior typically draws on established scales that have been validated in previous studies. Attitude behavior is usually expressed in terms of positive or negative emotional dimensions such as “pleasure,” “satisfaction,” “liking,” and “value judgment,” which are mainly reflected in the following three aspects. First, as an international student, do you find studying abroad to be an enjoyable experience [59]. Second, as an international student, you have the opportunity to engage in study abroad activities [60]. Third, as an international student, do you think studying abroad is worthwhile [61].

#### *2.1.4. Consumption Intention*

Consumption intention is academically defined as the subjective norm, tendency, and probability of an individual's future consumption behavior in a specific situation regarding a particular product or service [62]. According to the Theory of Planned Behavior, consumption intention is the concentrated expression of an individual's conscious planning and willingness to perform a specific behavior. It is recognized as the most direct and effective core antecedent variable for predicting actual consumption behavior [63]. Based on this theoretical framework, this study defines the consumption intention of studying abroad as the tendency of individuals to purchase and use relevant educational products and services during their study abroad experience. This tendency is explicitly manifested in the willingness and degree of willingness of potential international students to invest time, money, and personal effort in achieving their study abroad goals. In systematic research on consumer behavior, the exploration of consumer willingness plays a crucial role [64]. This is because consumption intention is the cognitive and emotional tendency formed by individuals before making a final purchase decision, which comprehensively reflects the combined effects of various complex factors such as consumer attitudes, preferences, social influences, and situational constraints [65]. Compared with direct observation and measurement of actual behavior, analyzing consumption intentions provides researchers with a more forward-looking observation window, revealing the deep psychological motives driving behavior and providing a scientific and empirical basis for market forecasting, marketing intervention, and policy guidance. Researchers at Dai et al. stated that the attitude, behavior, subjective norms, and perceived behavioral control of Chinese international students significantly influence their intention to travel [66]. Dong, et al. [67] researchers used the S-O-R model to validate that social relationships and time pressure have a positive moderating effect on consumer willingness Dong, et al. [67]. Al Mamun, et al. [68] researchers stated that consequence awareness, responsibility attribution, and personal norms play a mediating role in consumer world governance and green consumption intention Al Mamun, et al. [68]. Shoukat, et al. [69] researchers stated that emotional value, functional value, social value, and price value play a mediating role between consumer trust and consumption intention Shoukat, et al. [69]. Yang and Chai [70] researchers indicate that green consumption behavior in China is positively influencing green consumption intentions, with consumption perceptions playing an intermediary role [70].

In the specific research and investigation process, the measurement method for consumption intention has matured, typically referring to or adapting classic scales that have been tested for reliability and validity in previous studies. Following this academic practice, the measurement index system constructed in this study mainly covers three aspects. First, your immediate willingness to experience study abroad services under current conditions [71]. Second, the likelihood that people close to you will initiate study abroad plans [72]. Third, your tendency to recommend study abroad experiences and related services to others [73].

## 2.2. Hypothesis Development

### 2.2.1. Subjective Norms and Consumption Intentions

By observing historical documents, a significant positive relationship between subjective norms and consumption intentions was found. Researchers from Hasbullah, et al. [74] when exploring the factors that influence the online shopping intentions of young people in Malaysian public universities, found that attitude, subjective norms, and website usability are all significantly correlated Hasbullah, et al. [74]. Ahmmadi, et al. [75] researchers expanded the theory of planned behavior to study the consumer behavior of Iranian farmers who use purified wastewater to irrigate their crops. The results showed that subjective norm risk perception is the strongest predictor of consumer intent, and incorporating it into the model significantly improves the explanatory power of consumer intent Ahmmadi, et al. [75]. Natarajan, et al. [76] constructed a conceptual framework based on the Theory of Planned Behavior, the Health Belief Model, and the Value-Attitude-Behaviour Model to explore consumer intent toward brand-name functional beverages in the post-COVID-19 era. The study found that media information and subjective norms play a significant role in influencing consumers' interest in healthy foods and their purchase intent toward functional beverages, and provided practical recommendations for food marketing [76].

The results of the study indicate a significant positive correlation between the strength of consumers' subjective norms and their consumption intentions. Specifically, when consumers perceive stronger social pressure or expectations, their consumption intentions also increase accordingly. Taking Chinese international students as an example, perceiving the level of enjoyment in the study abroad process can effectively enhance their willingness to participate in study abroad activities. This sense of satisfaction can be achieved in various ways. For example, positive advice and support from family and friends can help international students make more confident decisions about studying abroad. In addition, consciously shaping the social image of international students and promoting the good reputation of study abroad programs can also effectively encourage international students to explore the study abroad process actively. For example, when deciding whether to study abroad, Chinese students will comprehensively consider information from multiple sources, including evaluations from external media, the social value aura demonstrated by graduates who have completed their studies abroad, and the general evaluation of study abroad trends by those around them. This will shape their overall understanding of the value of studying abroad and influence their intention to do so.

In summary, existing research and related views emphasize the key role of subjective norms in influencing consumption intentions. Given that these views have been sufficiently verified and supported in historical literature, this study proposes that subjective norms have a significant positive impact on consumption intentions. Specifically, factors such as social pressure, group norms, and the expectations of others as perceived by consumers can significantly influence their preferences and purchasing decisions regarding specific products or services. Therefore, in marketing and consumer behavior research, a deep understanding and effective utilization of the mechanisms underlying subjective norms are of great theoretical and practical significance for predicting and guiding consumer behavior.

*H<sub>1</sub>: Subjective norms have a positive impact on consumption intentions*

### 2.2.2. Subjective Norms and Attitude Behavior

Through the observation of historical documents, it was found that there is a positive relationship between subjective norms and attitude-behavior. Renfro et al. stated that when applying the Theory of Reasoned Action to study nurses' documentation behavior, they found that subjective norms not only significantly affect their attitude and behavior, but that attitude and behavior also affect actual documentation behavior. Therefore, they recommended improving the quality of documentation by communicating the high expectations of essential others Renfro, et al. [77]. Norlia and Mastura [78] researchers stated that, in a study based on the Theory of Planned Behavior, they investigated the learning behavior of underachieving students in boarding schools. The results showed a significant positive correlation between students' attitude, behavior, subjective norms, and perceived behavioral control. They pointed out that these three factors are crucial for stimulating students' learning potential [78]. In addition, Li, et al. [79] also applied the Theory of Planned Behavior to conduct an in-depth analysis of the green development behavior mechanisms of Chinese construction companies. The study found that behavioral attitudes, subjective norms, and perceived behavioral control all exerted significant positive influences on companies' intentions for green development. Furthermore, these intentions played an important mediating role between the aforementioned cognitive factors and the ultimate green development behavior. This research provides a solid theoretical foundation for promoting the green transformation and upgrading of the construction industry [79].

The results of the study indicate a significant positive correlation between consumers' subjective norms and their behavioral attitudes. This finding is validated in the context of Chinese students' study abroad behavior, indicating that subjective norms have a positive impact on students' attitudes toward studying abroad. This suggests that when individuals form specific attitudes, their cognition and decision-making are significantly influenced by the opinions and expectations of significant others or social reference groups, thereby increasing the likelihood of them developing intentions to study abroad. At the same time, the study observed that among international student groups with different economic levels, the perceived intensity of subjective norms and the positivity of attitude-behavior tended to increase synchronously with the strengthening of the individual or family economic strength of the students. In addition, individual resources possessed by students, such as disposable time, energy, and physical strength, also constitute important prerequisite variables that influence their attitude and behavior toward studying abroad, and together contribute to the formation of their final decision.

These studies collectively emphasize the key role of subjective norms in shaping attitude behavior, and studies in the historical literature have widely verified this argument. Based on this theory, this study proposes the core hypothesis that subjective norms have a significant positive influence on attitude and behavior. Specifically, when individuals form opinions about specific behaviors, they are deeply influenced by the beliefs and expectations of important people in their social networks (such as family, friends, and colleagues). This perceived social pressure guides individuals' attitudes toward the direction expected by social norms.

*H<sub>2</sub>: Subjective norms have a positive impact on attitude behavior*

### 2.2.3. Perceived Behavioral Control and Consumption Intention

Through an examination of historical literature, it was found that a positive relationship exists between perceived behavioral control and consumption intention. Researchers from Amireault, et al. [80] found in their study on leisure-time physical activity that demographic variables, such as age and annual income, have a moderating effect on the relationship between perceived behavioral control and actual behavior. In particular, the interaction between yearly income and perceived behavioral control makes a significant contribution to predicting final behavior. This suggests that relevant health promotion programs should focus on and intervene in factors that can influence the perceived behavioral control-behavior chain [80]. Similarly, Ajzen and Madden [81] researchers stated that in the cross-cultural context of Germany and the United Kingdom, research on exercise and energy consumption reduction further verified the key role of perceived behavioral control in the Theory of Planned

Behavior. The results of this study confirm that perceived behavioral control not only directly affects intentions but also plays a regulatory role in the process of converting intentions into behavior. That is, when individuals perceive a higher level of behavioral control, their consumption intentions are more effectively converted into actual actions. At the same time, a high level of perceived behavioral control also weakens the influence of subjective norms on the formation of consumption intentions. Hagger, et al. [82] researchers said that through meta-analysis, this study found that in the field of health behavior, Perceived Behavioral Control (PBC) moderates the relationship between consumption intention and perceived behavioral control, and all moderating effects show significant heterogeneity, suggesting that more research is needed to test these moderating effects and report sufficient data for a more accurate meta-analysis [82].

The results indicate a significant positive correlation between perceived behavioral control and consumption intention. Specifically, among international student consumers, this relationship is not constant but is regulated by individual consumption motives and external conditions. When consumption decisions are mainly driven by hedonistic motives, the pursuit of fashion and social symbolic value, or strong personal interests and values, the influence of international students' perceived ability to perform specific consumption behaviors (i.e., perceived behavioral control) on their consumption intentions is significantly enhanced. In this context, individuals believe that they have the resources and capabilities to achieve unique experiences and satisfy their personalized needs, which significantly promotes the formation of their consumption intentions. Conversely, when Chinese international students face relatively strict budget constraints, their decision-making focus shifts to a more cautious assessment of the cost-effectiveness and practicality of services or products. At this point, the predictive role of perceived behavioral control on consumption intentions is relatively limited, as objective economic feasibility often outweighs subjective control in decision-making.

From the above, it can be seen that subjective norms, as an external social influence factor, play a key role in shaping individual attitude and behavior. On this basis, this study further focuses on cognitive assessment within individuals. It proposes a core hypothesis: that perceived behavioral control can have a positive impact on consumption intentions. Specifically, this hypothesis posits that when individuals believe they possess the necessary resources, opportunities, and abilities to engage in a particular consumption behavior, the likelihood of forming that consumption intention increases significantly.

*H<sub>3</sub>: Perceived behavioral control has a positive impact on consumption intention*

#### *2.2.4. Perceived Behavioral Control and Attitude Behavior*

Through an examination of historical literature, it was found that there is a positive relationship between perceived behavioral control and attitude behavior. Researchers from Amofah and Saladrignes [83] confirmed the applicability of the TPB model in studies exploring entrepreneurial intentions. They found that gender played a moderating role, specifically in the fact that men's entrepreneurial attitudes were more significantly influenced by their parents' experience, as compared to women. The study recommended enhancing students' perceived behavioral control and positive attitudes through practical methods such as internships and seminars [83]. Researchers Joshi, et al. [84] stated that introducing psychological variables, such as emotional value and perceived market influence, significantly enhanced the predictive power of the TPB model for green product adoption intentions. They particularly emphasized the key role of consumers' perceived market influence in driving green purchasing behavior, providing profound insights for the formulation of marketing strategies [84]. Researchers from Hu, et al. [85] stated that incorporating environmental concerns and perceived moral obligations into the TPB model successfully explains the various factors that influence young people's choice of low-carbon modes of transportation. Their research confirmed that attitudes, perceived behavioral control, and the newly added environmental and moral variables are significantly and positively correlated with the willingness to choose low-carbon transportation, providing a theoretical basis and practical guidance for effectively guiding the ecological behavior of young people [85].



The results show a significant positive correlation between perceived behavioral control and attitude-behavior. Specifically, in the context of potential international students, this correlation manifests itself in the following way: when consumers subjectively believe that they have sufficient resources (including funds, time, and energy) and favorable external conditions (such as easy access to information related to studying abroad), their perceived control over studying abroad increases. This high level of perceived behavioral control directly and positively influences their attitude assessment of studying abroad, which is reflected in multiple dimensions. For example, individuals are not only more inclined to believe that studying abroad is a pleasant (affective attitude), valuable (instrumental attitude), and socially acceptable (symbolic attitude) positive experience, thereby forming a more positive overall attitude behavior. In summary, an optimistic assessment of behavioral feasibility is a crucial prerequisite for shaping consumers' perceptions of desirability.

Given that the content above systematically reveals a significant and stable positive correlation between perceived behavioral control and attitude behavior, this study can propose the following core hypotheses based on this solid theoretical and empirical foundation.

*H<sub>6</sub>: Perceived behavioral control has a positive impact on attitude behavior*

#### *2.2.5. Attitude Behavior and Consumption Intention*

Through the observation of historical documents, it was found that there is a positive relationship between attitude, behavior, and consumption intention. Vermeir and Verbeke [86] research found that in the field of sustainable dairy consumption, consumer engagement, certainty, and perceived consumer effectiveness all have a significant positive impact on purchasing attitudes, and positive attitudes are closely related to purchasing intentions. The study demonstrates that increasing consumer engagement, perceived consumer effectiveness, certainty, social norms, and perceived availability are effective strategies for promoting more sustainable and ethical food consumption behaviors [86]. The correlation between attitude and intention has also been verified in different fields. Duong [87] researcher stated that research on Vietnamese university students indicates that entrepreneurship education does not directly influence entrepreneurial intention, but rather indirectly enhances students' consumption intention by improving their entrepreneurial attitude and perceived behavioral control.

Furthermore, professional fields of education, especially economics and business management, play a moderating role in the relationship between various predictive factors and entrepreneurial intention, making this influence even more significant Duong [87]. Aminizadeh, et al. [88] researchers said that they applied the extended theory of planned behavior to investigate the seafood consumption intentions of Iranian residents. Their research results once again emphasized the centrality of individual attitude behavior, finding that attitude was the strongest positive factor influencing consumption intentions. At the same time, variables such as subjective norms, perceived behavioral control, health involvement, moral obligation, and psychological risk also had a significant impact on consumption intentions. These findings provide substantial empirical evidence for the formulation of public health policies and seafood marketing strategies [88].

The results show a significant positive correlation between attitude and consumption intention. Specifically, when international students, as the primary consumers, place greater emphasis on the satisfaction of personal needs, the cost-effectiveness of services (i.e., price-performance ratio), and safety and security during their study abroad experience, their positive attitude behavior will have a more substantial driving effect on their consumption intentions. At the same time, with the current highly developed information channels, international students can easily obtain a large amount of information related to study abroad services, which significantly promotes the formation of their independent personal judgments and autonomous opinions. Therefore, consumers' ability to make independent decisions based on information integration is strengthened, which in turn weakens the influence of external social pressure or the attitudes and behaviors of others on their final consumption intentions regarding study abroad services.

Based on the above, it is generally agreed that there is a significant and stable positive relationship between attitude behavior, and consumption intention. Historical literature not only confirms this core relationship but also reveals the complex psychological mechanisms behind it, in which attitude behavior plays a key mediating role in connecting antecedent variables, such as subjective norms and perceived behavioral control, with final behavioral intentions. At the same time, this mediating role is also influenced by various contextual factors, including information availability, individual cognition, and demographic characteristics. These findings provide a solid theoretical foundation for a deeper understanding of the consumer decision-making process and suggest new directions for future research. Therefore, based on the existing theoretical framework and empirical evidence, this study aims further to explore the complex and interdependent relationships between various variables and proposes the following research hypotheses.

*H<sub>5</sub>: Attitude behavior have a positive impact on consumption intention*

#### *2.2.6. The Mediating Role of Attitude Behavior*

Through observation of historical literature, it was found that attitude behavior plays a mediating role between subjective norms and consumption intentions. At the same time, attitude behavior plays a mediating role between perceived behavioral control and consumption intention. Zhu, et al. [89] researchers, in a study that integrated the theory of planned behavior and the normative activation model, found that although perceived behavioral control is the most critical direct factor influencing the willingness to consume wild game, followed by attitude and subjective norms, attitude behavior plays a significant mediating effect in the process of perceived behavioral control and subjective norms influencing consumption intention [89]. At the same time, responsibility attribution also plays a mediating role in the normative activation model. However, the interaction between these constructs may vary depending on the context. Lin et al. revealed different causal pathways in a study on marine environmental protection among college students. The results showed that perceived behavioral control mediated the relationship between attitude behavior, and the intention to engage in responsible marine ecological behavior. This highlights the importance of enhancing individuals' perceived competence in specific areas to translate positive attitudes into actual intentions, providing empirical evidence for relevant policymakers [90]. In addition, Liu et al. further expanded this cognitive framework. Their research conducted in China found that environmental knowledge and attitude behavior indirectly promote environmental protection behavior through their positive Impact on ecological attitudes and behavioral intentions. They also pointed out that external environmental conditions and demographic variables have a moderating effect on this chain of relationships, indicating that psychological cognitive processes are deeply influenced by macro and individual factors [91].

The results show that attitude behavior can play a mediating role between different influencing factors. Specifically, subjective norms and perceived behavioral control, as key antecedent variables, work together to shape and enhance consumer attitudes. At the same time, external factors such as demographic characteristics and ease of access to information play an important moderating role. Especially in the current digital context of high information accessibility, individuals can easily obtain and integrate a large amount of relevant information, which helps to significantly reduce the uncertainty and potential risks perceived by Chinese international students, thereby promoting the formation of more stable and positive attitudes behavior and further enhancing the mediating effectiveness of international students' attitudes behavior in the entire decision-making model. Ultimately, the attitude behavior shaped by multiple factors will directly determine the level of consumers' final consumption intention.

Given that previous studies have fully confirmed that attitude-behavior plays a key mediating role between cognitive variables and behavioral intentions, this study applies this theoretical framework to the consumption context of Chinese international students to conduct more targeted empirical testing. This study will focus on the core construct of attitude behavior, and systematically explore whether it plays a mediating role in two key paths. First, it acts as a bridge connecting subjective norms and

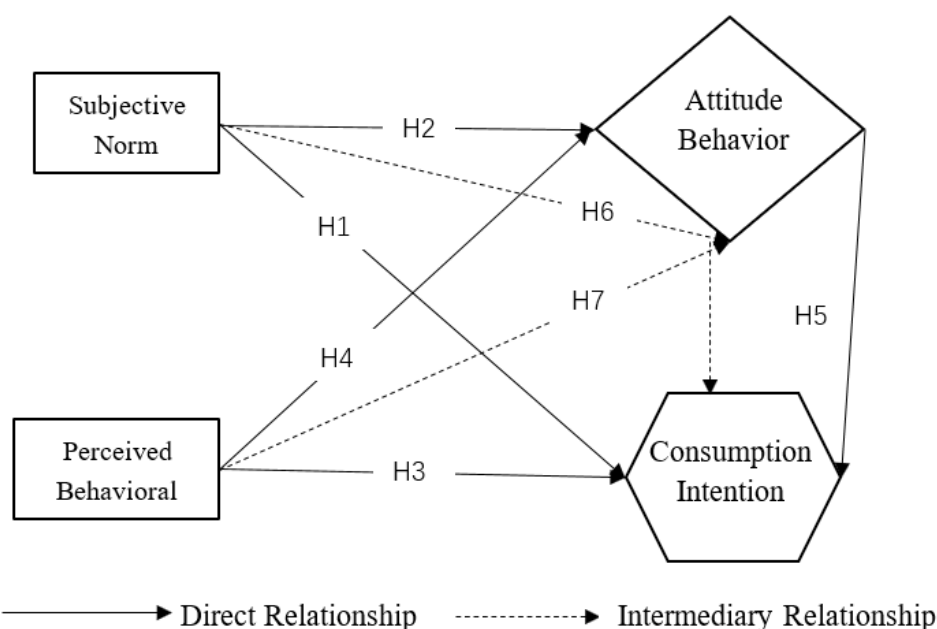
consumption intentions. Second, as a bridge connecting perceived behavioral control and consumption intentions. Based on this clear research objective and theoretical deduction, this study proposes the following two core hypotheses.

*H<sub>6</sub>: Attitude behavior mediates the relationship between subjective norms and consumption intentions.*

*H<sub>7</sub>: Attitude behavior mediates the relationship between perceived behavioral control and consumption intentions.*

### 2.3. Research Framework

Based on existing theoretical literature and the aforementioned research hypotheses, this study developed an analytical framework to systematically explore the determinants of Chinese international students' consumption intentions. The framework focuses on three core psychological constructs: subjective norms, perceived behavioral control, and attitude behavior, and analyzes in depth how they interact and ultimately influence consumers' consumption intentions. Specifically, the study will examine the direct Impact of subjective norms and perceived behavioral control on attitude-behavior, further investigate the direct Impact of subjective norms, perceived behavioral control, and attitude-behavior on consumption intention, and explore the key mediating role played by attitude-behavior between these antecedent variables and final consumption intention. To intuitively present the theoretical logic and hypothetical paths between different variables, this study constructed the conceptual model shown in Figure 1, which systematically explains the hypothetical relationships between subjective norms, perceived behavioral control, attitude, behavior, and consumption intention.



**Figure 1.**  
Research Framework.

## 3. Methodology

### 3.1. Participants

To ensure the cutting-edge nature and validity of the research data, this study adopted a purposive sampling strategy to screen and identify survey participants. The target group was strictly defined as Chinese students who successfully obtained study abroad visas between January and May 2025 and departed for overseas studies by June of the same year. The primary purpose of establishing this specific

time window is to ensure that all respondents have the clearest and most up-to-date memories of their application decisions and related considerations, which helps minimize recall bias and significantly enhances the reliability and validity of the collected information. Any individuals who do not meet the above criteria were excluded from the sample [92].

During the data collection process, the research team established partnerships with five study abroad service agencies in China, which provided lists of study abroad students who met the screening criteria as the total sample size. Subsequently, the researchers distributed and collected paper-based questionnaires directly to the target respondents based on this list. All questionnaires were completed independently by the respondents themselves to ensure the authenticity of the data sources.

### 3.2. Instruments

To ensure the scientific rigor and accuracy of the measurement tools, this study designed and utilized a structured questionnaire. The core measurement items in the questionnaire were assessed using a 5-point Likert scale, with scores ranging from 1 (strongly disagree) to 5 (strongly agree) [93].

During the initial construction phase of the questionnaire, the research team employed the Delphi Method to invite experts from relevant fields to anonymously review and repeatedly revise the draft questionnaire, ensuring that the measurement content had high content validity and comprehensibility [94]. The questionnaire consists of two core sections. The first section is primarily designed to collect demographic characteristics of the sample, including five dimensions: gender, age, ethnicity, country of study abroad, and annual tuition expenses. These serve as background variables for subsequent data analysis. The second section focuses on the measurement indicators for the four core constructs of this study, with each construct comprising three specific measurement items. The detailed content of these is elaborated upon in Chapter.

To assess the reliability and validity of the questionnaire, this study conducted a pilot test with 100 members of the target group, successfully collecting 95 valid questionnaires. The reliability analysis results of these 95 valid data sets showed that the Cronbach's  $\alpha$  values for all measured constructs exceeded the widely accepted standard of 0.70 [95]. This indicator suggests that the measurement tools used in this study exhibit good internal consistency and reliability, making them suitable for further formal research.

### 3.3. Sample and Data Collection

In determining the sample size, this study strictly followed the classic sample size calculation method proposed by Krejcie and Morgan [96]. According to their theoretical model, when the population size of the study exceeds 1 million, a sample of 384 is sufficient to achieve a statistically significant level of representativeness [96].

According to official statistics from the China Scholarship Council, the total number of Chinese students studying abroad reached 1.45 million by 2025, far exceeding the 1 million mark. Therefore, this study set the target adequate sample size at 384. To address potential uncertainties that may arise during the actual survey process, such as respondent time conflicts, regional cultural differences, or invalid questionnaires due to individual characteristics, the research team adopted a moderately oversampling strategy to ensure the adequacy and balance of the final sample. Specifically, during June 2025, the study distributed 400 questionnaires to the target group. After collecting all questionnaires, we conducted rigorous data screening and cleaning procedures to exclude invalid questionnaires with incomplete responses or logical errors, resulting in 384 valid questionnaires. This precisely met the pre-set sample size target, thereby providing a solid data foundation for the rigor of this study and the reliability of its conclusions.

### 3.4. Data Analysis

This study employs Structural Equation Modeling as its core analytical method and utilizes AMOS statistical software to process and test the collected data, thereby systematically verifying the hypothetical relationships between the variables in the research framework.

Before formal analysis, the study first conducted a series of preliminary tests to assess the suitability of the data. Specifically, the Kurpis and Hunter [25] test and Bartlett [97]. Test of Sphericity were used to determine whether the data sample was suitable for factor analysis. Subsequently, the study used confirmatory factor analysis (CFA) to assess the reliability and validity of the measurement model. The reliability of the model was primarily assessed using Cronbach's  $\alpha$  and composite reliability (CR). At the same time, validity was ensured through the average variance extracted (AVE), which confirmed that the scale possessed good convergent validity and discriminant validity. Additionally, this study employed Pearson correlation and two-tailed significance tests to investigate the linear relationships between the variables preliminarily.

After confirming that the measurement model had acceptable reliability and validity, the study constructed a complete structural equation model to accurately test the direct effects and indirect mediating effects between different variables, thereby empirically verifying the research hypothesis and revealing the interaction mechanisms between different constructs.

## 4. Results

### 4.1. Construct Reliability and Validity

A rigorous assessment of the reliability and validity of the measurement questionnaires used in this study was conducted, with SPSS statistical software serving as the primary data analysis tool. During the analysis process, three core indicators were examined: Cronbach's  $\alpha$ , Composite Reliability (CR), and Average Variance Extracted (AVE). Through a comprehensive analysis of these three indicators, this study systematically validated the reliability and validity of the measurement tools, thereby providing a solid metrological foundation for subsequent data analysis and hypothesis testing.

**Table 1.**  
Reliability and Validity Test Table.

Dimension	Variable	Factor Loading	Cronbach'a	CR Value	AVE Value
Subjective Norm	SN1	0.826	0.834	0.856	0.664
	SN2	0.834			
	SN3	0.784			
Perceived Behavioral Control	PBC1	0.822	0.818	0.857	0.667
	PBC2	0.810			
	PBC3	0.818			
Attitude Behavior	AB1	0.822	0.819	0.855	0.662
	AB2	0.830			
	AB3	0.789			
Consumption Intention	CI1	0.802	0.842	0.852	0.657
	CI2	0.834			
	CI3	0.795			

To assess the internal consistency reliability of the measurement tools used in this study, Cronbach's  $\alpha$  was applied to the 12 core measurement items in the questionnaire. The reliability analysis results indicate that the four core constructs forming the research model all exhibit excellent Cronbach's  $\alpha$  coefficients, with values ranging from 0.818 to 0.842. Since these values significantly exceed the academic community's generally accepted minimum standard of 0.70 and are above the 0.8 threshold, this result powerfully demonstrates that the measurement scale used in this study possesses excellent internal consistency [98]. This not only ensures that the measurement tool can stably and consistently reflect the core characteristics of the research subjects, but also provides a solid data quality guarantee

and a reference basis for subsequent in-depth statistical tests, such as structural equation modeling analysis.

To further assess the reliability of the measurement model, this study adopted Composite Reliability (CR) as the core evaluation indicator. The reliability analysis results showed that the CR values of all latent variables in this study exhibited a high level of internal consistency, ranging from 0.852 to 0.857. These values not only met the generally accepted standard of 0.70 ,but were also significantly higher than the more stringent threshold of 0.80 [99]. This strongly suggests that the measurement dimensions comprising different latent variables all exhibit excellent reliability levels, thereby laying a solid foundation for subsequent structural model analysis.

To test the convergent validity of the measurement model in this study, the Average Variance Extracted (AVE) was used as a key indicator of convergent validity. The validity analysis results indicate that the AVE values for all latent variables fall within the range of 0.657 to 0.667. Given that all values within this range are clearly above the minimum standard of 0.50, widely accepted in the academic community, this result provides strong empirical support for the convergent validity of the model [100]. This indicates explicitly that each measurement item of the latent variables can effectively reflect the core concept it is intended to measure, rather than measurement error, thereby confirming that each dimension has good convergent validity.

**Table 2.**

Validity test results for the chinese international student consumption intention scale.

	Factor			
	SN	PBC	AB	CI
SN1	0.826			
SN2	0.834			
SN3	0.784			
PBC1			0.822	
PBC2			0.810	
PBC3			0.818	
AB1				0.822
AB2				0.830
AB3				0.789
CI1		0.802		
CI2		0.834		
CI3		0.795		
KMO	0.871			
$\chi^2$	2233.118			
df	66			
sig	0.000			
$\lambda$	5.102	1.449	1.28	1.15
Variance Percentage (%)	42.514	12.078	10.668	9.586
Cumulative Variance Percentage (%)	42.514	54.593	65.261	74.847

#### 4.2. Factor Analysis

To further explore the latent dimensional structure of the measurement scale, this study employed Exploratory Factor Analysis (EFA). This study employed exploratory factor analysis, using KMO and Bartlett's sphericity test to confirm the presence of significant correlations between variables necessary for factor analysis. Furthermore, the cumulative variance contribution rate of the final factor scheme was analyzed to assess the overall explanatory power of the extracted common factors on the total variance of the original variables, providing an essential basis for evaluating the validity of the factor structure.

The KMO test results show that KMO = 0.871, which is significantly higher than the acceptable threshold of 0.8 for validity. This value is considerably higher than the generally accepted threshold of 0.8 for validity [101]. These research results strongly indicate that there is a close standard factor

structure between the items in the measurement scale, and the data sample is very suitable for factor analysis.

Bartlett [97] Test of Sphericity showed that  $\chi^2 = 2295.236$  ( $df = 66$ ), and the significance level  $p$  was much less than 0.001 [97]. The results showed that the null hypothesis of mutual independence between variables could be rejected, confirming that the correlation matrix had non-unit characteristics suitable for factor extraction.

The cumulative variance contribution rate shows that the cumulative variance explained by the common factors extracted by factor analysis reaches 74.8%. This high level of explanatory power indicates that the scale can effectively capture the core information of the target construct, and its structural validity fully meets the ideal standards for academic research [102].

#### 4.3. Correlation Analysis

To strictly evaluate the independence between each latent variable in this research model, specifically to test the discriminant validity of the variables, this study employed Pearson correlation analysis to systematically examine the relationships between core constructs, including subjective norms, perceived behavioral control, attitude-behavior, and consumption intention. The purpose of this analysis was to confirm that each construct is a unique concept that does not overlap with other constructs by examining the degree of correlation between constructs.

**Table 3.**

Results of correlation analysis between variables.

		SN	PBC	AB	CI
SN	r	1	0.414**	0.413**	0.482**
	sig.(2-tailed)		0.000	0.000	0.000
PBC	r	0.414**	1	0.348**	0.431**
	sig.(2-tailed)	0.000		0.000	0.000
AB	r	0.413**	0.348**	1	0.464**
	sig.(2-tailed)	0.000	0.000		0.000
CI	r	0.482**	0.431**	0.464**	1
	sig.(2-tailed)	0.000	0.000	0.000	

The analysis results reveal statistically significant positive correlations between the different latent variables in this study. The specific correlation coefficients and significance levels are as follows.

Subjective Norms and Consumption Intentions :  $r = 0.482$ ,  $p < 0.01$ .

Perceived Behavioral Control and Consumption Intention :  $r = 0.431$ ,  $p < 0.01$ .

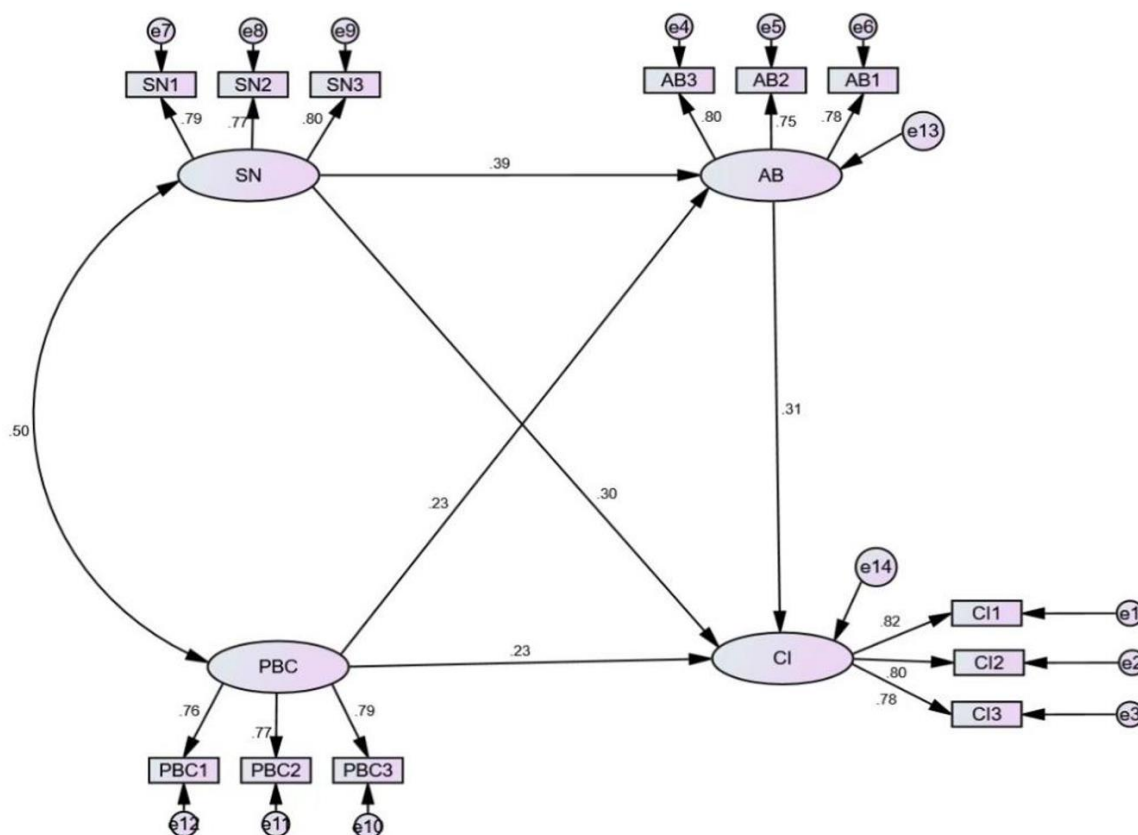
Attitude Behavior and Consumption Intention :  $r = 0.464$ ,  $p < 0.01$ .

Subjective Norms and Attitude Behavior :  $r = 0.413$ ,  $p < 0.01$ .

Perceived Behavioral Control and Attitude Behavior :  $r = 0.348$ ,  $p < 0.01$ .

#### 4.4. Model Construction

To thoroughly examine the causal relationships between the latent variables in the theoretical framework of this study, Structural Equation Modeling (SEM) was employed. The corresponding structural model was constructed using Amos statistical analysis software. This model aims to systematically test the proposed research hypotheses by setting and evaluating specific causal paths between latent variables.



**Figure 2.**  
Structural equation modeling.

To scientifically evaluate the overall validity of the constructed Structural Equation Modeling, this study examined the goodness-of-fit of the model, thereby providing objective and robust statistical evidence to determine whether the model is valid and possesses scientific explanatory power.

**Table 4.**  
Structural equation modeling goodness-of-fit indicators (N=384).

Measurement Model	$\chi^2/df$	GFI	AGFI	NFI	CFI	RMSEA
Evaluation Indicators	<3	>0.90	>0.90	>0.90	>0.90	≤0.08
Result Model	1.002	0.981	0.969	0.979	1.000	0.002
Test Results	Fit	Fit	Fit	Fit	Fit	Fit

This study conducted a comprehensive assessment of the goodness of fit of the structural equation modeling.  $1 < \chi^2/df = 1.002 < 3$ , which falls precisely within the ideal range of 1 to 3, indicating that the model has good simplicity. In terms of absolute fit indices, GFI=0.981 and AGFI=0.969, both of which are significantly higher than the acceptable threshold of 0.90. Regarding incremental fit indices, NFI = 0.979, and the comparative fit index (CFI) reached the perfect value of 1.000. These values far exceed the recommended standard of 0.90, with the CFI value particularly highlighting the model's extremely high match with the data. The Root Mean Square Error of Approximation (RMSEA) was 0.002, far below the strict criterion of 0.05, further confirming the model's high fitting precision. In summary, all fitting indices consistently and strongly demonstrate that the theoretical model constructed in this study exhibits a high degree of consistency with the observed data, with excellent structural validity.



#### 4.5. Path Analysis

This study verified the relationship between latent variables, including subjective norms, perceived behavioral control, attitude-behavior, and consumption intention. The analysis mainly used path coefficients, 95% confidence intervals, and P values.

Based on the confirmation that the model has good goodness of fit, this study further conducted empirical tests on the theoretically hypothesized paths between the four latent variables. Path Analysis was used for the tests. (1) Standardized Path Coefficient ( $\beta$ ), whose numerical value and sign reveal the strength and direction of the influence relationship between variables. (2) p-value, used to determine the statistical significance level of the path effect. (3) Bias-corrected 95% Bootstrap Confidence Interval, if the interval does not contain zero, it provides more robust evidence for the significance of the path.

**Table 5.**

Results of the primary effect test of subjective norms, perceived behavioral control, and attitude behavior.

Path			Path Coefficient	95% Confidence Interval		P-Value	Conclusion
SN	→	AB	0.391	0.273	0.494	0.023	Support
PBC	→	AB	0.226	0.119	0.363	0.005	Support
SN	→	CI	0.305	0.182	0.436	0.009	Support
PBC	→	CI	0.232	0.119	0.363	0.005	Support
AB	→	CI	0.311	0.179	0.42	0.012	Support

The analysis results show that in the primary effect test of subjective norms on attitude behavior, the path coefficient is 0.391, with a 95% confidence interval of (0.273, 0.494) and  $P = 0.023 < 0.05$ , indicating that subjective norms have a significant positive impact on attitude behavior. In the primary effect test of perceived behavioral control on behavioral attitudes, the path coefficient was 0.226, with a 95% confidence interval (0.119, 0.363) and  $P = 0.005 < 0.05$ , indicating that perceived behavioral control has a significant positive impact on behavioral attitudes. In the test results of the main effect of subjective norms on consumption intention, the path coefficient was 0.305, with a 95% confidence interval (0.182, 0.436) and  $P = 0.009 < 0.05$ , indicating that subjective norms have a significant positive impact on consumption intention. In the main effect test results of perceived behavioral control on consumption intention, the path coefficient was 0.232, with a 95% confidence interval (0.119, 0.363) and  $P = 0.005 < 0.05$ , indicating that perceived behavioral control has a significant positive impact on consumption intention. In the test results of the main effect of behavioral attitude on consumption intention, the path coefficient was 0.311, 95% confidence interval (0.179, 0.42),  $P = 0.012 < 0.05$ , indicating that behavioral attitude has a significant positive impact on consumption intention.

As can be seen from the above analysis, all path coefficients are greater than 0 and less than 1. Additionally, the 95% confidence intervals for all paths do not include 0, further validating the significance of these path coefficients. Furthermore, the P-values for all paths are less than or equal to 0.05, indicating that all path coefficients are statistically significant. In summary, hypotheses H1, H2, H3, H4, and H5 are supported.

**Table 6.**

Results of testing the mediating effect of attitude behavior.

Path	Path Coefficient	95% Confidence Interval		P-Value	Conclusion
SN→AB→CI	0.125	0.072	0.218	0.008	Support
PBC→AB→CI	0.057	0.029	0.127	0.002	Support

This study conducted an in-depth examination of the mediating effect of attitude behavior. In the examination of the mediating effect of attitude behavior on subjective norms and consumption intentions, the path coefficient was 0.125, with a 95% confidence interval (0.072, 0.218) and  $P = 0.008 < 0.05$ , indicating that attitude behavior plays a mediating effect between subjective norms and consumption intentions. In the test of the mediating effect of behavioral attitude on perceived behavioral

control and consumption intention, the path coefficient was 0.057, with a 95% confidence interval (0.029, 0.127) and  $P=0.002 < 0.05$ , indicating that behavioral attitude plays a mediating effect between perceived behavioral control and consumption intention. The analysis results show that attitude behavior plays a key mediating role in the model, and its mediating effect on the two core paths has reached statistical significance. In summary, hypotheses H6 and H7 are valid.

## 5. Discussion

Based on the Theory of Planned Behavior (TPB) as the core theoretical framework, this study systematically explored the structural relationship between four core constructs: subjective norm, perceived behavioral control, attitude-behavior, and consumption intention, targeting a specific group of Chinese international students. The results confirmed that subjective norm, perceived behavioral control, and attitude behavior all had a significant direct positive impact on consumption intention. On this basis, this study further verified the mediating effect of attitude-behavior, and the results clearly show that attitude-behavior plays a key mediating role in the relationship between subjective norms, perceived behavioral control, and consumption intention. This indicates that subjective norms and perceived behavioral control can not only directly drive consumption intention, but also indirectly enhance the ultimate consumption intention by shaping and enhancing the positive attitude behavior of individuals.

The empirical results of this study are highly consistent with previous academic literature, further enhancing the robustness and credibility of the model's conclusions. Specifically, the study confirms the direct positive Impact of subjective norms on consumption intentions (H1), a finding consistent with the conclusions [74, 103]. At the same time, the positive effect of subjective norms on attitude behavior (H2) has also been verified, which is consistent with the research results [104, 105]. In terms of perceived behavioral control, its significant positive Impact on consumption intention (H3) and attitude behavior (H4) confirms the findings [81, 106-108]. Furthermore, the core conclusion of this study, namely that attitude behavior is a strong predictor of consumption intention (H5), is consistent with the findings [109, 110]. Finally, at the more complex level of indirect effects, this study verified the key mediating roles of attitude behavior in the relationship between subjective norms and consumption intention (H6) and between perceived behavioral control and consumption intention (H7). These two findings are strongly supported by recent studies such [111-114].

Therefore, the findings of this study provide a clear practical path for enhancing the consumption intentions of Chinese international students. First, strategies to intervene in the consumption intentions of international students should not only focus on directly strengthening their perceived social support (subjective norms), personal executive functioning (perceived behavioral control), and value judgments (attitude behavior), but also make full use of the mediating function of attitude behavior to maximize the comprehensive promotional effect of the external environment and internal beliefs on consumption behavior.

## 6. Research Contributions, Research Impact, And Research Shortcomings

### 6.1. Research Contributions

This study focuses on the consumption intentions of Chinese international students. By systematically analyzing the intrinsic links between subjective norms, perceived behavioral control, attitude, behavior, and consumption intentions, it provides essential reference value for understanding and guiding the consumption decisions of this group. Its main contributions can be explained in three dimensions: theory, practice, and methodology. At the theoretical level, this study addresses the shortcomings of existing literature, which focuses on macro-level study abroad choices while neglecting micro-level consumption intentions, by innovatively applying the theory of planned behavior (TPB) to the context of mass consumption among Chinese international students. By constructing an influence factor model that integrates subjective norms and perceived behavioral control as core independent

variables and attitude behavior as key mediating variables, this study not only fills a research gap in a specific field, but also deepens the understanding of the TPB theory and enriches the theoretical system of international students' consumption behavior. From a practical perspective, this study uses empirical analysis to accurately identify the key drivers that influence the consumption intentions of Chinese international students. It provides data support and clear insights to address the issue of consumption participation among this group, thereby providing a scientific basis and practical guidance for educational institutions, service providers, and related industries to formulate precise strategies aimed at enhancing consumption participation and promoting the high-quality development of the international student market. In terms of research methods, this study employed a comprehensive research design that combined literature analysis, questionnaire surveys, and statistical analysis. Based on the construction of theoretical models and research hypotheses, SPSS was used to test reliability and validity, and AMOS was used to perform confirmatory factor analysis and structural equation modeling path testing. This integrated use of multiple methods and tools ensures the rigor of the research process, the reliability of the data, and the scientific validity and effectiveness of the conclusions, providing a standardized analytical framework for research in related fields.

### 6.2. Research Impact

The findings of this study offer valuable practical insights for multiple stakeholders, guiding the healthy development of the Chinese international student consumer market from the students' perspectives. For international students, the core contribution of this study lies in prompting them to shift their development strategies, moving the strategic focus from the macro level of total research abroad expenses to the micro level of daily mass consumption markets, thereby identifying and tapping into the immense consumption potential inherent in the Chinese international student population. Through an accurate analysis of key factors influencing consumption intentions, this study provides empirical evidence for developing effective marketing strategies and optimizing the supply and demand of products and services for students who wish to study abroad. In particular, the study emphasizes the key role of attitude-behavior, suggesting that international students should focus on shaping and enhancing their positive consumption experiences and value recognition to expand their consumer group and promote market growth effectively. For study abroad service providers and society at large, the study suggests that relevant parties should strengthen positive guidance on the lifestyles and consumption cultures of international students. By fostering an inclusive and supportive community atmosphere, they can enhance students' awareness, acceptance, and sense of security regarding the local consumption environment. From the perspective of the government and policymakers, the study's findings provide valuable references for optimizing industrial development planning. Government departments can formulate more precise supporting policies based on these influencing factors. For example, improving consumer rights protection regulations for international students, optimizing payment and logistics infrastructure, and encouraging innovation in related industries can collectively create a safe, convenient, and attractive macro-level consumption environment, thereby systematically promoting the sustained, healthy, and high-quality development of China's international student consumption market.

### 6.3. Research Shortcomings

Although this study has made specific theoretical and practical contributions, it still has several limitations, which provide directions for improvement in future research. First, the representativeness of the sample in this study needs to be improved. Data collection was primarily conducted through offline random sampling surveys, which may have led to clustering effects in terms of geographical distribution and social factors, thereby limiting the external generalizability of the research conclusions to some extent. Second, the demographic characteristics of the sample exhibit a certain degree of homogeneity. Descriptive analysis indicates that the sample is primarily concentrated among the youth population, with most individuals holding a high school diploma or a bachelor's degree or higher. This suggests that

the sampling process may not have fully captured the full heterogeneity of the Chinese international student population, resulting in a certain degree of selection bias. Therefore, future research should focus on adopting more rigorous sampling strategies, such as stratified sampling or multistage sampling, to expand the sample's coverage and enhance its diversity. Additionally, future research could build upon existing theoretical models by incorporating other potential macro- or micro-level influencing factors to construct a more comprehensive analytical framework, thereby enhancing the depth, reliability, and validity of the research conclusions.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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