*Environment and Social Psychology (2025) Volume 10 Issue 2* ISSN: 2424-8975 (O)
doi: 10.59429/esp.v10i2.3500 2424-7979 (P)

# RESEARCH ARTICLE

# Social psychological determinants of consumer experience in smart elderly care environments

**Tianlong Sun**

*Krirk University, Bangkok,10220, Thailand*

*** Corresponding author:** Tianlong Sun, suntianlonghui@outlook.com

## ABSTRACT

Smart elderly care represents a dynamic intersection of technology, service delivery, and environmental influence. This study adopts a social psychology perspective to explore how service quality, interaction dynamics, security assurance, and brand effect - when viewed through the lens of social identity and environmental psychology - affect consumer experience in smart elderly care settings. By integrating theories of self-efficacy and social exchange, the research examines how both the physical and social environments contribute to the elderly's sense of well-being, belonging, and trust. The findings offer vital insights for designing care environments that not only meet functional needs but also foster social cohesion and psychological comfort.

***Keywords:*** Smart elderly care; consumer experience; influencing factors

## 1. Introduction

Over the past three decades, China's rapid economic development and significant improvements in social healthcare have been accompanied by a steadily increasing aging population. This demographic shift has led to comprehensive transformations in the social structure, public services, economic landscape, and national policies. The elderly care sector has gradually emerged as a critical area impacting China's social stability, public welfare, and future development trajectory, thereby garnering considerable attention from both the government and society. In 2013, the State Council of China issued the "Opinions on Accelerating the Development of the Elderly Care Service Industry," which explicitly called for substantial enhancement in the construction of elderly care institutions and encouraged the participation of private entities in the establishment of such facilities. Building on this foundation, in 2020, the State Council further promulgated a series of policy documents, including the "Opinions on Promoting the Healthy Development of Elderly and Childcare Services," the "Guiding Opinions on Accelerating the Development of Rural Elderly Care Services," and the "Opinions on Strengthening the Elderly Care Service Workforce," underscoring the critical importance and urgency of developing elderly care services. According to data released by the National Bureau of Statistics of China, by the end of 2023, the population aged 60 and above had surpassed 290 million, accounting for 21.1% of the total population, with a continuous upward trend. The National Health Commission of China predicts that by 2035, the number of people aged 60 and above will exceed 400

**ARTICLE INFO**
Received: 04 February 2025 | Accepted: 24 February 2025 | Available online: 28 February 2025

**CITATION**
Sun TL. Social Psychological Determinants of Consumer Experience in Smart Elderly Care Environments. *Environment and Social Psychology* 2025; 10(2): 3500. doi:10.59429/esp.v10i2.3500

million, representing more than 30% of the total population. This vast aging population has generated a robust and pressing demand for elderly care services.

Due to the structural and economic developments within society, one-child families often face significant financial and caregiving burdens. Traditional home-based elderly care is increasingly unsustainable, while institutional care can lead to feelings of loneliness and abandonment among the elderly due to separation from their families. This complex reality has driven the emergence of smart elderly care, which integrates the concept of home-based care with the professionalism of institutional care, as a critical solution to the challenges of elderly care. Smart elderly care leverages modern information technologies, including the Internet of Things, big data, cloud computing, and artificial intelligence, to provide more personalized and intelligent care services for the elderly[1]. The fundamental goal of smart elderly care is to create a "nursing home without walls"[2]. Thus, although smart elderly care represents an upgrade and reconfiguration of traditional services through modern information technologies, its core purpose remains unchanged: to enhance the efficiency of traditional elderly care, innovate care approaches, and truly achieve the goal of providing reliable and sustainable care for the elderly. In this context, consumer experience is a critical factor influencing service quality and the sustainable development of smart elderly care enterprises. However, smart elderly care differs significantly from traditional home-based or institutional care. On the one hand, it assists children and professional caregivers in monitoring the elderly's health and daily life around the clock through online monitoring, remote interaction, and data alerts[3].

On the other hand, it meets the elderly's needs for daily living, entertainment, and social interaction through smart home devices and online communities. The service methods, content, and delivery channels are unique, and the involvement and experience of the elderly and their children differ from those in traditional care settings. This distinctiveness highlights that the consumer experience and influencing factors in smart elderly care are different from those in traditional care, yet current academic research in this field is scarce. As a result, smart elderly care enterprises often lack focus in service design and provision, failing to offer targeted service strategies and marketing paths based on the key influencing factors of consumer experience in smart elderly care. Therefore, this study focuses on the key factors influencing consumer experience in smart elderly care, aiming to assist enterprises in recognizing the importance of consumer experience and the unique influencing factors within this context.

According to data released by the National Bureau of Statistics of China, by the end of 2023, the population aged 60 and above had surpassed 290 million, accounting for 21.1% of the total population, with a continuous upward trend. The National Health Commission of China predicts that by 2035, the number of people aged 60 and above will exceed 400 million, representing more than 30% of the total population. This vast aging population has generated a robust and pressing demand for elderly care services. Due to the structural and economic developments within society, one-child families often face significant financial and caregiving burdens. Traditional home-based elderly care is increasingly unsustainable, while institutional care can lead to feelings of loneliness and abandonment among the elderly due to separation from their families. This complex reality has driven the emergence of smart elderly care, which integrates the concept of home-based care with the professionalism of institutional care, as a critical solution to the challenges of elderly care. Smart elderly care leverages modern information technologies, including the Internet of Things, big data, cloud computing, and artificial intelligence, to provide more personalized and intelligent care services for the elderly[1]. The fundamental goal of smart elderly care is to create a "nursing home without walls" [2]. Thus, although smart elderly care represents an upgrade and reconfiguration of traditional services through modern information technologies, its core purpose remains unchanged: to enhance the efficiency of traditional elderly care, innovate care approaches, and truly achieve the goal of providing reliable and

sustainable care for the elderly. In this context, consumer experience is a critical factor influencing service quality and the sustainable development of smart elderly care enterprises.

Smart elderly care leverages modern information technologies, including the Internet of Things, big data, cloud computing, and artificial intelligence, to provide more personalized and intelligent care services for the elderly[1]. The fundamental goal of smart elderly care is to create a "nursing home without walls"[2]. Thus, although smart elderly care represents an upgrade and reconfiguration of traditional services through modern information technologies, its core purpose remains unchanged: to enhance the efficiency of traditional elderly care, innovate care approaches, and truly achieve the goal of providing reliable and sustainable care for the elderly. In this context, consumer experience is a critical factor influencing service quality and the sustainable development of smart elderly care enterprises. However, smart elderly care differs significantly from traditional home-based or institutional care. On the one hand, it assists children and professional caregivers in monitoring the elderly's health and daily life around the clock through online monitoring, remote interaction, and data alerts[3].

On the other hand, it meets the elderly's needs for daily living, entertainment, and social interaction through smart home devices and online communities. The service methods, content, and delivery channels are unique, and the involvement and experience of the elderly and their children differ from those in traditional care settings. This distinctiveness highlights that the consumer experience and influencing factors in smart elderly care are different from those in traditional care, yet current academic research in this field is scarce. As a result, smart elderly care enterprises often lack focus in service design and provision, failing to offer targeted service strategies and marketing paths based on the key influencing factors of consumer experience in smart elderly care. Therefore, this study focuses on the key factors influencing consumer experience in smart elderly care, aiming to assist enterprises in recognizing the importance of consumer experience and the unique influencing factors within this context.

Therefore, this study focuses on the key factors influencing consumer experience in smart elderly care, aiming to assist enterprises in recognizing the importance of consumer experience and the unique influencing factors within this context. Smart elderly care is not merely a combination of technology and service delivery; it represents a profound response to the psychological and social needs of the elderly. By examining consumer experience from a social psychology perspective, this research seeks to uncover how the elderly adapt psychologically to new care environments, form new social relationships, and reconstruct their social roles. This understanding is crucial for enhancing the quality of life and social integration of the elderly, offering theoretical support for enterprises to refine their service designs and better meet consumer demands.

In developing the research framework, this study integrates not only relevant social psychology theories but also the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM). These theories offer valuable insights into consumers' behavioral intentions and actual usage behaviors within the context of smart elderly care, enhancing our understanding of how consumer experiences are formed.

The Theory of Planned Behavior (TPB) posits that individuals' behavioral intentions are influenced by three factors: attitudes, subjective norms, and perceived behavioral control. Attitudes refer to individuals' positive or negative evaluations of a behavior; subjective norms involve the social pressure individuals perceive; and perceived behavioral control is their assessment of the ease or difficulty of performing the behavior. In the context of smart elderly care, TPB can explain seniors' intentions to use smart care technologies. For instance, seniors' positive attitudes toward smart devices, social support from family (subjective norms), and their perception of operational difficulty (perceived behavioral control) all impact their willingness to use these services.

The Technology Acceptance Model (TAM) focuses on individuals' acceptance and use of new technologies, comprising two key constructs: perceived usefulness and perceived ease of use. Perceived usefulness is the belief that using a technology enhances quality of life, while perceived ease of use is the belief that the technology is easy to operate. In smart elderly care, TAM helps understand seniors' acceptance of smart care technologies. Seniors are more likely to accept and continue using these services if they believe they provide effective assistance (perceived usefulness) and are easy to use (perceived ease of use).

Incorporating TPB and TAM into the research framework allows for a more comprehensive understanding of consumers' behaviors and experiences in smart elderly care environments. These theories complement the social psychology perspective and provide robust tools for explaining consumers' technology-related behaviors and attitudes.

# 2. Identification and hypotheses of influencing factors on consumer experience in smart elderly care

The application of TPB has been extensively explored in various domains, particularly in health behaviors and information technology adoption studies. For instance, Yuan [4] examined seniors' acceptance of mobile health technologies and found that attitudes, subjective norms, and perceived behavioral control significantly influenced their willingness to use such technologies. This indicates TPB's high applicability in explaining the elderly's acceptance of new technologies. In the context of smart elderly care, attitudes toward smart care technologies may be influenced by their perceived ease of use and usefulness, while subjective norms might involve family members' expectations regarding the use of smart care services. Perceived behavioral control could be associated with seniors' self-assessment of their technical operation abilities.

The Technology Acceptance Model (TAM) has proven to be highly effective in explaining and predicting users' acceptance and usage of new technologies. Since its introduction, numerous studies have confirmed that perceived usefulness and perceived ease of use are crucial factors influencing users' technology acceptance. In the field of smart elderly care, TAM's applicability has also been validated. For example, Zhou, Lu, and Chang[5] found that seniors' perceived usefulness and perceived ease of use of smart care devices significantly affected their willingness to use these devices. Moreover, TAM can be combined with other theories to provide a more comprehensive understanding of user behavior. For instance, Luo (2018) developed a unified model integrating TAM and the Theory of Planned Behavior, which further expanded the understanding of users' technology acceptance behavior [6].

By incorporating these theories into the research framework, this study can more comprehensively understand consumers' behaviors and experiences in smart elderly care environments. These theories not only complement the social psychology perspective but also provide robust tools for explaining consumers' technology-related behaviors and attitudes.

This study identifies the key factors influencing consumer experience in smart elderly care by conducting a comprehensive literature review and considering the current state of industry development, service content, and characteristics. Based on this analysis, a preliminary model of the factors affecting consumer experience in smart elderly care is constructed. The analysis is as follows:

## 2.1. Service quality factors

Service quality is a crucial determinant of consumer experience in smart elderly care. Drawing on the "social exchange theory" from social psychology, we can gain deeper insights into its impact. This theory posits that individuals evaluate relationships based on perceived benefits versus potential risks. For the

elderly, high-quality service means not only meeting their basic care needs but also fulfilling their psychological expectations of respect, care, and a sense of value.

When service providers demonstrate professionalism, patience, and empathy, the elderly perceive greater benefits in the service exchange, leading to higher satisfaction and loyalty. Quality service also enhances the elderly's self-efficacy, making them feel valued and respected. In the context of smart elderly care, this can be achieved through personalized care plans, well-trained staff, and intelligent health monitoring systems. These measures not only improve service efficiency but also create a positive psychological experience for the elderly.

The quality of products and services is a crucial determinant of consumer behavior[7]. The service quality and attitude of providers significantly influence consumers' willingness to engage, as well as their assessment of whether their expectations have been met [4]. Existing research indicates that service quality directly affects customer satisfaction, which in turn influences customer loyalty to the enterprise[5]. In the context of smart elderly care, service quality is of paramount importance. At the core of smart elderly care lies the concept of "care," with the primary motivation for consumers choosing such services being to ensure that the elderly receive a positive experience characterized by reliable support and adequate care. In this process, service quality is the central criterion by which consumers evaluate smart elderly care enterprises. On one hand, smart elderly care is closely tied to the physical and mental well-being of the elderly, who are often vulnerable due to aging, chronic illnesses, and other health-related issues. Therefore, the professionalism and ability of smart elderly care services to deliver high-quality care are fundamental consumer expectations.

On the other hand, elderly individuals, as they gradually disengage from society, may experience psychological imbalance and are particularly in need of humane care. Furthermore, the adoption and use of information technology in smart elderly care pose challenges for the elderly, many of whom have a high demand for consultation and guidance in operating smart devices. Thus, a service attitude is also critically important. The higher the level of service quality, the better the experience for the elderly during their engagement with smart elderly care.

Therefore, based on the social exchange theory, we propose that service quality has a significant positive impact on consumer experience in smart elderly care. High-quality service meets the psychological needs of the elderly, builds trust in the service provider, and enhances their overall well-being. Thus, the following hypothesis is put forward:

H1: Service quality has a significant positive impact on consumer experience in smart elderly care.

## 2.2. Interaction level factors

Interaction is a crucial means for enterprises to establish connections with consumers, enabling them to understand consumer needs, provide service support, and allow consumers to gain a deeper understanding of the enterprise[8]. Existing research indicates that the interaction between enterprises and consumers, as well as the type of interaction, significantly influences the consumer experience[9]. The level of interaction is equally important for the consumer experience in smart elderly care.

Drawing on the "social identity theory" from social psychology, we can gain deeper insights into the impact of interaction on consumer experience. This theory posits that individuals define their identity through social categories and groups. For the elderly, interaction with enterprises, other consumers, and social groups in the context of smart elderly care provides opportunities for social comparison and

identification. Through these interactions, the elderly can rebuild their social roles and gain a sense of belonging and social participation, which is essential for their psychological well-being.

In the context of smart elderly care, interaction takes on unique characteristics. Unlike traditional care models, smart elderly care relies heavily on digital platforms and intelligent devices. The elderly can interact with service providers through online interfaces, join virtual communities to share experiences with peers, and even participate in remote educational activities. These interactive experiences not only meet their practical needs for care services but also fulfill their psychological needs for social connection and self-actualization.

Moreover, effective interaction can enhance the elderly's trust in service providers. When the elderly feel that their voices are heard and their needs are responded to promptly, they develop a positive perception of the service enterprise. This trust relationship, built through consistent and meaningful interactions, encourages the elderly to engage more deeply with smart elderly care services and positively influences their overall consumer experience.

Therefore, based on the social identity theory and the unique interactive context of smart elderly care, we propose that the level of interaction has a significant positive impact on consumer experience in smart elderly care. Higher levels of interaction enable the elderly to gain social recognition, alleviate feelings of isolation, and enhance their sense of belonging, all of which contribute to a better consumer experience. Thus, the following hypothesis is put forward:

H2: The level of interaction has a significant positive impact on consumer experience in smart elderly care.

### 2.3. Security assurance factors

In the realm of smart elderly care, security, and trust are fundamental concerns for consumers. Drawing on social psychology concepts related to "safety and trust," we can better understand consumers' focus on service security when selecting smart elderly care services. The "protection motivation theory" suggests that individuals' motivation to protect themselves is influenced by their perception of threats and their belief in the effectiveness of protective actions. For the elderly and their families, the perception of security in smart elderly care services directly affects their willingness to engage and their overall consumer experience.

To better illustrate how security assurance is implemented in practice, this study details specific security measures adopted by the participating smart elderly care enterprise. These measures are designed to address the security concerns of the elderly and their families, and they are in line with industry standards and best practices.

Data Encryption: The enterprise employs advanced encryption protocols to protect personal and health data transmitted over networks. This practice adheres to the principles outlined in the ISO/IEC 27001:2013 standard, which emphasizes the importance of encryption in safeguarding sensitive information.

Access Control: Strict access control mechanisms are in place to ensure that only authorized personnel can access consumer data. This includes multi-factor authentication and role-based access permissions, following the best practices recommended by the National Institute of Standards and Technology (NIST) in the United States.

Regular Security Audits: The enterprise conducts quarterly security audits to identify and mitigate potential vulnerabilities. This proactive approach aligns with the continuous monitoring guidelines specified in the NIST SP 800 - 53, ensuring ongoing compliance and security.

Staff Training on Data Protection: Regular training sessions are organized for employees to enhance their awareness of data protection and privacy issues. This measure reflects the enterprise's commitment to fostering a security-conscious culture, as advocated by industry experts.

These specific security practices not only demonstrate the enterprise's dedication to providing a secure environment for its consumers but also serve as concrete examples of how security assurance can be operationalized in smart elderly care settings. By implementing such measures, the enterprise aims to reduce perceived risks and build trust in its services, ultimately enhancing the overall consumer experience.

Security assurance measures, such as transparent data usage policies and authoritative certifications, play a crucial role in reducing perceived risks. When consumers feel that their personal information and financial transactions are protected, they are more likely to develop trust in the service provider. This trust is further strengthened when enterprises demonstrate reliability through consistent and secure service delivery. In the context of smart elderly care, where services often involve sensitive health data and remote monitoring, the absence of security can lead to heightened anxiety and distrust.

Moreover, security assurance is not merely a technical concern but also a psychological one. The elderly, who may already feel vulnerable due to age-related health issues, need reassurance that the smart technologies they rely on for care are safe and dependable. This psychological comfort is essential for their well-being and satisfaction with the service. When security is consistently emphasized and demonstrated by service providers, consumers are more likely to feel at ease, leading to a positive consumer experience.

Therefore, based on the importance of security and trust in the consumer decision-making process and psychological well-being, we propose that security assurance has a significant positive impact on consumer experience in smart elderly care. By addressing consumers' security concerns and building trust, smart elderly care enterprises can enhance consumers' peace of mind and overall satisfaction with the service. Thus, the following hypothesis is put forward:

H3: Security assurance has a significant positive impact on consumer experience in smart elderly care.

## 2.4. Brand effect factors

The brand effect refers to the impact that a company's long-term brand development has on consumers' perceptions and psychology, encompassing elements such as brand image, brand congruence, and brand perception. The brand effect positively influences consumer experience and acts as an intermediary in enhancing consumer willingness. Drawing on the "cognitive dissonance theory" from social psychology, we can better understand how consumers' perceptions and emotional responses to brands affect their expectations and actual experiences. This theory posits that individuals experience psychological discomfort when there is a discrepancy between their expectations and experiences. In the context of smart elderly care, consumers form preconceived notions about service quality and characteristics based on brand reputation and marketing information. If the actual service aligns with these notions, cognitive dissonance is minimized, leading to higher satisfaction. Conversely, discrepancies result in cognitive dissonance, reducing satisfaction.

Well-established brands can mitigate this dissonance by maintaining consistent images and values across all touchpoints. For instance, a brand known for innovation and reliability in smart elderly care can manage consumers' expectations effectively. When the service delivered matches the brand's promise, consumers experience less dissonance and are more likely to have a positive experience. Moreover, strong brands evoke emotional connections that can buffer against negative experiences. Even if there are minor service issues, consumers may overlook them due to their favorable brand perception, thus maintaining overall satisfaction.

In the smart elderly care market, where numerous options exist, and brand recognition is still developing, the role of brand effect is particularly pronounced. Consumers often rely on brand reputation to reduce decision-making risks. A positive brand image signals quality and trustworthiness, especially when consumers lack in-depth knowledge of specific services. Additionally, brands that actively communicate their values and maintain consistency in service delivery can build long-term relationships with consumers. This consistency reduces the likelihood of cognitive dissonance and fosters brand loyalty.

Therefore, based on the cognitive dissonance theory and its application in the smart elderly care context, we propose that the brand effect has a significant positive impact on consumer experience in smart elderly care. By aligning service delivery with brand promises and fostering consistent brand experiences, smart elderly care enterprises can reduce consumers' cognitive dissonance, enhance satisfaction, and build lasting brand loyalty. Thus, the following hypothesis is put forward:

H4: Brand effect has a significant positive impact on consumer experience in smart elderly care.

Based on the aforementioned research hypotheses, the following research model can be constructed:

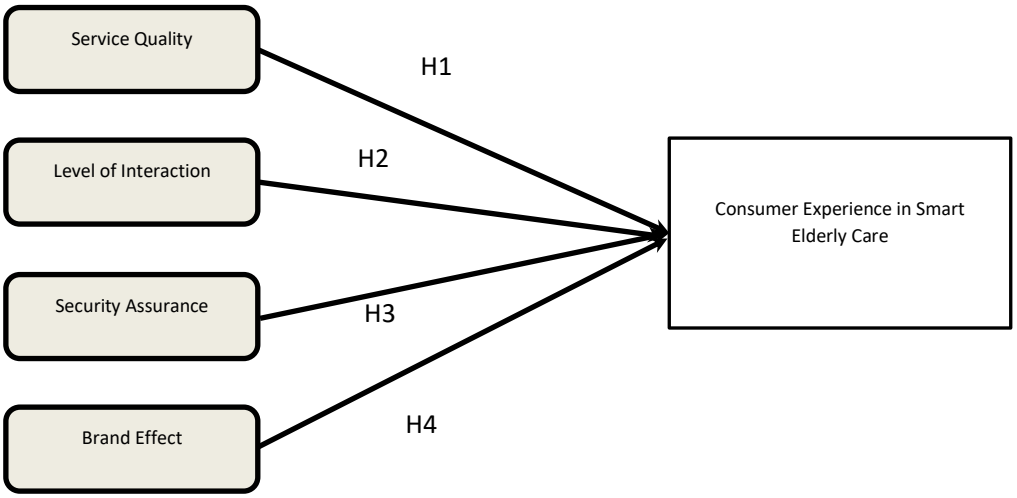


**Figure 1.** Research hypothesis model.

# 3. Research design

Based on the aforementioned research hypotheses and related models, this study employs an empirical approach through a questionnaire survey to determine the direction and extent of the impact of various influencing factors on the consumer experience in smart elderly care.

## 3.1. Sampling strategy

This study adopted a non-probability sampling method, specifically purposive sampling, to select participants from a particular smart elderly care enterprise in Beijing. The choice of this enterprise was based on several factors. First, it is one of the pioneering companies in the smart elderly care sector in Beijing, offering a comprehensive range of services and having a relatively large client base, which ensures the availability of a sufficient number of participants. Second, the enterprise has demonstrated an openness to academic research and was willing to facilitate contact with its clients, making it feasible to conduct the survey.

Regarding the representativeness of the selected enterprise, it is crucial to note that while it is just one entity, its services and client demographics closely mirror the broader smart elderly care market in urban China. The enterprise serves a diverse clientele in terms of age, socioeconomic status, and care needs, which aligns with the general characteristics of the target population for smart elderly care services.

For participant inclusion, the criteria were as follows: individuals aged 60 years or older, having used the enterprise's smart elderly care services for at least one month to ensure familiarity with the services, and being cognitively able to complete the questionnaire independently. Exclusion criteria included individuals with severe physical or mental health conditions that could impede their ability to participate in the survey and those who were not primary users of the care services, such as family members responding on behalf of the elderly.

By clearly outlining the sampling strategy, including the rationale for enterprise selection and participant criteria, this study aims to provide transparency and ensure the generalizability of the findings to a larger population of smart elderly care consumers.

### 3.2. Questionnaire design

The questionnaire designed for this study consists of three sections. The first section addresses the basic demographic information of the respondents, including gender, age, household income level, education, and pre-retirement occupation, with a total of five questions. This section utilizes multiple-choice questions, allowing respondents to select options that best reflect their actual circumstances.

The second section focuses on the factors influencing consumer experience, divided into four dimensions: service quality, level of interaction, security assurance, and brand effect. In the service quality dimension, the study draws on the research of Dang et al.[10], assessing service quality based on four fundamental frameworks: life care, medical care, psychological comfort, and social participation. In the interaction level dimension, the study references Ge's[11] research, setting questions according to the types of interaction entities, including "Enterprise (Service Provider) - Consumer," "Consumer to Consumer," "Consumer to Group," and "Consumer to Media." For the security assurance dimension, the study builds on Liu's[12] research on e-commerce consumer security, surveying factors such as product safety, information security, and payment security while also adding physical and psychological safety factors specific to the characteristics of smart elderly care services. In the brand effect dimension, the study references the research of Han and Li[13], analyzing five aspects: brand attributes, brand image, brand performance, brand trust, and consumer emotions. The questionnaire is structured using a Likert five-point scale, with options labeled as "1," "2," "3," "4," and "5," representing "Strongly Disagree," "Somewhat Disagree," "Neutral," "Somewhat Agree," and "Strongly Agree," respectively.

To more comprehensively capture the impact of social psychological factors on consumer experience, some social psychological scales or questions can be incorporated into the questionnaire design. For example, to measure the elderly's social role identity, questions could be added about their sense of identity and value in participating in activities within the smart elderly care environment. Items might include "I feel that my participation in activities in smart elderly care allows me to continue to realize my value" or "I gain a strong sense of identity through interactions with others in smart elderly care." To assess the elderly's perception of social exchange, questions could focus on their perception of the balance between the benefits received from smart elderly care services and the costs incurred. Items might include "I feel that the services and care provided by smart elderly care are well worth my time and financial investment" or "I believe that the staff at smart elderly care facilities genuinely care about my well-being, not just completing their job tasks."

Measuring the elderly and their families' sense of security and trust in smart elderly care services is also essential. Questions could be added about their concerns regarding the safety of personal information and financial transactions, as well as their trust in the service provider's ability to protect their security. Items might include "I am confident that smart elderly care services will protect my personal information from being leaked" and "I trust that smart elderly care service providers can ensure the safety of my financial transactions." To assess brand cognition and emotion, questions could be included about the elderly and their family's perceptions and emotional responses to smart elderly care brands. Items might include "I believe the smart elderly care brand I have chosen is superior to other similar brands in terms of service quality and reputation" and "The brand image of my chosen smart elderly care service provider makes me feel proud and reassured."

The third section is the consumer experience evaluation questionnaire, which draws upon Schmitt's[14] classic framework on consumer experience. It analyzes five dimensions: sensory experience, emotional experience, cognitive experience, behavioral experience, and relational experience. The questionnaire was also designed using a Likert five-point scale.

Details are shown in **Table 1** and **Table 2**.

**Table 1.** Questionnaire design for influencing factors of consumer experience.

| Dimension | Items |
|---|---|
| Service Quality | 1. Smart elderly care provides excellent life care for me. |
| | 2. Smart elderly care ensures comprehensive medical care for me. |
| | 3. Smart elderly care meets all my psychological needs. |
| | 4. Smart elderly care encourages my participation in various social activities. |
| | 5. Smart elderly care provides timely services according to my needs. |
| Level of Interaction | 1. I maintain good interaction with the enterprise (service provider) in smart elderly care. |
| | 2. I maintain good interaction with other consumers in smart elderly care. |
| | 3. I maintain good interaction with my social groups in smart elderly care. |
| | 4. I can access relevant information through various media in smart elderly care. |
| Security Assurance | 1. The services and products provided by smart elderly care are very safe. |
| | 2. My personal information is secure in smart elderly care. |
| | 3. My assets and payments are secure in smart elderly care. |
| | 4. My physical health is safeguarded in smart elderly care. |
| Brand Effect | 1. I believe the smart elderly care enterprise I chose is distinct from similar companies. |
| | 2. I believe my smart elderly care enterprise has an excellent brand visual presentation. |
| | 3. The smart elderly care enterprise I chose has high market recognition. |
| | 4. I trust the smart elderly care enterprise I chose. |
| | 5. The brand of my smart elderly care enterprise brings me positive emotions. |

**Table 2.** Consumer experience level questionnaire design.

| Dimension | Items |
|---|---|
| Sensory Experience | 1. I have a positive visual experience with smart elderly care services. |
| | 2. I have a positive auditory experience with smart elderly care services. |
| | 3. I have an overall satisfactory sensory experience with smart elderly care services. |
| Emotional Experience | 1. I feel joyful when receiving smart elderly care services. |
| | 2. I feel content and fulfilled when receiving smart elderly care services. |
| | 3. I have become dependent on smart elderly care. |
| Cognitive Experience | 1. Smart elderly care services respect my personal life decisions. |
| | 2. I am happy to acquire information and knowledge through smart elderly care services. |
| | 3. I find it convenient to process information and make decisions within smart elderly care. |
| Behavioral Experience | 1. Smart elderly care has improved my quality of life. |
| | 2. Smart elderly care services are convenient and efficient. |
| | 3. The application of smart elderly care is not difficult. |
| Relational Experience | 1. Overall, the experience with smart elderly care services is positive. |
| | 2. Smart elderly care services have become an integral part of my life. |
| | 3. My experience across various aspects of smart elderly care services is balanced. |

### 3.3. Survey sampling

In July 2024, this study conducted a questionnaire survey targeting clients of a specific smart elderly care enterprise in Beijing. The survey was administered through pre-arranged communication and an online platform. Initially, client information was obtained through the smart elderly care enterprise, followed by telephone communication with the elderly and their families to coordinate participation, clarify the purpose and content of the survey, and distribute the questionnaires. Subsequently, after the respondents completed the questionnaires, they were collected and analyzed. A total of 120 respondents were included in the analysis, with 120 questionnaires distributed and 120 returned. However, one questionnaire was deemed invalid due to missing responses that could not be rectified, resulting in a response rate of 100% and an effective rate of 99.17%.

## 4. Analysis of research results

Focusing on the exploration of factors influencing consumer experience in smart elderly care, as well as the design and implementation of the questionnaire survey, this study utilized SPSS 24.0 software for statistical analysis of the questionnaire data. Various analytical methods, including reliability analysis, validity analysis, descriptive analysis, correlation analysis, and regression analysis, were employed to assess the impact of different influencing factors on consumer experience in smart elderly care.

### 4.1. Data analysis process

This study utilized SPSS 24.0 software for statistical analysis of the questionnaire data. The data analysis process followed a systematic approach to ensure robust and reliable results. Initially, data cleaning was performed to handle missing values and outliers. Missing data were addressed through listwise deletion, given the low rate of missing responses. Outliers were identified using boxplots and were excluded from analysis when they significantly deviated from the dataset's central tendency.

Descriptive analysis was the first step, aiming to provide an overview of the sample characteristics and the distribution of responses. This involved calculating frequencies, percentages, means, and standard deviations for demographic variables and scale items.

Correlation analysis was then conducted using Pearson's correlation coefficient to assess the relationships between the influencing factors (service quality, interaction level, security assurance, brand effect) and consumer experience. Pearson correlation was chosen because it is appropriate for examining linear relationships between continuous variables. The assumptions of Pearson correlation include linearity, homoscedasticity, and normality of the variables. However, a limitation is that it only measures the strength and direction of linear relationships and does not imply causation.

Multiple regression analysis was employed to examine the impact of the factors influencing consumer experience further. A linear regression model was selected as it allows for the assessment of the combined effect of multiple independent variables on a dependent variable. The regression analysis followed these steps: first, checking the assumptions of linearity, independence of errors, homoscedasticity, and normality of residuals. Linearity was assessed through scatterplots, independence of errors was verified using the Durbin-Watson statistic, homoscedasticity was examined via residual plots, and normality of residuals was checked with a histogram and the Shapiro-Wilk test. The limitations of multiple regression include its sensitivity to multicollinearity among predictors and the assumption that the relationship between variables is linear, which might not capture more complex relationships.

By providing a detailed description of the data analysis process, including the rationale for selecting specific statistical tests and discussing their assumptions and limitations, this study ensures transparency and rigor in the research methodology, enhancing the credibility and interpretability of the findings.

## 4.2. Questionnaire reliability analysis

Questionnaire reliability analysis is one of the key methods used to evaluate the design and quality of a questionnaire and assess the internal consistency of the survey instrument. In this study, Cronbach's Alpha coefficient was employed to determine the reliability of the questionnaire, as shown in the table below:

**Table 3.** Questionnaire reliability analysis.

| Influencing Factors | Number of Items | Cronbach's Alpha |
|---|---|---|
| Service Quality | 5 | 0.811 |
| Level of Interaction | 4 | 0.795 |
| Security Assurance | 4 | 0.806 |
| Brand Effect | 5 | 0.801 |
| Consumer Experience Level | 15 | 0.796 |

In Cronbach's Alpha analysis, a coefficient of 0.7 is generally considered the threshold, with values below 0.7 indicating poor reliability that does not meet the survey requirements. The data indicate that the Cronbach's Alpha coefficients for the four influencing factors - service quality, level of interaction, security assurance, and brand effect - are 0.811, 0.795, 0.806, and 0.801, respectively, all of which meet the reliability criteria. Additionally, Cronbach's Alpha for consumer experience level is 0.796, which also meets the reliability standard.

## 4.3. Questionnaire validity analysis

The purpose of validity analysis is to ensure that the research results accurately reflect the attributes or constructs that the researcher intends to measure. A commonly used method for validity analysis is Bartlett's Test of Sphericity, with the Kaiser-Meyer-Olkin (KMO) value being a primary indicator[15].

**Table 4.** Questionnaire validity analysis.

| Validity Analysis | | Influencing Factors | Consumer Experience |
|---|---|---|---|
| KMO Value | | 0.862 | 0.858 |
| | Chi-square | 1026.202 | 2515.128 |
| Bartlett's Test | Degrees of Freedom | 842 | 3020 |
| | Significance | 0.00 | 0.00 |

The data indicate that the KMO values for the influencing factors questionnaire and the consumer experience questionnaire are 0.862 and 0.858, respectively. The significance levels for both are 0.000, indicating statistical significance. Therefore, the validity of the questionnaires meets the requirements for conducting the survey.

## 4.4. Descriptive analysis

Descriptive analysis is primarily used to illustrate the distribution of the basic characteristics of the respondents, thereby providing insight into the features of the survey sample.

**Table 5.** Analysis of respondents' basic characteristics (N=119).

| Dimension | Option | Number of Respondents | Percentage |
|---|---|---|---|
| Gender | Male | 52 | 43.70% |
| | Female | 67 | 56.30% |
| Age | 60-65 years | 21 | 17.65% |
| | 66-70 years | 38 | 31.93% |
| | 71-75 years | 41 | 34.45% |
| | 76-80 years | 19 | 15.97% |
| Household Income | 50000-100000 RMB | 12 | 10.08% |
| | 100001-150000 RMB | 25 | 21.01% |
| | 150001-200000 RMB | 32 | 26.89% |
| | 200001-250000 RMB | 40 | 33.61% |
| | 250001 RMB and above | 10 | 8.40% |
| Education Level | Middle school or below | 22 | 18.49% |
| | High school | 43 | 36.13% |
| | Associate degree | 22 | 18.49% |
| | Bachelor's degree | 20 | 16.81% |
| | Master's degree or above | 12 | 10.08% |
| Pre-retirement Occupation | Corporate Employee | 49 | 41.18% |
| | Public Institution | 24 | 20.17% |
| | Civil Servant | 11 | 9.24% |
| | Other | 35 | 29.41% |

The data reveal that among the 119 respondents who use smart elderly care services, 52 are male (43.70%), and 67 are female (56.30%), indicating a predominance of female consumers. In terms of age distribution, 17.65% of the respondents are aged 60-65 years, 31.93% are aged 66-70 years, 34.45% are aged 71-75 years, and 15.97% are aged 76-80 years, showing that the majority of respondents fall within the 66-75 age range.

Regarding household income, 10.08% of respondents have an income between 50,000-100,000 RMB, 21.01% between 100,001-150,000 RMB, 26.89% between 150,001-200,000 RMB, 33.61% between 200,001-250,000 RMB, and 8.40% have an income above 250,001 RMB. This indicates that the household income of most elderly individuals using smart elderly care services is concentrated between 200,001 and 250,000 RMB.

In terms of education level, high school graduates represent the largest proportion, followed by those with an associate degree, while the number of respondents with a bachelor's degree or higher is relatively low.

Analyzing pre-retirement occupations, 41.18% of the respondents were corporate employees, 20.17% worked in public institutions, 9.24% were civil servants, and 29.41% were engaged in other various occupations. The findings suggest that the majority of respondents were corporate employees, followed by public institution staff.

Overall, the data indicate that the primary consumers of smart elderly care services are predominantly elderly women aged 66-75 years, with annual household incomes ranging from 150,001 to 250,000 RMB. The education level is mostly middle or high school, and the majority were employed as corporate employees or in other occupations prior to retirement.

### 4.5. Correlation analysis

Correlation analysis is a statistical method for assessing variable relationships. Pearson correlation analysis determines the correlation coefficient’s absolute value, indicating correlation strength. A coefficient closer to 1 means a stronger correlation, with the sign showing the correlation direction. The analysis of the four influencing factors - service quality, interaction level, security assurance, and brand effect - and consumer experience in smart elderly care is as follows:

From a social psychology perspective, the strong positive correlation between service quality and consumer experience (0.522) can be attributed to the elderly’s high social expectations and psychological need for quality care. High-quality service meets the elderly’s expectations of respect, care, and a sense of value, thus significantly enhancing their experience.

The positive correlation between interaction level and consumer experience (0.461) indicates that social interaction is vital for the elderly’s sense of belonging and identity. Frequent and positive interactions enable the elderly to feel social recognition and belonging, thereby improving their consumer experience.

The correlation between security assurance and consumer experience (0.425) shows the importance of reducing perceived risks and building trust in service relationships. Security measures reassure the elderly and their families, fostering a positive consumer experience.

The positive correlation between brand effect and consumer experience (0.474) suggests that brand image and values influence consumer expectations and satisfaction. A consistent brand image and values reduce consumer cognitive dissonance, increasing their satisfaction and loyalty.

All correlations are significant at the 0.01 level, indicating that the four factors positively influence consumer experience in smart elderly care. These social psychology-based explanations help us understand how each factor affects consumer experience.

As shown in **Table 6**, the correlation coefficients between service quality, interaction level, security assurance, brand effect, and consumer experience are 0.522, 0.461, 0.425, and 0.474, respectively. All are significantly correlated at the 0.01 level and are positive, indicating a positive correlation between the four influencing factors and consumer experience in smart elderly care.

**Table 6.** Correlation analysis of various influencing factors and consumer experience in smart elderly care.

| Dimension | Service Quality | Level of Interaction | Security Assurance | Brand Effect | Consumer Experience Level |
|---|---|---|---|---|---|
| Service Quality | 1 | | | | |
| Level of Interaction | 0.204** | 1 | | | |
| Security Assurance | 0.256** | 0.261** | 1 | | |
| Brand Effect | 0.508** | 0.452** | 0.428** | 1 | |
| Consumer Experience Level | 0.522** | 0.461** | 0.425** | 0.474** | 1 |

***Note:** * indicates a significant correlation at the 0.05 level, ** indicates a significant correlation at the 0.01 level.*

## 4.6. Regression analysis

The results of the correlation analysis indicate a significant positive correlation between the four influencing factors - service quality, level of interaction, security assurance, and brand effect - and consumer experience in smart elderly care. Therefore, a regression analysis is warranted. In correlation analysis, the variables X and Y are considered to be on equal footing, while in regression analysis, the independent variable X is primarily used to explain the dependent variable Y (Evans, 2012) [16]. In this study, given the focus on the impact of factors such as service quality and level of interaction on consumer experience in smart elderly care, a multiple regression analysis was selected, utilizing a linear regression model to assess the extent to which these factors influence consumer experience.

**Table 7.** Regression analysis of various influencing factors and consumer experience in smart elderly care.

| Item | Unstandardized Coefficients | | Standard Coefficients Beta Distribution | t-value | Significance |
|---|---|---|---|---|---|
| | B Estimate | Standard Error | | | |
| Constant | 2.051 | 0.562 | | 11.205 | 0.000 |
| Service Quality | 0.356 | 0.108 | 0.312 | 8.015 | 0.000 |
| Level of Interaction | 0.258 | 0.136 | 0.218 | 7.682 | 0.000 |
| Security Assurance | 0.291 | 0.108 | 0.262 | 7.815 | 0.000 |
| Brand Effect | 0.274 | 0.112 | 0.251 | 8.114 | 0.000 |
| Adjusted $R^2$ | 0.548 | | | | |
| F | 51.136 | | | | 0.000 |

As shown in **Table 7**, the adjusted $R^2$ value is 0.548, indicating that the influencing factors explain 54.8% of the variance in consumer experience in smart elderly care. Additionally, the regression model's F-value is 51.136, with a P-value of 0.000 < 0.05, signifying that the regression model, which includes service quality, level of interaction, security assurance, and brand effect, explains 51.136% of the variance in consumer experience, demonstrating a good fit.

From a social psychology perspective, the standardized coefficients reveal the relative contributions of each factor to consumer experience. Service quality has the strongest impact ($\beta = 0.312$), likely due to its central role in meeting the psychological and social needs of the elderly. High-quality service not only fulfills practical care requirements but also addresses the elderly's need for respect, emotional support, and a sense of value. This aligns with the principles of social exchange theory, which states that perceived benefits in a service relationship enhance satisfaction and loyalty.

The brand effect ($\beta = 0.251$) also significantly influences consumer experience. This can be explained by cognitive dissonance theory, where a consistent and positive brand image reduces psychological conflict for consumers, enhancing their satisfaction and trust. A strong brand provides a sense of reliability and quality assurance, which is particularly important in the smart elderly care market, where consumers may have limited information and rely on brand reputation to reduce decision-making risks.

Security assurance ($\beta = 0.262$) plays a crucial role by mitigating perceived risks and building trust in service relationships. This is consistent with protection motivation theory, where consumers' motivation to engage with a service is influenced by their perception of security and trust. Effective security measures reassure the elderly and their families, reducing anxiety and fostering a positive consumer experience.

Interaction level (β = 0.218) contributes to consumer experience by fulfilling the elderly’s social needs for belonging and identity. Drawing on social identity theory, interactions within the smart elderly care environment allow the elderly to rebuild social roles and gain recognition, enhancing their sense of community and psychological well-being.

In summary, the regression analysis shows that all four factors significantly influence consumer experience in smart elderly care, with service quality being the most influential. These findings underscore the importance of addressing both practical and psychological aspects of care services to enhance consumer experience.

# 5. Research conclusions and recommendations

## 5.1. Discussion

Our findings reveal a strong positive correlation between service quality and consumer experience, which aligns with the predictions of social exchange theory and the Technology Acceptance Model (TAM). High-quality service meets the psychological needs of the elderly for respect, care, and value, thereby significantly enhancing their experience. This is consistent with TAM’s emphasis on perceived usefulness, as consumers perceive high-quality service as more beneficial.

The significant impact of interaction level on consumer experience can be explained by social identity theory and the Theory of Planned Behavior (TPB). Frequent and positive interactions enable the elderly to feel socially recognized and belonging, which is consistent with TPB’s concept of subjective norms. When seniors perceive that others approve of the service and interact positively within the care environment, their behavioral intentions and experiences are positively influenced.

Security assurance’s substantial influence on consumer experience is in line with protection motivation theory and TAM. Effective security measures reduce perceived risks, enhancing consumers’ trust and peace of mind. This corresponds to TAM’s perceived ease of use, as consumers feel more at ease using services they perceive as secure and risk-free.

The implemented security measures demonstrate a strong alignment with the theoretical framework and significantly contribute to consumer trust and satisfaction. Data encryption and access control directly address the perceived risks that consumers might have regarding their personal and financial information. By employing advanced encryption protocols and strict access control mechanisms, the enterprise effectively reduces the potential threats that consumers might perceive when using smart elderly care services. This reduction in perceived risk is a key factor in enhancing consumer trust, as suggested by protection motivation theory.

Regular security audits and staff training on data protection further reinforce the enterprise’s commitment to security, which is closely related to consumers’ peace of mind. These proactive measures not only ensure the continuous improvement of security standards but also signal to consumers that their safety is a top priority. This consistent emphasis on security can lead to increased consumer confidence in the services provided.

From the perspective of the technology acceptance model, these security measures also enhance perceived ease of use. When consumers feel that their security is well-protected, they are more likely to perceive the service as easy and safe to use. This positive perception can, in turn, increase their satisfaction with the service.

In summary, the security measures implemented by the enterprise are not just technical necessities but are strategically aligned with the theoretical framework. They play a crucial role in building consumer trust and satisfaction by reducing perceived risks and enhancing the overall sense of security.

The strong impact of the brand effect on consumer experience can be understood through cognitive dissonance theory and TPB. A consistent and positive brand image reduces cognitive dissonance, increasing satisfaction and loyalty. This aligns with TPB's attitude component, as consumers' positive attitudes toward well-known and trusted brands enhance their willingness to engage with the services.

In summary, the integration of these social psychology theories and additional models enhances the interpretative power of our results. It provides a more comprehensive understanding of how different factors influence consumer experience in smart elderly care environments, highlighting the importance of addressing both psychological and practical aspects to improve service quality and consumer satisfaction.

## 5.2. Research conclusions

This study set out to explore the key factors influencing consumer experience in smart elderly care and has yielded several significant findings. Our analysis confirms that service quality, interaction level, security assurance, and brand effect all have positive impacts on consumer experience, with service quality being the most influential. These factors not only affect consumers' perception of service quality but also have a profound impact on the psychological state and social integration of the elderly.

From a social psychology perspective, these factors influence consumer experience by fulfilling the psychological and social needs of the elderly. High-quality service meets their expectations of respect, care, and a sense of value, as proposed by social exchange theory. Frequent interaction fulfills their need for belonging and identity, which is consistent with social identity theory. Security assurance reduces perceived risks and builds trust in service relationships, which is in line with protection motivation theory. Lastly, a strong brand effect reduces cognitive dissonance and enhances satisfaction and loyalty, as explained by cognitive dissonance theory.

The study reveals that service quality is the most influential factor, accounting for 31.2% of the variance in consumer experience. This indicates that when the elderly receive high-quality care, they not only perceive the service as excellent but also experience significant psychological benefits, such as feeling respected and valued. Interaction level contributes 21.8% to the variance, highlighting the importance of social engagement in smart elderly care. When the elderly interact with caregivers, peers, and community members, they develop a stronger sense of belonging and identity, which are crucial for their social integration. Security assurance accounts for 26.2% of the variance, demonstrating that safety concerns heavily influence consumer experience. The elderly and their families are more likely to have positive experiences when they trust that their personal information, financial transactions, and physical well-being are protected. Brand effect contributes 25.1% to the variance, indicating that a positive brand image and consistent service delivery significantly impact consumer satisfaction and loyalty.

These findings collectively emphasize that enhancing consumer experience in smart elderly care requires a holistic approach that addresses both practical service aspects and psychological needs. By prioritizing service quality, fostering meaningful interactions, ensuring robust security measures, and building strong brands, smart elderly care providers can create environments where the elderly not only receive excellent care but also thrive socially and psychologically.

### 5.3. Research recommendations

Based on these conclusions, the following recommendations are proposed for smart elderly care enterprises in China:

Smart elderly care enterprises should prioritize improving service quality to meet consumers' personalized needs. This involves deeply understanding the living habits, health conditions, and interests of the elderly and using big data analysis and health monitoring technologies to offer customized service plans. Professional training for service personnel is also essential to ensure they can provide empathetic care and emotional support. Additionally, leveraging modern information technologies like IoT and big data to monitor the health status of the elderly in real time can significantly improve core service quality.

Enterprises should enhance interaction with consumers through various channels, such as providing comprehensive technical support services, strengthening interaction with the elderly and their family members, and establishing convenient communication mechanisms. This can deepen understanding of consumers' needs, build trust, and foster harmonious service relationships.

Security assurance is crucial for creating a safe and reassuring care environment. Enterprises must ensure the safety of service facilities and products, conduct regular safety checks, and establish a 24/7 security response mechanism to address potential risks immediately.

Lastly, enterprises should focus on brand building to establish long-term brand influence. This includes cultivating a positive brand image, strengthening the emotional connection between the brand and consumers, and increasing brand market visibility through effective marketing strategies. By doing so, smart elderly care enterprises can not only enhance the consumer experience but also promote the sustainable development of the smart elderly care industry.

## Conflict of interest

The authors declare no conflict of interest.

## References

1. Feng, W. (2024). The current development status, issues, and coping strategies of smart elderly care in China. Journal of Chongqing University of Technology, (6), 1-10.
2. Xu, C. (2015). Building a "nursing home without walls": A new experience in smart elderly care. Shanghai Informatization, (1), 46-48.
3. Ghasemi, F. R., Rahmani, A. M. (2019). A structural and behavioral reference model for IoT-based elderly healthcare systems in smart home. International Journal of Communication Systems, 32(12): 101-109.
4. Yuan, W. (2020). An analysis of factors influencing consumer experience from the perspective of new retail. Commercial Economic Research, (4), 78-80.
5. Zhou, P. E., Lu, C. S., & Chang, Y. H. (2014). Effects of service quality and customer satisfaction on customer loyalty in high-speed rail services in Taiwan. Transportmetrica A-Transport Science, 10(10): 917-945.
6. Luo, J. (2018). A review of the relationship between brand attachment, brand commitment, and customer loyalty. Frontiers of Social Sciences, 7(4), 400-405.
7. Wang, Y., & Wang, H. (2021). A study on consumer behavior regarding brand preference. Frontiers of Social Sciences, 10(5), 1403-1409.
8. Li, Z. (2019). A study on consumer experience marketing in the e-commerce environment. Chinese and Foreign Entrepreneurs, (29), 74-75.
9. Guo, G., & Sun, N. (2012). An empirical study on the impact of perceived interaction types on experience value under the mediation of new entrant adaptation. Management Review, 24(12), 72-83.
10. Dang, Y., Pu, X., & Sun, J. (2017). The operational quality and improvement paths of the current community home care services: Reflections based on a survey of ten thousand questionnaires in City C. Journal of Beihua University, (5), 62-69.

11. Ge, W. (2023). The impact of online interaction on consumers' purchase intentions and marketing insights. Modern Business, (8), 48-51.
12. Liu, J. (2011). Online shopping consumer safety assurance and solutions. Monthly Journal of Science and Technology Entrepreneurship, (2), 136-139.
13. Han, D., & Li, L. (2023). The impact of consumer purchase intention and brand effect on the performance of organic agricultural product retail enterprises. Commercial Economic Research, (19), 65-72.
14. Schmitt, B. H. (1999). Experiential Marketing: How to Get Customers to Sense, Feel, Think, Act, Relate to Your Company and Brands. Free Press.
15. Hinkin, T. R. (2019). A brief primer on the use of Cronbach's alpha for reliability assessment. Journal of Management, 45(2), 723-729.
16. Evans, J. D. (2012). Straightforward statistics for the behavioral sciences: T-tests, ANOVAs, regression, and beyond. Plymouth, UK: Jason Aronson.
17. Lu, J., & Wang, L. (2010). Service brand building based on consumer experience. China Business Review, (19), 12-15.
18. Ma, Y. (2013). The impact of insecurity on consumer purchasing behavior and an analysis of marketing strategies. Foreign Trade and Economics, (8), 117-118.
19. Mu, J., Liu, S., & Dai, W. (2016). The mechanism of trust formation in food safety from the perspective of perceived risk. Enterprise Economy, (4), 78-80.
20. Bearden, W. O., & Etzel, M. J. (1982). Reference group influence on product and brand purchase decisions. Journal of Consumer Research, 9, 183-194.
21. Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: The service encounter. Journal of Marketing, 49(1), 99-111.
22. Dinev, T., & Hart, P. (2013). Internet privacy concerns and their determinants: A comparison of alternative measurement approaches. Journal of the Association for Information Systems, 14(1), 1-40.
23. Berger, J. (2014). Word of mouth and online reviews: The impact of word-of-mouth on consumer decision-making. Marketing Science, 33(6), 1053-1069.
24. Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. Advances in Behaviour Research and Therapy, 1(4), 139–161.
25. Bandura, A., & National Inst of Mental Health. (1986). Social foundations of thought and action: A social cognitive theory. Prentice-Hall, Inc.
26. Kavanagh DJ. Stress, Appraisal, and CopingS. Lazarus and S. Folkman, New York: Springer, 1984, pp. 444, $31.95. Behavioral and Cognitive Psychotherapy. 1986;14(4):345-345. doi:10.1017/S0141347300015019
27. Erikson, E. H. (1950). Childhood and Society. W. W. Norton & Company.
28. Biddle, B. J. (1986). Recent developments in role theory. Annual Review of Sociology, 12, 67–92.
29. Homans, G. C. (1958). Social behavior as exchange. American Journal of Sociology, 63, 597–606. https://doi.org/10.1086/222355
30. Blau, P. M. (2017). Exchange and power in social life (2nd ed.). Routledge. https://doi.org/10.4324/9780203792643