

Research on the Needs and Preferences of Elderly Consumers in Fashion Design

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Abstract

By 2050, the world's population aged 65 and above will reach 1.6 billion. The fashion market for elderly consumers has excellent potential, but there is a lack of research and design guidelines in this field. Previous research mainly focused on the functionality of clothing while neglecting the aesthetic and expressive factors in elderly clothing choices. This study aims to investigate the needs and preferences of elderly consumers in fashion design and propose design suggestions for elderly clothing by analyzing their needs and preferences to change the current situation of the elderly fashion market and make the creation of elderly dresses more humane. The FEA consumer needs model is an essential theoretical framework for guiding this study. This study used a mixed research method to interview four Chinese elderly consumers and collected 207 questionnaires for Chinese elderly consumers, using Thematic analysis, frequency analysis, and descriptive statistical analysis. The research reveals the different needs and preferences of elderly consumers in Fashion design. The research findings emphasize the importance of combining comfort and fashion in elderly fashion design while providing opportunities for self-expression. This study contributes to the existing literature on the needs and preferences of elderly consumers in fashion design. It provides practical solutions for designers to develop products that meet these needs and preferences. This study can potentially improve the quality of life of elderly consumers, increase sales in the elderly fashion market, and promote social inclusion, positively impacting the fashion industry and society.

1. Introduction

With the aging of the World population, the elderly population is becoming an increasingly important population group, and their consumption patterns and preferences are receiving more and more attention from researchers and designers [1]. According to the 2023 World Social Report released by the United Nations in January 2023, the number of people aged 65 and above is expected to double in the next 30 years, reaching 1.6 billion by 2050, with older adults accounting for 16% of the global population. This demographic shift is leading to consumer behavior and preferences changes, including in the fashion industry [2]. However, the fashion industry's response to the needs of the elderly market is slow, and many elderly consumers find it challenging to find clothing that suits their preferences [3]. This situation has led to a massive gap in the fashion market for elderly consumers (Zhang J et al., 2015), creating a significant opportunity for designers to develop products that meet this group's specific needs and preferences.

1.1 Statement of the Problem

However, previous studies have mainly focused on the functional aspects of clothing, such as comfort and ease of use [4], [5], while neglecting the aesthetic and expressive factors of elderly clothing choices. Collecting various perspectives from different dimensions is crucial for understanding the preferences and breadth of needs of the elderly consumer group. If fashion designers and marketers want to create clothes that meet the needs of this group but do not realize this, they may miss the opportunity to develop and sell clothes that meet the unique needs of elderly consumers, leading to a decline in satisfaction and sales in the fashion industry.

Therefore, this study aims to fill this knowledge gap by investigating the needs and preferences of elderly consumers in fashion design, including functional, expressive, and aesthetic dimensions, and provide practical design suggestions for designers to develop clothing for elderly consumers. This, in turn, will improve fashion design for elderly consumers, thereby increasing sales and customer satisfaction and improving the quality of life for elderly consumers.

1.2 Research Questions

What functional elements of fashion design (fit, activity, comfort, protection, wear/take off) are essential for elderly consumers? What are the aesthetic elements (elements of art, design principles, body/fashion relationship) preferred by elderly consumers in fashion design? What role does expressiveness (values, roles, status, self-esteem) play in shaping the needs and preferences of elderly consumers in fashion design?

1.3 Research Objectives

To identify the priority fashion design functional attributes for elderly consumers. To explore the aesthetic elements preferred by elderly consumers in fashion design. To examine the role of expressiveness in shaping the fashion design needs and preferences of elderly consumers.

1.4 Significance of the Study

The results of this study have significant implications for the fashion industry, designers, and elderly consumers. Designers and fashion companies can use the design suggestions provided in this study to design and produce clothing that meets the needs of elderly consumers, thereby increasing sales and customer satisfaction. Elderly consumers can benefit from improved fashion design that meets their physiological, psychological, and cultural needs, improving their quality of life and promoting social integration. In addition, this study helps raise awareness of the importance of designing inclusive and diverse clothing, which can positively impact the fashion industry and society.

1.5 Limitations of the Study

However, there are some limitations to this study. First, the sample size is relatively small, including only older consumers in Ningbo, China. Second, our study mainly used thematic analysis, frequency analysis, and descriptive statistical analysis, and the analysis and inference of the data were more limited. Finally, although this study provides some practical design suggestions, actual product development and market application still require further consideration of various factors, such as cost, production feasibility, and market competition.

2. Literature Review

2.1 Population Aging and Fashion Industry

The aging population and population changes have brought new challenges to today's society [6]. The aging population represents an important segmented market with specific requirements for clothing. [7] showed the need to segment the older consumer market and target each segment with different marketing strategies and plans for specific consumer products and services. [8] noted the opportunities and challenges of segmenting older consumers and found that older consumers have considerable purchasing power in the market. [9] emphasized the new values and lifestyles of elderly consumers and the importance of incorporating their needs into innovative business strategies. This study revealed the new central position of elderly consumers, and society should actively respond to the pursuit of aging. [10] found that fashion influencers over 70 still create important discourse for women, the elderly, and society.

The survey results of [3] confirm that retailers have overlooked the elderly consumer market. In the face of demographic changes, mature consumers will become increasingly important to the fashion industry. [11] investigated the clothing and shopping preferences of elderly women in the United States. They found that as mature markets expand, attention to different ages will determine the success of clothing companies. This study

emphasizes the importance of understanding the needs of mature consumers. Older consumers desire fashionable clothing and are willing to invest in their appearance [3]. Fashion designers and retailers need to recognize and cater to the needs and preferences of this growing segmented market.

2.2 Socio-cultural Factors and fashion preferences

Kh, K. D & Kh, N. L. (2022) pointed out that the social behavior practice of elderly people depends on the phenomena that occur in society, social activities, the interaction between individuals and the social environment, individual value orientations, and physical characteristics of individuals [12]. Elderly consumers crave age-appropriate but fashionable clothing to adapt to their constantly changing bodies, and trendy and comfortable clothing can enhance their confidence [13]. [11] found that the fashion industry currently focuses on consumers with age bias, and the elderly consumer market is underestimated.

The study emphasizes the importance of challenging age discrimination to promote more inclusive fashion choices for elderly consumers. Elderly consumers face the threat of age-based stereotypes in service environments [14], leading to negative customer experiences. The ideal identity can mediate the danger of stereotypes in the elderly and the willingness to purchase popular brands [15]. [16] explored the aging, body image, and socio-cultural appearance pressure of elderly people. The study showed that regardless of age and cultural differences, body image and appearance are important for elderly people, and their body image can significantly impact their health. The differences in fashion consumption among elderly consumers are more related to employment status [17]. [18] found that elderly consumers are dissatisfied with certain aspects of shopping malls regarding experience. Retailers and mall managers need to redesign shopping centers if they want to cater to the needs and purchasing power of elderly shoppers. This study emphasizes the importance of understanding the fashion preferences of elderly consumers. Fashion designers should strive to challenge stereotypes and recognize the needs and preferences of elderly consumers in fashion.

2.3 The impact of psychological and physiological factors on the elderly

Elderly consumers have their tastes and fashion preferences, and they have their own needs from both psychological and physiological aspects [19].

Physiologically, the physiological changes that occur in elderly people as they age include changes in body shape, mobility, and sensory perception. Palamutcu &Goren (2015) [20] found that comfort is the main preference of elderly people compared to the fashion and functional characteristics of textiles, and women have a higher interest in functional materials than men. Chang et al. (2019) [21] investigated the body shape, Sportswear preference, and sports behavior of elderly female consumers. The results showed that most elderly female consumers think their body shape is apple-shaped, and they mainly prefer loose short-sleeved shirts and trousers to match Sportswear. This study emphasized that the design of elderly clothing should address the challenges of different body shapes and promote the positive self-awareness of elderly consumers. Nyong & Duze (2011) [2] found that for the best interests and care of the elderly, the health issues of frail and disabled elderly require adaptable clothing. This study emphasizes the importance of promoting comfortable and adaptive fashion design. [22] considered the application of intelligent textiles and Wearable technology in the design of clothing for the elderly to enhance multi-functional and protective functions and benefit the elderly. The study emphasized the importance of providing adjustable functions and convenient wearing for elderly consumers.

Psychologically, clothing can promote the internal connection between the identity and self-communication, self-esteem, and body image of elderly people, and their self-assessment of health status, age identity, and self-actualization directly affect their physical and mental health [23]. Fashion is important in elderly consumers' self-expression and maintaining a positive self-image. Fashion also plays a very important role in enhancing the self-esteem and self-confidence of the elderly, so Fashion design should meet their needs and self-image [3]. Clothing plays a crucial role in the formation of identity. Nocentini et al. (2022) [24] proposed an innovative assistive robot model to interact and communicate with elderly people to meet their fashion needs. Seon et al. (2021) [25] found a positive correlation between fashion participation and happiness in later life.

2.4 Research Framework

This study uses the FEA consumer demand model (Lamb & Kallal, 1992) as the theoretical framework, which divides consumer demand for clothing into three dimensions: functionality, expressiveness, and aesthetics. Functional includes concepts such as fit, mobility, comfort, protection, and on/off. Expressive includes the role of clothing in expressing personal values, roles, status, and self-esteem, capturing the social and psychological aspects of clothing preferences. Aesthetic includes the visual and artistic aspects of clothing design, including the elements of clothing art, design principles, and the relationship between the body and clothing. This model provides a comprehensive approach to understanding the needs and preferences of elderly consumers in clothing design.



Figure 1: FEA consumer needs model

3. Methods

3.1 Research Design

This study selected a mixed research method of interview and questionnaire survey to collect data. The survey content of the questionnaire and interview was developed based on the FEA consumer needs model's (Lamb & Kallal, 1992) three dimensions and divided into functionality, expressiveness, and aesthetics. Many studies have used this framework using hybrid research methods [26], [27], [28].

Questionnaire survey: The questionnaire uses a typical five-level Likert project format, which very disagrees, disagree, neither agree nor disagree/neutral, agree, very agree. Respondents use numbers ranging from 1 to 5 to indicate their preference for fashion design, with 1 indicating strong disagreement and 5 indicating strong agreement. Many studies have tested the FEA consumer needs model (Lamb & Kallal, 1992) using the Likert scale to construct a questionnaire [29], [27], [30]. This scale is easy to implement for investigating elderly consumers, with simple answers and quantifiable answer options. Functional needs are measured through five questions to test the importance of respondents' clothing functional needs, including: 1) The fit of clothing is important to me; 2) The flexibility of clothing is important to me; 3) The comfort of clothing is important to me; 4) The protection provided by clothing is important to me; 5) The convenience of wearing and taking off clothing is important to me. The evaluation of expressive needs includes the following five questions: 1) The artistic elements of the clothes (e.g., colors, patterns, textures) are important to me; 2) It is important for me that the design of clothing can modify my body shape; 3) I like classic and timeless design rather than popular and fashionable design; 4) It is important for me that clothing is visually attractive; 5) Clothing should fit well, and provide comfort for the body. There are five questions for measuring aesthetic needs: 1) Clothing is a way to express my values; 2) I express my style through clothing; 3) It is important to me that clothing matches my social status; 4) It is important to me that my clothing fits my social role; 5) Clothing helps to improve my self-esteem and self-confidence.

Interview: The interview investigated the needs and preferences of elderly consumers in fashion design. The survey content added challenges and suggestions based on three dimensions, further exploring the challenges faced by respondents in finding clothing that meets their needs and preferences and soliciting their opinions or suggestions on improving fashion design to better cater to elderly consumers. Except for demographic data, all questions are open-ended. Respondents were first asked about their Functional requirements in fashion design. Ask about fit, convenience, comfort, protection, and easy on/off factors. Secondly, explore the respondents' aesthetic needs and preferences in fashion design. Ask them about their preferences for Elements of art, design principles, and the relationship between their bodies and clothes. Then, discuss the interviewees' expression needs and how fashion design plays a role in expressing their identity and personality. Ask them about their views on expressing their values, roles, status, and self-esteem through clothing choices. Finally, the challenges faced by respondents in finding clothing that meets their needs and preferences were discussed. Seek their opinions or suggestions on improving fashion design to cater to elderly consumers.

3.2 Population and sample

Questionnaire survey: Quantitative research includes a questionnaire distributed to 207 elderly Chinese consumers aged 60 and above to collect data on their needs and preferences who experienced fashion consumption. [31] pointed out that the sample size should be at least 200 cases to provide preliminary estimates of reliability and effectiveness. Approximately 200 sample sizes are typical for correlation analysis [32]. Based on the above and considering resource constraints and the feasibility of data collection, a sample size of 207 is considered suitable for this study. A questionnaire can collect quantitative data from a larger sample size. A face-to-face survey was conducted in the Ningbo area of China, mainly in areas with a high elderly population. The investigation period is from May 19, 2023, to June 1, 2023.

Interview: Due to resource constraints, time constraints, and a focus on obtaining in-depth insights from a limited sample, the number of interviews in this qualitative study was 4. [33] showed that a relatively small sample size could be used to discover rich qualitative research results, with representatives of some topics requiring a minimum sample size of 4 to 6. Qualitative data from small samples can represent all dimensions of people's experiences. The inclusion criteria for selecting interview participants are elderly Chinese consumers aged 60 and above with a certain economic foundation and fashion consumption experience. Excluding individuals who do not meet the required demographic characteristics or cognitive limitations and cannot express their views and experiences effectively. The participants of this study are four elderly people from China, who will be referred to as P1, P2, P3, and P4 to protect their identity. P1: 62 years old, female, retired teacher. P2: 65 years old, male, retired engineer. P3: 69 years old, female, retired nurse. P4: 70 years old, female, retired business leader. By interviewing four elderly Chinese consumers, we aim better to understand their needs and preferences in fashion design. The investigation period is from May 19, 2023, to June 1, 2023.

3.3 Sampling Technique

Questionnaire survey: The sampling technique used in this study questionnaire is convenience sampling. Convenient sampling is a non-probabilistic or nonrandom sampling that refers to samples taken from sources easily accessible to researchers [34]. This method makes it easier for researchers to access participants [35]. There are many studies on the fashion needs and preferences of the elderly using convenient sampling [36], [11], [37]. The reason for choosing convenient sampling in this study is its practicality and accessibility in obtaining samples of the elderly. The study mainly distributed questionnaires in areas with a high influx of elderly people. Participants were recruited from local parks, various community centers, elderly activity centers, and nursing homes, where potential participants were easily exposed.

Interview: The interview in this study was conducted using judgment sampling. Judgmental sampling is a method of non-probability sampling, also known as purposive sampling. It involves a specific purpose, where researchers use their judgment to select a group of people who understand the problem [38]. This study aims to investigate the unique views of elderly consumers on their fashion needs and preferences, so it needs to be guided by specific standards, such as elderly consumers over 60 years of age, and some other factors, such as Socioeconomic status or fashion participation. The goal is to consider the target population's different backgrounds, lifestyles, and preferences, ensuring a diverse representation of elderly consumers to understand better the specific phenomena being investigated.

3.4 Instruments

Questionnaire survey: The tool for collecting quantitative data in this study is a structured survey questionnaire. The FEA consumer needs framework (Lamb & Kallal, 1992) guides the development of the questionnaire, which suggests that the clothing needs of elderly consumers can be divided into three categories. Participants were asked to use the five-point Likert scale to evaluate their agreement with each statement, from "very disagree" to "very agree." There have been many studies testing the FEA consumer needs model (Lamb & Kallal, 1992) using the Likert scale to construct questionnaires [29]; [39]; [40]; [41]. This scale is easy to implement for investigating elderly consumers, with straightforward answers and quantifiable answer options.

Interview: The tool used for the interview is a semi-structured interview guide. The interview guide is a list of questions [42] that guides the conversation toward the research topic during the interview process [43]. All participants are asked the same questions within a flexible framework, but the ranking of questions can be flexible [44] (Dearnley, 2005). The interview guide for this study was developed based on the research objectives. The survey content added the theme of challenges and suggestions to the three dimensions of the FEA consumer demand model (Lamb & Kallal, 1992), further exploring the challenges faced by respondents in finding clothing that meets their needs and preferences and soliciting their opinions or suggestions on improving fashion design to better cater to elderly consumers. Except for demographic data, all questions are open-ended. The interview aims to collect qualitative data to supplement the quantitative data obtained through structured survey questionnaires.

3.5 Method of Data Analysis

The questionnaire uses Microsoft Excel software to analyze the data obtained from the survey. It uses descriptive analysis methods to present the data, including percentages, mean scores, and standard deviations, to determine the overall level of agreement or disagreement with each item. A frequency analysis will also be performed to determine the distribution of responses in the Likert scale options. The data is presented using tables and graphs to enhance understanding and interpretation of survey results.

4. Results and Findings

4.1 Quantitative Findings

Table 1: Demographic information

Item		Number	Percentage
Age	60-65	138	66.67%
	66-70	56	27.05%
	71-75	9	4.35%
	76 years and above	4	1.93%
Gender	Male	98	47.34%
	Female	109	52.66%

This survey focuses on elderly people aged 60 and above, and 207 survey questionnaires were collected. People aged 60 to 70 have a relatively concentrated response to a single topic, while older people have lower participation. The proportion of men and women participating in this question is equivalent, without significant gender bias.

Table 2: Functional Requirements for Fashion Design

Variables		Frequency	Percentage
The fit of clothing is important to me.	Strongly disagree	31	14.98%
	Disagree	32	15.46%
	Neutral	42	20.29%
	Agree	62	29.95%
	Strongly Agree	40	19.32%
The flexibility of clothing is important to me.	Strongly Disagree	27	13.04%
	Disagree	32	15.46%
	Neutral	50	24.15%
	Agree	56	27.05%
	Strongly Agree	42	20.29%
The comfort of clothing is important to me.	Strongly Disagree	30	14.49%
	Disagree	22	10.63%
	Neutral	54	26.09%
	Agree	52	25.12%
	Strongly Agree	49	23.67%
The protection provided by clothing is important to me.	Strongly Disagree	39	18.84%
	Disagree	32	15.46%
	Neutral	49	23.67%
	Agree	44	21.26%
	Strongly Agree	43	20.77%
The convenience of wearing and taking off clothing is important to me.	Strongly Disagree	33	15.94%
	Disagree	30	14.49%
	Neutral	39	18.84%
	Agree	50	24.15%
	Strongly Agree	55	26.57%

Functional: For the respondents, the fitting of clothing is crucial. More than half of the people (49.27%) agree or strongly agree with this statement. More than half (47.34%) of the people agree or strongly agree with the flexibility of clothing, with slightly more agreeing than strongly agreeing. Therefore, it can be concluded that

the flexibility of clothing is considered more important by most people. Most people (48.79%) believe that the comfort of clothing is essential. 41.03% of people believe that clothing is essential for protecting them, including 21.26% who agree and 20.77% who strongly agree. 23.67% of people hold a neutral attitude. 34.30% of people do not agree or strongly disagree. It can be observed that people's views on clothing as protection are relatively evenly distributed and have no apparent bias.

Suppose it is necessary to have a deeper understanding of this issue. In that case, further analysis can be considered to determine whether there are differences in the views of different gender, ages, occupations, and other groups on clothing protection. More than 50% of people agree or strongly agree regarding the convenience of wearing and taking off clothes. In contrast, the proportion of people who disagree and strongly disagree is relatively low, at 14.49% and 15.94%, respectively. In addition, the proportion of neutrality is 18.84%. This indicates that the convenience of wearing and taking off clothes is a relatively important factor for most people.

Table 3: The Aesthetic Needs of Fashion Design

Variables		Frequency	Percentage
The artistic elements of the clothes (e.g., colors, patterns, textures) are important to me.	Strongly disagree	35	16.91%
	Disagree	31	14.98%
	Neutral	30	14.49%
	Agree	54	26.09%
	Strongly Agree	57	27.54%
It is important for me that the design of clothing can modify my body shape.	Strongly Disagree	31	14.98%
	Disagree	18	8.7%
	Neutral	51	24.64%
	Agree	43	20.77%
	Strongly Agree	64	30.92%
I prefer classic and timeless design to popular and fashionable design.	Strongly Disagree	24	11.59%
	Disagree	30	14.49%
	Neutral	40	19.32%
	Agree	69	33.33%
	Strongly Agree	44	21.26%
It is important for me that clothing is visually attractive.	Strongly Disagree	35	16.91%
	Disagree	32	15.46%
	Neutral	35	16.91%
	Agree	53	25.6%
	Strongly Agree	52	25.12%
Clothing should fit well and provide comfort for the body.	Strongly Disagree	25	12.08%
	Disagree	31	14.98%
	Neutral	49	23.67%
	Agree	54	26.09%
	Strongly Agree	48	23.19%

Aesthetic: According to the table, more than half of the people (53.63%) agree or strongly agree that the Elements of the art of clothes are essential to them, while only 31.39% disagree or strongly disagree. In addition, the number of neutral people is relatively small (14.49%), indicating that most people have a certain degree of emphasis on the Elements of the art of clothes. Most people believe that fashion design needs to consider body shape modification. More than half of the people (51.56%) believe that fashion design needs to be able to modify their body shape, with 30.92% strongly agreeing. More than half (54.59%) of people hold a positive attitude toward liking classic and timeless designs, while relatively few hold a negative attitude toward them. This may mean that classic and timeless elements still have a specific market and audience in design.

However, it is also important to note that a certain proportion of people are not interested or hold different views. For the respondents, the visual attractiveness of clothing is quite important. More than 50% of the respondents agree or strongly agree with this viewpoint, it can be concluded that most people value the visual appeal of clothing. Most people hold a neutral to consensual attitude towards fitting clothes and providing comfort, with 49.28% agreeing and strongly disagreeing, while only 27.06% disagreeing and strongly disagreeing. Therefore, it can be assumed that most people believe that clothing should fit and provide comfort.

Table 4: Expressive Needs in Fashion Design

Variables		Frequency	Percentage
Clothing is a way to express my values.	Strongly disagree	11	5.31%
	Disagree	28	13.53%
	Neutral	58	28.02%
	Agree	55	26.57%
	Strongly Agree	55	26.57%
I express my style through clothing.	Strongly Disagree	34	16.43%
	Disagree	28	13.53%
	Neutral	61	29.47%
	Agree	40	19.32%
	Strongly Agree	44	21.26%
It is important to me that clothing matches my social status.	Strongly Disagree	18	8.7%
	Disagree	36	17.39%
	Neutral	51	24.64%
	Agree	53	25.6%
	Strongly Agree	49	23.67%
It is important to me that my clothing fit my social role.	Strongly Disagree	21	10.14%
	Disagree	34	16.43%
	Neutral	46	22.22%
	Agree	48	23.19%
	Strongly Agree	58	28.02%
Clothing helps to improve my self-esteem and confidence.	Strongly Disagree	20	9.66%
	Disagree	34	16.43%
	Neutral	41	19.81%
	Agree	56	27.05%
	Strongly Agree	56	27.05%

Expressive: More than half of the people (52.14%) agree or strongly agree that clothing is a way to express personal values. On the contrary, 18.84% of people do not agree or strongly disagree with this statement. This indicates that clothing still plays a specific role in society, but only some believe that clothing is the only way to express personal values. More than 50% of respondents believed clothing could showcase a personal style. This indicates that most people believe clothing can reflect the personal style, but some hold different opinions or neutral attitudes. Most people hold a neutral or consensual attitude towards the importance of aligning clothing with social status, accounting for 50.24%. Overall, more people support the importance of clothing being consistent with social status than those who oppose it. Most people (51.21%) agree or strongly agree that clothes are essential to meet their Role. This shows that, for most people, there is a specific correlation between clothes and Role, reflecting the importance of Role for individuals' sense of identity and belonging in society. Most people (over 50%) believe clothing can help improve self-esteem and confidence, with 27.05% strongly agreeing.

Table 5: The attitude of elderly consumers toward Fashion design

Dimensionality	Variables	Mean	Standard deviation
Functional	The fit of clothing is important to me.	3.232	1.335
	The flexibility of clothing is important to me.	3.261	1.303
	The comfort of clothing is important to me.	3.329	1.336
	The protection provided by clothing is important to me.	3.097	1.397
	The convenience of wearing and taking off clothing is important to me.	3.309	1.415
Aesthetic	The artistic elements of the clothes (e.g., colors, patterns, textures) are important to me.	3.324	1.447
	It is important for me that the design of clothing can modify my body shape.	3.440	1.395
	I prefer classic and timeless design to popular and fashionable design.	3.382	1.286
	It is important for me that clothing is visually attractive.	3.266	1.425

	Clothing should fit well, and provide comfort for the body.	3.333	1.311
Expressive	Clothing is a way to express my values.	3.556	1.172
	I express my style through clothing.	3.155	1.349
	It is important to me that clothing matches my social status.	3.382	1.260
	It is important to me that my clothing fit my social role.	3.425	1.323
	Clothing helps to improve my self-esteem and self-confidence.	3.454	1.306

Note: 1 = strongly disagree, 5 = strongly agree

Functional: The analysis of functional factors indicates that respondents generally consider fit, flexibility, comfort, protection, and ease of wearing and taking off when choosing clothing. However, there are also some differences in the degree of value of these factors, with comfort (3.329), ease of putting on and off (3.309), flexibility (3.261), and fit (3.232) being more important than the protection provided by clothing (3.097). It is worth noting that there are some significant differences in the importance of easy on and off (SD=1.415), which means that while many people value the convenience of getting on and off, others may have different priorities or preferences.

Aesthetic: Respondents generally value Elements of art, design principles, and the relationship between clothing and body when choosing clothing. However, there are slightly different perspectives on specific aesthetic factors. In clothing, the design for body shape modification (3.44), classic and eternal design (3.382), clothing that fits and provides comfort to the body (3.333), and Elements of art (3.324) are considered by respondents to be relatively significant. In contrast, the importance of the visual attractiveness of clothing (3.266) is relatively low. The relatively high standard deviation of Elements of Art (SD=1.447) indicates considerable differences in personal preferences. Some respondents may attach great importance to the creativity and visual appeal of clothing, while others may attach little importance to these aspects. There is a certain degree of aesthetic difference in personal preferences, indicating the need to consider different preferences and provide more choices in fashion design and production to meet the needs and preferences of different individuals.

Expressive: Among the expressive needs, personal values (3.556) are considered to be the most critical factor, and self-esteem and self-confidence (3.454), social status (3.381), and Role (3.425) are considered to be moderately important. In contrast, the expression of personal style (3.155) is relatively less critical. It is worth noting that the relatively high standard deviation in the expression of personal style (SD=1.349) indicates significant differences in personal preferences and personal style methods. Some respondents may emphasize expressing their unique style through their fashion choices, while others may want to maintain a relatively low profile or use other methods to express their style. Overall, respondents generally value the expressive needs of fashion.

4.2 Qualitative Data Analysis

Here, the views of four elderly consumers on fashion preferences and needs during the interview are revealed according to the theme.

Functional:

Respondents unanimously believe that functionality is crucial in fashion design. They emphasized the importance of comfortable and easy-to-move clothing. Protectiveness is also an essential factor in fashion choices for elderly consumers. As P3 puts it, "When it comes to functionality, comfort, flexibility, and the convenience of wearing and taking off clothes, it is the most important thing for me.

As an elderly consumer, my needs for fashion design mainly revolve around the comfort and fit of clothing. Comfort and fit are my most important things, as I can move freely without feeling constrained. Protection is also important, especially for skin protection when exposed to outdoor sunlight. (P1)

Functionality is essential for us elderly people. When choosing clothes, comfort, and fit are my considerations. I like clothing that allows me to move freely. However, considering body shape and size changes, finding truly comfortable and fitting clothes as we age is difficult. (P2)

The ease of wearing and taking off clothing is also crucial for elderly consumers with limited mobility. The respondents mentioned that they prefer easy-to-use accessories in fashion design, such as Velcro and magnetic buckles, to adapt to the limitations brought about by physical changes. It also mentioned some popular functional elements such as soft fabrics, lightweight materials, and adjustable closures.

When purchasing clothes, I found many use buttons or small zippers to open and close. As I get older, clothes with buttons or small zippers are very inconvenient for us. As someone with arthritis, I prefer clothes with Velcro or magnetic buckles, which make it easy to put on and take off clothes. Adjustable features such as belts or sleeves allow me to customize the fit according to my needs. (P4)

I often look for clothing made of elastic materials, which gives me more flexibility and freedom of movement and is also more convenient to put on and take off. However, finding clothes that fit and provide the comfort I want takes work. (P1)

When I am in daily activities, I prefer to wear clothes that allow me to move freely and comfortably. I don't like tight-fitting clothes, which makes me uncomfortable. Soft, breathable, and elastic fabrics are my first choice when buying clothes. In addition, I am looking for clothes with adjustable waistbands or closures to adapt to changes in my body. Easy on and off is also important, especially for people like me who may encounter mobility difficulties. (P3)

Aesthetic:

Aesthetics play an important role in participants' fashion preferences. Although comfort is a top priority, they also express their aesthetic requirements for clothing to enhance their visual appeal. Classic and timeless designs are favored, while neutral colors are famous for versatility.

I lean towards classic and timeless designs. For me, simplicity and elegance are the key. I like Khaki and burgundy. A well-designed garment should enhance my appearance and enhance my confidence. (P1)

Although functionality is important, aesthetics is also a factor that I will consider when choosing clothing. I prefer classic and timeless styles to trendy clothing. A simple and practical design is more suitable for me. I will choose clothes in three colors: black, white, and gray. I plan to keep it simple and low-key. Sometimes I have requirements for some details, such as the pattern of the cuffs or the material of the clothes. (P2)

However, some participants prefer trendy designs and appreciate clothes with modern Elements of art and creative design concepts. Participants expressed willingness to incorporate modern trendy elements into their wardrobes to showcase their style.

Fashion should not be limited to the younger generation. I like to wear clothes that reflect my personality and fashion sense. I will purchase classic design clothing but accept trendy clothing. I like clothes that incorporate modern Elements of art very much. For example, I have this skirt when I incorporate the wave points of Yayoi Kusama into the clothes. Clothing should have visual appeal. I prefer clothing with bright colors and unique patterns to better showcase my personality. Wearing clothing that fits well and reflects my style can bring me joy and confidence. (P3)

Speaking of Elements of art, take the color of clothes, for example. When I buy clothes, I will choose some popular colors, such as olive, which is very popular this year. I also appreciate some brands with design concepts. For example, Uniqlo, I remember its design concept is "clothes are supporting role, and the people who wear clothes are the protagonists," which greatly moved me. Keeping up with the latest trends and styles not only makes me feel fashionable but also makes me feel very young. I appreciate clothing that showcases unique patterns, colors, and textures. In addition, I also like to add personal style through accessories such as hats or scarves. I need to dress appropriately and maintain a neat appearance, as it helps to enhance my confidence. (P4)

Expressive:

Participants see clothing as a way of self-expression and reflection of personal style. Participants emphasized the importance of using clothing as self-expression, emphasizing clothing that reflects personal values, roles, and self-esteem. As P3 said, "Clothing provides a way for me to express myself and showcase my personality.

Clothing is not only about functionality and aesthetics but also a way of self-expression. I hope to convey my values and identity through my clothing and choose clothing that reflects my personality. For example, I like classic designs that showcase my simplicity and elegance. It helps improve my overall self-esteem and helps me authentically express myself to the world. (P1)

I prefer clothing that reflects my lifestyle, interests, and cultural traditions. In my wardrobe, you can see many Tang costumes, our traditional clothing that adds personality and uniqueness to me. I appreciate those brands that offer choices that align with my values and help me convey who I am. (P2)

Clothing can express personal values, Roles, and professional status. It provides opportunities for self-expression, and age should not limit a person's style choices. My dressing style reflects my identity. Before I retired, I had many suits that made me more confident in my work. I will carefully choose my attire to ensure that it aligns with my personality and values, allowing me to express my views and vitality and fully embrace life through my clothing choices. (P4)

Some participants also mentioned the stereotype of the fashion industry towards the age and preferences of elderly people, believing that there is room for improvement in the diversity and inclusiveness of elderly fashion design. The fashion industry should adapt to the constantly changing needs of elderly consumers by providing more styles and choices.

The current fashion design for the elderly seems conservative, and they have a stereotype of clothing choices for the elderly. No matter which Clothes shop you go to, the style, color, and pattern seem the same. There are a few sizes to choose from; for example, you can see my waist circumference, and I find it difficult to buy suitable pants. I prefer brands that offer multiple choices to meet different tastes and preferences. (P3)

Challenges and suggestions:

Participants pointed out several challenges faced by elderly consumers in fashion design. This includes a need for more comfortable and fashionable clothing and limited choices. P2 points out that many brands seem to pay more attention to the young population and overlook the needs of elderly consumers. If we can see more clothing styles specifically designed for the elderly and prioritize style and comfort, it will enhance the shopping experience of elderly consumers.

As an elderly consumer, I have encountered some challenges in clothing selection. The most unfortunate thing is that we need more fitting, comfortable, and fashionable clothing options. Many brands often overlook the preferences and requirements of elderly consumers. We see a wider range of fashion choices that balance comfort and style. Designers and retailers should consider expanding their size range to be more inclusive and adaptable to different body types. (P1)

For challenges, I would like to say that I find it difficult to find clothing that is both comfortable and stylish. Many brands either focus on Fashion design at the expense of comfort or only on comfortable but outdated styles. Limited choices can sometimes disappoint. Combining these two aspects and designing fashionable and comfortable clothing would be excellent if more options existed. (P4)

At the same time, some participants also mentioned the lack of inclusiveness in elderly clothing and the lack of representativeness among elderly consumers in the fashion industry.

First, Fashion design lacks inclusiveness for elderly consumers. Many advertisements and fashion shows mainly focus on young models, making it difficult for me to associate and imagine what certain clothes would look like on people my age. The fashion industry should collaborate with elderly consumers to showcase clothing choices for different body sizes and age groups and create a more inclusive environment. Secondly, many brands seem to mainly cater to the needs of young people while neglecting the needs and preferences of elderly consumers. As I said just now, no matter which Clothes shop I go to, the style, color, and pattern seem the same. There are a few sizes to choose from; I need help to buy the right pants. (P3)

Finally, participants provided suggestions for the design of elderly clothing by sharing their experiences, including expanding the range of clothing choices, balancing the comfort and style of clothing, and designing clothing with strong adaptability. The fashion industry should break the stereotype of elderly consumers and collaborate with them in design and fashion marketing to promote greater inclusiveness and diversity, meeting their needs.

In terms of suggestions, I believe that the fashion industry should design clothing with strong adaptability so that we can easily adjust or modify it to meet personal needs, which will greatly improve the shopping experience of elderly consumers. In addition, I hope to see more elderly models representing the elderly in fashion advertisements, reflecting our age group and different backgrounds, making the elderly fashion industry more inclusive and representative. (P1)

Elderly consumers should not be forgotten by fashion. In terms of suggestions, I believe that the fashion industry should increase research and development investment and pay more attention to the unique needs and preferences of elderly consumers. Designers should design clothing that can adapt to body changes with age while maintaining a fashionable appearance. The fashion industry can carry out unique marketing activities, such as using elderly models or actors with various body shapes and cultural backgrounds, to increase the awareness of elderly consumers in the fashion industry. (P2)

Regarding suggestions, the fashion industry should embrace age diversity and inclusivity. Designers and retailers must recognize the different needs and preferences of elderly consumers and design clothing that caters to these needs. Collaborating with older fashion influencers and using older models in advertising campaigns can help break age-related stereotypes and showcase the beauty and style of the elderly. (P3)

Table 5: Summary of Analyzed Themes for the Qualitative Data

Theme	Analysis
Functional:	Respondents unanimously believe that functionality is crucial in fashion design. They emphasized the importance of comfortable and easy-to-move clothing. Protectiveness is also an essential factor in clothing choices for elderly consumers. As P3 puts it, "When it comes to functionality, comfort, flexibility, and the convenience of wearing and taking off clothes, it is the most important thing for me. The ease of wearing and taking off clothing is also crucial for elderly consumers with limited mobility. The respondents mentioned that they prefer easy-to-use accessories in fashion design, such as Velcro and magnetic buckles, to adapt to the limitations brought about by physical changes. It

	also mentioned some popular functional elements such as soft fabrics, lightweight materials, and adjustable closures.
Aesthetic:	Aesthetics play an important role in participants' fashion preferences. Although comfort is a top priority, they also express their aesthetic requirements for clothing to enhance their visual appeal. Classic and timeless designs are favored, while neutral colors are famous for their versatility. However, some participants prefer trendy designs and appreciate clothes with modern Elements of art and creative design concepts. Participants expressed willingness to incorporate modern trendy elements into their wardrobes to showcase their style. As P4 said, "Keeping up with the latest trends and styles not only makes me feel fashionable, but also makes me feel very young.
Expressive:	Participants see clothing as a way of self-expression and reflection of personal style. Participants emphasized the importance of using clothing as self-expression, emphasizing clothing that reflects personal values, roles, and self-esteem. As P3 said, "Clothing provides a way for me to express myself and showcase my personality." Some participants also mentioned the stereotypical impression of the fashion industry on the age and preferences of elderly people, believing that there is room for improvement in diversity and inclusiveness in elderly fashion design. The fashion industry should adapt to the constantly changing needs of elderly consumers by providing more styles and choices.
Challenges and suggestions:	Participants pointed out several challenges faced by elderly consumers in fashion design. This includes a need for more comfortable and fashionable clothing and limited choices. P2 points out that many brands seem to pay more attention to the young population and overlook the needs of elderly consumers. If we can see more clothing styles specifically designed for the elderly and prioritize style and comfort, it will enhance the shopping experience of elderly consumers. At the same time, some participants also mentioned the lack of inclusiveness in elderly clothing and the lack of representativeness among elderly consumers in the fashion industry. Finally, participants provided suggestions for the design of elderly clothing by sharing their experiences, including expanding the range of clothing choices, balancing the comfort and style of clothing, and designing clothing with strong adaptability. The fashion industry should break the stereotype of elderly consumers and collaborate with them in design and fashion marketing to promote greater inclusiveness and diversity, meeting their needs.

4.3 Summary

Questionnaire surveys and interviews revealed various needs and preferences of elderly consumers, including functionality, expressiveness, and aesthetics. The research findings emphasize the importance of designing clothing that combines comfort, fashion, and functionality while also providing opportunities for self-expression. The challenges and suggestions found in the interview provide valuable insights for the fashion industry to better meet the needs of older consumers and promote more inclusive and diversified Fashion design methods.

5. Discussion and Conclusion

5.1 Discussion

The research findings are consistent with previous studies, emphasizing the importance of comfort and function in clothing choices for the elderly. However, the study found the importance of aesthetics and self-expression factors for this group, expanding understanding in this field. The research findings support the proposition of the FEA consumer needs framework (Lamb & Kallal, 1992).

Firstly, among the functional attributes, fit, flexibility, comfort, protection, and easy on/off are all very important for elderly consumers. However, it is worth noting in our research results that comfort and ease of wearing and taking off are the most valued factors among elderly consumers. Elderly consumers generally pay attention to the comfort of clothing, especially those with physical limitations. This is consistent with previous research results [2]; (Nyong & Duze, 2011; Palamutcu & Goren, 2015) [20] suggest that comfort is one of the primary considerations for elderly consumers when choosing to clothe. Designers should pay attention to using soft, breathable, and suitable fabrics when developing elderly clothing to ensure the comfort of the clothing. Previous studies have shown that [22] elderly people hope for convenience in wearing and taking off clothing, indicating that elderly consumers have a high level of attention to the practicality and functionality of clothing. Therefore, designers should consider these functional requirements when developing elderly clothing. The

convenience of wearing and taking off is also very important for elderly consumers. Previous studies have confirmed this [22]. Combining elastic and easy-to-move fabrics to adapt to different body shapes.

Secondly, among the aesthetic factors, Elements of art and design should be paid attention to in the clothing for the elderly. It is worth noting that the design of body shape modification is highly valued in the survey, indicating that modern elderly people's aesthetic concepts are constantly updating, and their fashion awareness is also constantly changing. They hope to make themselves appear more energetic and energetic through their clothing. This is consistent with the study by [3] that older consumers exhibit a desire for fashionable clothing and are willing to invest in their appearance. In clothing design, H-shaped shapes that provide stability and comfort can cover up body defects such as hunchback and bulging in the elderly. Elderly consumers express a preference for classic and timeless designs. However, it is also important to note that a certain proportion of people are not interested or hold different views. Therefore, designers should provide diverse choices when developing elderly clothing to meet the different personal styles and aesthetic needs of elderly consumers. This can include a variety of color, pattern, and style choices while considering the physical characteristics and cultural background of elderly consumers. Future research can further investigate the specific style design preferences of elderly consumers.

Finally, for expressive factors, participants see clothing as a way of self-expression. Participants emphasized the importance of using clothing to self-express, emphasizing clothing that reflects personal values, status, roles, self-esteem, and confidence. Elderly people are able to use clothing to redefine the dominant meaning of age to a certain extent [45]. The personal style and aesthetic preferences of elderly consumers vary depending on individual differences. However, our research results show that reflecting personal values through clothing is the most important expressive factor for elderly consumers, who hope to express their attitudes through clothing. The current research pays less attention to this point, and future research can further subdivide the relationship between the values of the elderly and their needs and preferences in Fashion design.

Functional attributes, aesthetic attributes, and expressive attributes are interrelated. As the research results demonstrate, elderly consumers prefer classic and timeless designs, which can enhance their self-esteem and confidence while prioritizing factors such as fit, comfort, protection, and ease of use. The research findings emphasize the importance of designing clothing that combines comfort and fashion while providing opportunities for self-expression.

6. Conclusion

Research has shown the importance of the function, aesthetic, and expressive of clothing in elderly fashion design. In addition, by analyzing their needs and preferences, the study also proposed design suggestions for elderly fashion. According to the survey results, there are still certain shortcomings in the elderly fashion market, such as a lack of diversified and personalized design solutions which provides opportunities for designers and enterprises to develop and improve. In response to the needs of elderly consumers, designers can emphasize personalized and diverse design elements while emphasizing comfort and functionality to meet the different preferences and styles of elderly consumers. Future research can expand the sample size, consider elderly consumers from different countries and regions, and introduce more quantitative analysis methods, such as correlation analysis. Further research and practice should aim to gain a deeper understanding of the diversity of elderly consumer needs and develop more personalized and diversified elderly fashion products to meet the growing demand of the elderly consumer market.

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