

A Study on the Characteristics of Middle-aged Chinese Female Users Based on Clothing Needs

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Abstract

With the growing number of middle-aged population in China, the clothing demand of middle-aged women has received increasing attention, so the research on user characteristics of this group has important value. This article first establishes the research variables through the literature, user interview, expert evaluation method, and then conducts analytical research through the questionnaire and data analysis of their characteristics, and finally establishes the middle-aged female user characteristics system framework, divided into physical change, maturity and stability, conservatism and decency, age adaptability, psychological pressure and cultural differences. The establishment of the system framework further deepens the understanding of the middle-aged female user groups, provides a clear reference benchmark for clothing enterprises, and also lays a theoretical foundation for the subsequent relevant researches.

Keywords: Middle-aged women, user characteristics, clothing needs, psychological level

1. Introduction

In recent years, with the prominent aging of the world population, China's population structure has changed significantly in the past few decades. Due to the economic development and improved medical conditions, the size of China's middle-aged population in China has been growing. Therefore, after China enters the aging society, the huge middle-aged population will lay the foundation for creating a huge consumer market for middle-aged people, and middle-aged women will become one of the most dynamic groups in the consumer market. This means that the clothing industry needs to pay more attention to the needs and preferences of this group to ensure that their consumer needs are met and that they will become more profitable. In light of such social background, this paper will study the characteristics of middle-aged female users based on clothing needs so as to construct a framework of the characteristics of middle-aged female users.

2. Definition of Relevant Concepts

2.1 Middle-Aged Women

The concept of "middle age" only began to emerge as mankind entered the industrial age. Because of the improvement of medical conditions and the advance of social security, the human life span is extended, thus creating a more detailed age division. The American psychologist Erik H Erikson first proposed the concept of "middle age" in "Childhood and Society" published in 1950 (Erikson, 1950). In 1965, the Canadian psychologist Elliot Jaques suggested the widely spread theory of "midlife crisis" (Jaques, 1965). In the 21st century, with the rise of youth culture, the popularity of media, advertising and films gradually emphasized the image of youth, triggering the global trend of "young worship". This thus led to the accelerated formation of middle-aged people that they are "no longer young", and promoted the rise and commercialization of the concept of "middle age". According to the 1991 World Health Organization report, the middle-aged age group is defined as 45 to 59 years old (World Health Organization, 1991). According to China's "Law on the protection of the elderly" (1996) article 2, the person over 60 years of age belongs to the elderly. Therefore, it can be inferred that the upper age limit of middle-aged people in China is 59 years old.

2.2 User Characteristics

In the field of library intelligence and philology, the definition of user characteristics is proposed, which refers to a group of characteristics (Sun & Huang, 2014) that describe and distinguish the attributes, characteristics and

behaviors of users. These characteristics can be determined based on personal information, interests, preferences, behavior habits, including basic information such as gender, age, education, occupation, as well as purchasing behavior, mental state, emotion, behavioral tendency, values and emotional state in a specific environment (Huang, 2022). This concept summarizes the overall characteristics of the user group or a group of people, which include a wide range of features. Through the applicability analysis of different user characteristics, the user personalized needs can be better extracted (Li, 2021). The Midlife in the United States (MIDUS, 1995) conducted a pioneering assessment of personality characteristics in the national survey sample, e. g., marital status, family structure, social status, etc., providing a new direction for related research among middle-aged people.

This paper thinks that the analysis of user characteristics can provide useful insight and guidance for the research of clothing needs, and is the basis for understanding the clothing needs of middle-aged women.

3. Composition of the Study Variables

The construction of user characteristic system is a process of better understanding and describing target user groups, through means of collecting, organizing and analyzing user-related data from multiple dimensions to form a complete framework of user characteristics. This system framework conducted in this paper is a general framework used to describe the characteristics of middle-aged women, whose basis is aimed to grasp and define the common characteristics of users through literature combing, market research, user survey and data analysis. Figure 1 is the basic step of constructing the framework of middle-aged female users, including establishing initial question items, correcting scale items, forming user portrait and scale data analysis.

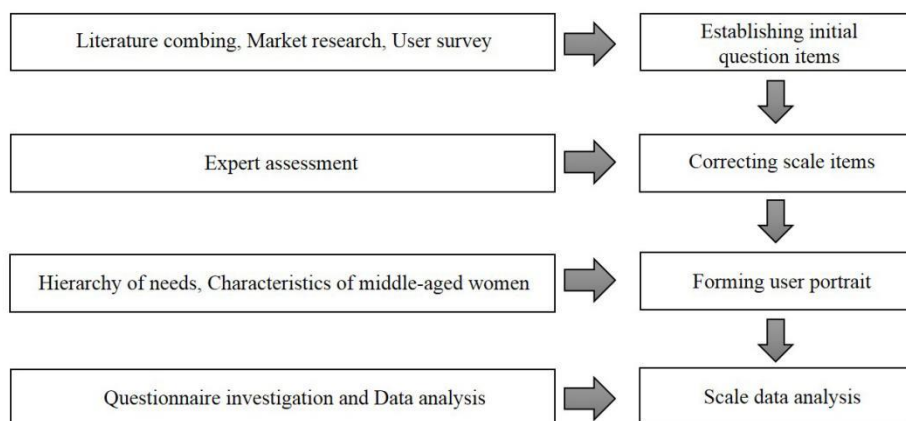


Figure 1. Construction steps of the characteristic system of middle-aged female users

3.1 The Establishment Process of Variable Items

- 1) This paper will sort out and summarize the existing main literature and research reports on the characteristics of middle-aged women.
- 2) Field survey was conducted in Wuhan University for the Aged with face-to-face interviews with 53 middle-aged female students under the age of 60 (Muggleton, 2000). The interview focuses on obtaining questions related to middle-aged women that affect their clothing needs through interview, and inspires users to express their preferences to realize the demand extraction of user characteristics. The original descriptions collected and recorded were classified and summarized (Fowler, 2002), and the common characteristics of middle-aged women group were extracted and integrated from the real information to obtain the original initial item of middle-aged female characteristics, so as to make up for the deficiency of existing literature researches.
- 3) The author of this paper also invited four experts and three doctoral students in the fields of endocrinology, psychology and fashion design to revise the initial items, deleting the duplicate items and the items with ambiguous meaning.
- 4) Combined with the theoretical framework of hierarchy of needs (Maslow, 1943), this study starts from (Ding, 2010) the physiological and psychological levels to build a user portrait of middle-aged females, that is, a series of information collection describing their characteristics. Afterwards, this information is classified and

summarized, and the following characteristics items of middle-aged female users are thus established. The scale items are divided into 6 aspects, including 20 items, as is shown in Table 1. Based on the relevant literature, the characteristics of middle-aged female users are divided into six aspects: physical change (Li, 2018), maturity and stability (Erikson, 1950), conservatism and decency (Moody, 2010), age adaptability (Carolyn, 2018), psychological pressure (Jaques, 1965) and cultural difference (MIDUS, 1995).

Table 1. Characteristics scale of middle-aged female users

	Aspects	Items	Literature
Physiological levels	Physical change	Easy to get fat	Li (2018), Li (2001), Wu (2004), Wei (2012), Bijlsma (2013)
		Physical change	
		Reduced muscle mass	
Psychological levels	Maturity and stability	Self-cognition	Erikson (1950), Chen (2009), Jin (2015), Barbara (2011)
		Emotional stability	
		life-oriented	
	Conservatism and decency	Deep thinking and wisdom	Moody (2010), Tiggemann (2015), Song (2020), Mair (2015)
		Social etiquette and norms	
		Respect for the traditional values	
	Age adaptability	Physical adaptability	Carolyn (2018), Jin (2015), Mair (2015)
		Psychological adaptability	
		Social adaptability	
		Emotional tension	
Psychological pressure	Cognitive influence	Jaques (1965), Barbara (2011) Khakkar (2023), Koran (2006)	
	Emotional change		
	Religious belief		
Cultural difference	Regional gap	MIDUS (1995), Wang (2021)	
	Family structure		
	Social status		

3.2 Analysis of User Characteristics Scale Items

3.2.1 Physiological Level

Middle-aged women's body physiological function will gradually decline, leading to the emergence of problems related to reproductive system, skeletal system, metabolic system and so on (Li, 2018). By combing the literature related to the health problems of this group of population, the body changes of middle-aged women are mainly divided into: being easy to gain weight (Li, 2001), physical change (Wu, 2004) and muscle mass reduction (Wei, 2012)(Bijlsma, 2013). Being more likely to gain fat means that because the metabolic rate gradually decreases, the body's fat content will gradually increase, so that women at this age range are more likely to get fat, especially in the waist, hip, thigh and other places where fat will be more likely to accumulate. Physical change refers to the endocrine and metabolic problems caused by the fluctuation and decline of estrogen level, which will cause the human body fat and carbohydrates, and the increased age reduces the bone density and muscle tissue, leading to the increase in the human body size index of middle-aged women (Li, 2018). The body of middle-aged female can produce certain deformation, if waist circumference increases, buttock drop, chest is flabby, which makes middle-aged women quite different from young women in chest circumference, waist circumference, abdominal circumference, hip circumference, arm circumference (Li, 2001), and numerical changes increased with age (Wu, 2004). Reduced muscle mass refers to the gradual loss of muscle mass, especially among those without adequate exercise exercise (Wei, 2012) (Bijlsma, 2013).

3.2.2 Psychological Level

The psychology of middle-aged women is a concept with large individual differences, and each person may have

different psychological manifestations at different ages and life stages. Academic descriptions of psychological features may vary depending on the research domain and theoretical framework. According to Maslow's hierarchy of demand theory (Ding, 2010), social demand and respect demand are classified as psychological demand. Thus, the specific psychological characteristics of middle-aged women are described and summarized in general, and the psychological characteristics of middle-aged women in China are therefore divided into: maturity and stability, conservatism and decency, age adaptability, psychological pressure and cultural differences.

1) As for maturity and stability, Confucius once said, "If you have no doubts at fifty, you will know the destiny of heaven." This means that at the age of forty, one should have enough wisdom and maturity so as not to be annoyed and confused by things outside and at this period a person also should better understand the nature and laws of life and the world (Luo, 2017). In Confucius' thought, the accumulation of age and the growth of wisdom are emphasized and women of this age will show a mature and stable state in life and emotion, including: self-cognition (Erikson, 1950), emotional stability (Chen, 2009), life-oriented (Jin, 2015), deep thinking and wisdom (Barbara, 2011). Self-cognition means that women usually have a clearer understanding of their own identity and values, a better acceptance and understanding of their own strengths and weaknesses, and accept their current stage of life, and have a stronger self-ideology. Emotional stability means that compared with the fluctuations and emotional instability in the youth period, middle-aged women have stronger emotional management ability, are thus more stable and mature, and can better cope with the stress and challenges in life. Life orientation means that most middle-aged women usually have established their own stable career and family, have clearer goals and plans for life, and pay more attention to career development, family relationships and personal achievements. Deep thinking and wisdom refers to middle-aged women have years of deeper thinking ability and wisdom through years of life experience and learning, and are more capable of finding ways and perspectives to solve problems in complex situations. Researches by neuroscientists and psychologists show that middle-aged brains are more flexible and capable than when they are young, especially in pattern recognition, spatial imagination, and logical reasoning, while performance has not declined, but improved, and middle-aged brains are often good at more advanced cognitive tasks (Barbara, 2011).

2) In terms of conservatism and decency, researches show that the feeling of dressing appropriately in middle-aged women brings greater social skills, power and sense of value (Tiggemann, 2015). They will show a cautious and appropriate attitude and behavior in their words and deeds, and pay attention to reflect their identity and social status. Conservative and decent psychology includes: social etiquette and norms (Tiggemann, 2015), respect for traditional values (Song, 2020) and personal image (Mair, 2015). By further explanation, social etiquette and norms refer to that middle-aged women, Chinese women in particular, usually have a deeper understanding of and compliance with social etiquette and behavior norms and they know how to behave appropriately in different occasions and will express their views and opinions more carefully like knowing how to maintain moderately restraint and homemade in the size and shape of clothes, as well as how to expose or hide parts of the body. As to respect for traditional values, it means that middle-aged women hold a conservative attitude towards some traditional values and concepts like paying more attention to traditional ethics and codes of conduct, highlighting family and traditional values, and having certain respect for family responsibilities and social roles, so they may be more cautious about fashion trends and social changes. Personal image refers to that middle-aged women may pay more attention to the conservatism and decency of their personal image, choose the clothes and hairstyle suitable for the age and the occasion, and do not pursue too radical or aggressive fashion style.

3) Regarding age adaptability, it refers to the ability of middle-aged females to accept and adapt to their own age in life, and to show their adaptability and attitude in the face of age-related changes and challenges. Due to increased age, age adaptation involves their cognition, acceptance, and coping with physical and psychological changes. Age adaptability mainly includes: physical adaptability (Mair, 2015), psychological adaptability (Jin, 2015) and social adaptability. Physical adaptability refers to how well middle-aged women can understand and accept physical changes, such as skin aging, the decline of physical function, etc. Psychological adaptability means their ability to cope with age-related psychological stress and emotional changes, such as concerns about appearance, children away from home, and looking for adaptive strategies to maintain mental health and happiness. Social adaptability refers to whether middle-aged women can adapt to age-related roles and expectations in society, such as role shifts as professionals, family members, community members, and find a suitable social circle for them.

4) Psychological stress refers to the increase in tension, anxiety and negative emotions experienced psychologically by middle-aged women in response with various stress sources. Studies have shown that females'

emotion is a more influential factor than personality, and that many other factors that trigger emotional and cognitive responses can affect clothing preferences (Moody, 2010). Studies of the relationship between emotional perception, self-awareness and clothing choice have found that women are more sensitive to different emotional states and self-awareness (Moody, 2010). The study by David Blanchflower and Andrew Oswald (2008) claimed that happiness will slowly decline in middle age, reaching a lifetime lowest point around the age of 45, which fits with the "midlife crisis" theory proposed by Elliot Jaques (Jaques, 1965). Middle-aged women will face increased psychological pressure, such as workplace pressure, family pressure and physical health problems, such as (Khakkar & Kazemi 2023). Middle-aged women in China play an important role in the family, with heavy family responsibilities. Most middle-aged women have experienced conflicts between career and family roles in their career (Program for the Development of Chinese Women, 2011-2020), and such conflicts often have an impact on their needs. Psychological stress mainly includes: emotional tension (Koran, 2006), cognitive influence (Barbara, 2011) and emotional change (Jaques, 1965). Emotional tension means that individuals may feel nervous, restless, irritable or afraid, often accompanied by physical tension and emotional instability. Cognitive influence means that psychological stress may interfere with individual attention, memory, and thinking processes, leading to mental confusion, difficult decision-making, and inattention. Emotional change refers to the emotional fluctuations that may be caused by psychological stress, such as anxiety, depression, irritability, depression, etc. In decision-making, it is difficult to effectively deal with stressors and increase the load of stress.

5) Cultural differences mainly includes: religious belief, regional gap (Wang, 2021), family structure and social status (MIDUS, 1995). Religious beliefs represent the middle-aged women's identification and participation in religious teachings and belief system, and religious beliefs provide their spiritual support, values and moral norms, which influence their behavior and decision-making. Regional gap refers to the influence of the region, cultural and social background on them, and the economic, education, social customs and other factors in different regions will also affect their life style, decision-making and concept. Family structure means the status and role of them in the family, including their marital status, the number of children, and their relationship with their spouse and other family members. Social status reflects the status and recognition of middle-aged women in the society, including their occupation, educational level, economic status, social circle, etc, and it will naturally influence their resources, power and social participation.

4. Questionnaire Investigation and Data Analysis

4.1 The Design of the Questionnaire

According to the above scale items, the five questionnaires containing the user's personal basic information are sorted out, and the different dimensions of each factor are investigated (Ary, 2010). The question of the matrix scale is: Do you think this item has an impact on your clothing needs? Option 1 to 5 indicate: very negative, negative, general, positive, and very positive. Middle-aged women are asked to check each item according to their real clothing needs. Due to the difference in the educational level of middle-aged women, each respondent needs to read the definition of each item before participating in the survey, for no less than 5 minutes, or they will not be able to participate in the answer. In order to improve the accuracy and authenticity of users' answers, this survey adopts the form of electronic questionnaire distribution and face to face answer random survey (Rea, 2005).

4.2 Data Analysis

The survey lasts for 3 months, and a total of 317 valid questionnaires are obtained. The respondents are all middle-aged women aged from 40 to 59. Besides, SPSS software is used to achieve reliability and validity analysis and confirmatory factor analysis of the findings.

4.2.1 Reliability and Validity Analysis

The overall reliability coefficient is 0.963, greater than 0.9, indicating the high reliability quality of this study and the good correlation between the analysis items. The correlation coefficient values of each factor are above 0.8, the maximum value is 0.909, and the minimum value is 0.858, reflecting that the items of the scale reach the standard, and the consistency is high (Fornell, 1981).

In the validity analysis, all study items correspond to a common value higher than 0.4, and the KMO value is 0.957, greater than 0.8, suggesting that the data are perfect for extracting information and the questionnaire validity is good. The reliability and validity analysis shows that the scale items have reached the standard and the further factor analysis can be conducted.

4.2.2 Confirmatory Factor Analysis

The confirmatory factor analysis is performed for 6 factors and 20 analysis items. The effective sample size of this analysis is 317, 10 times beyond the number of analysis items, and the sample size is thus moderate. In each measurement relationship, the absolute value of the standardized load system is greater than 0.6, and it is significant, reflecting that there is a good measurement relationship. As is shown in Table 2, the AVE (Average Variance Extracted) values corresponding to the 6 factors is greater than 0.5. A higher AVE indicates higher reliability and convergence validity. CR (Construct Reliability) value are above 0.7, indicating that the analyzed data have good aggregate validity (Fornell, 1981).

Table 2. Results of the model AVE and CR indicators

Factor	Mean variance-extracted AVE values	Combined reliability CR value
Physical change	0.701	0.875
Maturity and stability	0.631	0.872
Conservatism and decency	0.668	0.858
Age adaptability	0.725	0.913
Psychological stress	0.771	0.910
Cultural difference	0.628	0.870

The differential validity analysis is compared between the Pearson correlation coefficient and the AVE square root value, and the results show (Table 3): 1) physical changes, the AVE square root value is 0.837, which is greater than the maximum value of the absolute correlation coefficient of 0.614, showing its good discrimination validity. 2) Maturity and stability, its AVE square root value is 0.794, which is greater than the maximum value of the absolute correlation coefficient of 0.761, indicating that it has good discriminatory validity. 3) Conservatism and decency, the AVE square root value is 0.817, which is less than the maximum value of the absolute correlation coefficient of 0.822, meaning that the differentiation validity is not good, and the standard load system should be removed and analysis should be reconducted. 4) Age adaptability, its AVE square root value is 0.851, which is greater than the maximum value of the absolute correlation coefficient of 0.833, indicating that it has good discriminatory validity. 5) Psychological stress, its AVE square root value is 0.878, which is greater than the maximum value of the absolute correlation coefficient of 0.833, reflecting that it has good discriminatory validity. 6) Cultural difference, the AVE square root value is 0.792, which is less than the maximum value of the absolute value of the correlation coefficient between factors, showing that the differentiation validity is poor, and the lower value of the standard load system should be removed before analysis.

Table 3. Differentiating validity analysis: Pearson correlation with AVE square root values

	Physical change	Maturity and stability	Conservatism and decency	Age adaptability	Psychological stress	Cultural difference
Physical change	0.837					
Maturity and stability	0.614	0.794				
Conservatism and decency	0.598	0.761	0.817			
Age adaptability	0.585	0.738	0.822	0.851		
Psychological stress	0.524	0.704	0.732	0.833	0.878	
Cultural difference	0.542	0.710	0.733	0.772	0.804	0.792

As the discriminatory validity of conservatism and decency and cultural differences in the above analysis is poor, the items with the lowest standard load value in the two items are excluded: 0.797, the standard load coefficient of personal image, and 0.737, the standard load coefficient of religious belief. The discrimination validity analysis is repeated, and the results are shown in Table 4. In the corrected discrimination validity analysis, the AVE square root value of all factors is greater than the maximum value of the absolute correlation coefficients, indicating that all factors have good discrimination validity. The above analysis results fully show that the

characteristic system framework of middle-aged female users can be accepted as a whole.

Table 4. The corrected discriminatory validity analysis

	Physical change	Maturity and stability	Conservatism and decency	Age adaptability	Psychological stress	Cultural difference
Physical change	0.837					
Maturity and stability	0.614	0.794				
Conservatism and decency	0.565	0.767	0.827			
Age adaptability	0.576	0.709	0.750	0.863		
Psychological stress	0.524	0.704	0.718	0.824	0.878	
Cultural difference	0.544	0.726	0.770	0.763	0.794	0.802

5. Conclusion

In light of the theory of demand hierarchy and the characteristics of middle-aged women, this study measures the characteristics of middle-aged women by means of literature sorting, user interviews, expert evaluation, questionnaire survey and data analysis. Finally, the framework structure of middle-aged female user characteristics is divided into six dimensions, namely: physical change, maturity and stability, conservatism and decency, age adaptability, psychological pressure and cultural differences. As is shown in Figure 2, 18 items from six dimensions establish a relatively comprehensive and accurate system framework for the characteristics of middle-aged female users, providing useful reference for the market positioning, product designing and the making of marketing strategy of clothing enterprises.

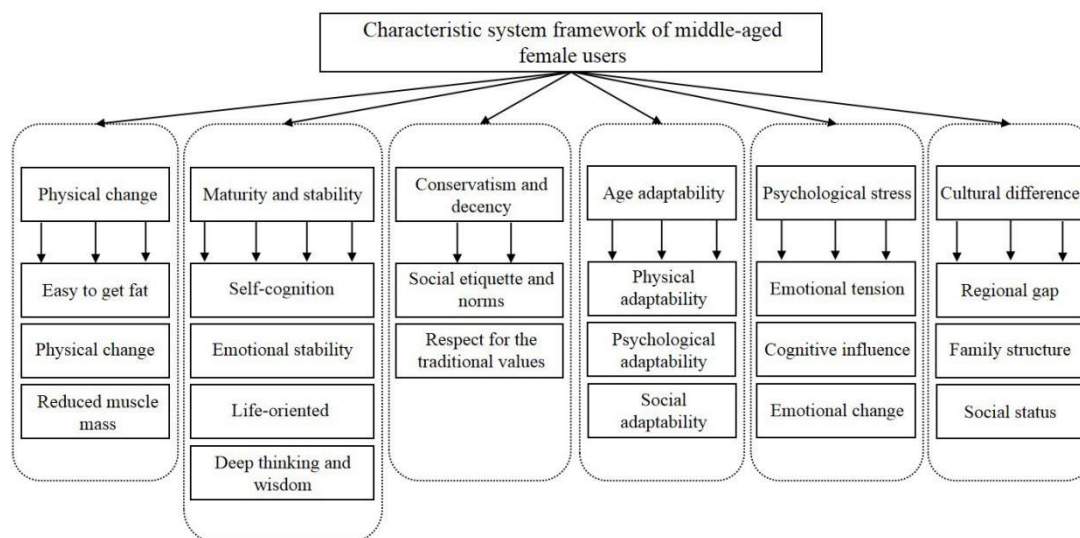


Figure 2. Characteristic system framework of middle-aged female users

As an important consumer groups, the establishment of the user characteristics system of middle-aged female not only reveals the differences of this group, but also provides the effective direction and reference to analyze and understand the nature of user needs, further promoting the attention of diversity and personalization, offering clear reference benchmark for clothing enterprise, and laying the theoretical foundation for the subsequent researches.

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