Exploring Fashion Choice Criteria for Older Chinese Female Consumers: A Wardrobe Study Approach

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Abstract. This paper outlines a wardrobe study conducted within a larger research investigation that aims to examine the daily clothing choices and preferences of older female consumers in China to inform clothing design for this demographic. Based on inclusive design principles, the paper discusses the method and results of a wardrobe study designed to gather evidence of clothing preferences from 27 Chinese women aged between 55–70 years old. Four favourite casual outfits were selected by each participant from their own wardrobe. These were then photographed on the body and flat, with garment details recorded. The visual data from the wardrobe study was collated into a textual format enabling quantitative content analysis to be applied to find areas of commonality and divergence in participants' choices regarding clothing design features, fabrics, fastenings and fit. The results of the study provide information that could assist in developing design guidelines for fashion designers and companies manufacturing clothing for ageing female Chinese consumers.

Keywords: Wardrobe study · Garment feature · Ageing · Clothing fit

1 Introduction

In the fashion industry, the traditional product-development process is product-centred and led by market-orientation principles. It generally starts with trend analysis, line concept development, sketching, garment construction, line presentation, and ends with production [1–6]. However, in terms of an ageing population, fashion trends have less effect on their clothing choices. Ageing people rely less on fashion media for information, as current fashion trends are often thought of as 'too young looking', and it is difficult for older people to find clothing that is designed for them in terms of appropriate fit, fastenings and fabrics [7]. Older people also generally hold a strong opinion on their own dress codes. For example; older women tend to wear floor-length nightgowns or waltz-length skirts, whatever the current styles may be [8]. For fashion designers, clothing design for ageing female consumers needs to be conducted with user-centre principles, rather than traditional product-centred principles. The wardrobe study

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discussed in this paper explores the clothing choices and fashion preferences of older female consumers in China in order to identify the signature design elements of their apparel, to inform fashion design guidelines for the 55–70 age range. Due to designing for a specific age group, it is essential to follow user-centred principles in the research process. This process emphasizes user capabilities and problem recognition, focusing on the needs of the specific ageing consumer group in China from the start of the research, in order to re-focus the design process and achieve effective solutions for the particular clothing problems of this group.

User-centred design methodology places users as the heart of the design process [9]. Three methodologies, Inclusive Design (UK), Universal Design (USA and Japan) and Design for All (Nordic Countries), are accepted as approaches to design innovation which considers the functionality of products and services for all users [10]. Inclusive design was developed to consider the requirements of marginalised user groups during the design process [11]. Universal design is focused on improving the design of mainstream products and environments, so as to extend usability to satisfy the needs of a diverse range of consumers [12]. Design for All is a more holistic and innovative approach involving planners, designers, entrepreneurs, administrators and political leaders to design for human diversity, social inclusion and equality [13]. According to a summary by Clarkson and Coleman [10], both 'Inclusive Design' and 'Design for All' focus on ageing populations and include the 'Design Age' project and 'Design for Ageing Network' [10]. Inclusive Design emphasizes the private sectors of business, industry and design, whereas Design for All is generally driven by public or voluntary sectors via legislation and government. Inclusive Design is the most appropriate to provide direction for research based on ageing populations as it examines the creation of a wide range of products and services that take into account ageing and functional capabilities. Although ageing people are usually considered as a sub-set of the wider population, the philosophy of inclusive design is to create products with functionality that ageing people and mainstream society can utilize equally [10].

2 Using Visual Data

Emphasizing the idea of 'designing for people', inclusive design aims to create harmony between person, object, environment and relationships. This kind of 'emotional significance' originated from how products and services fit with the way people truly live [14]. Due to the importance of identifying user needs, some typical methods are utilized, including questionnaires, interviews, user observation, focus groups, and ethnographic methods [11]. Because each of these methods has its limitations, it is necessary to apply a multi-method approach in gathering data to inform the inclusive design process. Traditionally, user information is gathered mainly as verbal data or textual data by asking target users specific questions, but visual techniques can also be applied as research methods to elicit information [15].

By allowing users to reflect on their own experiences visual data collection methods provide approaches that allow users to reflect on their own experiences [16]. It can cultivate a sense of participation, especially for the people who are reluctant or

uncomfortable to take part in the research [17]. Visual data collection methods, such as using photography, help to build the communication bridge between conceptualizing and articulating, in order to encourage older participants to consider the research context more deeply, perhaps in a way they might not have considered if asked for written responses in a questionnaire. Older participants may also come up with more mature cognition or expression to explain their idea [17]. Gauntlett and Holzwarth [18] suggest that an advantage for visual and other non-word-based research methodologies is that there is no need of an immediate response. As there is more time for participant's reflection, it is possible to obtain different kinds of data comprehensively from older participants using visual methodologies. Guillemin and Drew [17] proposed that visual images are an acceptable primary data source, rather than extra information after the main research methods are completed.

In fashion studies, clothes are the essential visual data for clarifying the relationship between user, material, and culture [19]. As clothing contains historical and contemporary information at the same time, clothes can evoke the wearer's memories, and emotions, producing richer and deeper descriptions [20]. This is particularly true for older people, as a closer relationship is built with their owned and frequently-worn clothes, as opposed to mass market fashion [21]. Photography is used as a visual data collection tool to explore the materiality of clothing in case studies by Slater [22]. Specific garments from older respondents were discussed, exploring memories of dress and why women remember the clothes they no longer wear. In order to understand how women behave in regard to clothing choice, usage, and consumption, Rahamn and Chang [23] invited respondents to present and freely describe their wardrobe after semi-structured interviews. These studies encourage the use of actual clothing or photographs of clothes to help gather user's stories, memories and preferences, and thus portray design needs from clothing that they may not be able to clearly express in a verbal or written form.

3 Wardrobe Study Approaches

The term 'wardrobe' refers to two meanings. One represents the physical space where clothes are kept. The other indicates the entire set of clothes that are owned individually by a person, group or organization [24]. In this research, 'wardrobe study' is proposed as a method to determine an individual's fashion preferences by exploring the clothing they own and wear in their daily lives, the relationship between individual garments, and the emotional and practical needs these garments fulfill for the wearer. Klepp and Bjerck [20 p. 373] define wardrobe studies as "a methodological approach that analyses the way in which clothes relate to each other on the whole or in parts of the wardrobe".

Wardrobe studies are applied using different approaches and methods. In relation to social phenomena, wardrobe study is generally conducted by combining methods like qualitative research interviews, field work, inventories, and laboratory testing [20, 25]. Regarding clothes as research objects, these methods range from the language-based to the material-based whilst ethnographic tradition primarily contributes to research thinking [20]. However, quantitative analysis can also be used on the same material

information that is collected for pieces of clothing [20] as people sometimes have difficulty expressing their opinions through words, even if they are asked questions about the clothing in interview situations. To avoid missing textual information from wearers, quantitative analysis of the visual data collected can contribute further results within a study.

Both qualitative and quantitative approaches have been used in the exploration of dressing preferences. One example on leisurewear from previous wardrobe studies refers to explaining the consumption requirements and mapping the design solutions on clothes for ageing Chinese women in the research study. In the study, the researcher asked the participants to show all the clothes they had for the specific activities, so as to stimulate rich descriptions and stories from the clothing selected [20]. In the registration process, Klepp and Bjerck [20] decided to collect everything from simple numbering to photos of clothes. They believe that although the individual garments and combinations play a key role, other information such as the description of the garment, the place it is kept, and its brand, is useful as well. Thus, the wardrobe study discussed in this paper gathers not only the clothing choices and the clothes matching preferences of older Chinese female participants, but also the design and manufacturing details of the garments they selected.

In the field of dress and fashion theories, wardrobe studies help to broaden clothing research [24]. The clothes in an individual's wardrobe are personally symbolic, and are also indicative of the user's daily practices. Although clothes are part of the majority of everyday routines [26], they are automatically characterized and their meaning can become invisible to the person who wears them. Extracting nonlinguistic information from clothes directly can assist in understanding non-verbalized experiences such as the relationship between users and clothing made of specific materials, or clothing from a specific time [20]. These clothing materials can also bring out aspects of women themselves and help to understand how clothing is part of their identity constructions [27]. When used in combination with other research methods, wardrobe studies can be applied in areas such as consumer studies, design studies, business studies (marketing and user-centred innovation), cultural studies, sociology, and anthropology, as long as the research emphasis is on practices and attempts to understand materiality [20].

4 Method Applied in This Study

At the beginning of the wardrobe study, participants were asked to select four favourite outfits (two for spring/summer, two for autumn/winter) from their own clothes. In participant's home, the researcher took photographs for the whole look of the outfit and the flat look of each item of clothing. In order to record accurate visual data, photos were taken from the front view, side view and back view. Details such as particular structure, decoration, and care labels were also recorded through photos. During the photography, participants were asked to stand up straight and face to the front, avoiding curved postures. To ensure anonymity of the participants, photographs of participants' wearing outfits were taken only from their shoulders down to floor.

Although some participants offered more outfits, they were asked to select only four outfits (two for spring/summer and two for autumn/winter), to keep the number of outfits consistent across all participants. Clothes in very similar styles were alternatively selected, in order to ensure that the diversity of each participant's dressing style was captured for analysis. Clothes which were noted as rarely worn by participants were not included in the dataset. Thus, 108 of 144 photographed outfits (by 27 participants) were analysed. The 108 outfits provided 245 individual garments for the wardrobe study. Figure 1 shows one example of collected photos of participant's favourite clothes.

Fig. 1. Example of photos taken in the wardrobe study.

Quantitative content analysis is based on counting the frequency of visual elements within a clearly defined sample of images, followed by analysing those frequencies [28]. Rose [28] proposed four steps in this process: finding the representative and significant images, devising categories for coding, coding the images, and analysing the results. In this study, the large datasets were composed of photographs of participants' clothes, which included whole outfits (Fig. 1) and details. As using a spreadsheet can make analysing the results of frequency counts easier [28], clothing features were marked and organised into five different categories, general, fabric, colour, pattern, shape and silhouette, based on the key elements of designing a collection [29], and transferred as textual data onto an Excel spreadsheet.

5 Results

5.1 Dressing Preferences

The results of the wardrobe study demonstrated that the preferred way of dressing for older Chinese women was separates, such as tops and trousers, rather than one-piece garments such as dresses. In the study, only eleven one-piece outfits for spring/summer and two for autumn/winter were recorded amongst the 108 outfits. The preference for separates was apparent more obviously during winter. Of the 95 separates recorded in the study, trousers and shorts were significantly more common than skirts, with skirts featuring in only four outfits for spring/summer and two for autumn/winter.

The participants demonstrated less diversity in their choice of lower body garments than upper body garments. In their daily life, participants tended to wear the same or similar style lower body garments. Woven trousers were deemed to be age-appropriate items by the participants and chosen most frequently (Fig. 2). Apart from jeans, woven trousers accounted for more than three quarters of the lower body garments they selected. Although jeans, leggings, joggers, and skirts were also sometimes worn by the participants, these four types of lower body garments only shared 23% of the total lower body garments recorded in the study. However, the range of upper body garments was much wider, and included both western jackets and suits as well as cheongsams (the feminised form of the full-length Manchu male outfit [30]). Blouses, cardigans, knitted sweaters, jackets, were highlighted as favourite upper body garments for older women, and down coats and wool coats were also noted in this category (Fig. 2). Although some formal and fitted clothes like suits, chi-pao, trench coats, and waistcoats were selected by older participants a few times, they were not worn frequently. Other types of casual clothes such as hoodies and polo neck sweaters were rarely chosen by the participants.

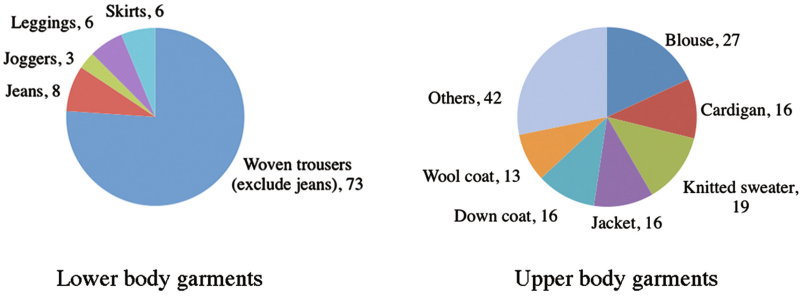

Fig. 2. Lower body garment and upper body garment categories.

5.2 Fabric

Fabric composition was recorded from care labels on each outfit, when available. The results demonstrated that participants' preferred fabric choices were balanced between 100% natural fabrics (30% of their garment choices), 100% synthetic/man-made fabrics (35% of their garment choices), and blended synthetic/man-made and natural fabrics (35% of their garment choices). The garments selected with 100% natural fabrics were primarily made of only one fibre. Fabrics mixed with several synthetic/man-made fibres accounted for 59%, while synthetic/man made fabrics of one fibre composition accounted for the remaining 41%. For the blended fabrics, participants did pay attention to the percentage of natural fibre used. Some blended fabrics were not explicit as to the composition of pure natural fabric; however, some only contained a very small amount of natural fibre.

Interest in both the stretch and the structure of fabric amongst participants was based on garment type. A large gap was found in choices of fabrics for upper and lower body garments. 63% of upper body garments were made of stretch fabrics; however, stretch fabrics were only used on 22% of lower body garments. Preference for stretch fabric

was not influenced by weather and temperature, because no matter what season (spring/summer or autumn/winter), the participants showed a balance of wearing stretch and non-stretch fabrics. In terms of fabric structure, 166 garment choices in the study were woven fabrics, over twice that of knitted garments. Based on frequency, the participants showed similar interest in both knitted and woven upper body garments; however, this changed for fabric structure preference for the lower body garments. Apart from 84 pieces of woven lower body garments, only 12 pieces of knitted lower body garments were chosen by participants in the wardrobe study.

5.3 Colour, Print and Embellishment

By grouping every garment into a main colour, they were classified into six colour ranges: pale, pastel, bright, mid-tone, neutral, and dark. Although some participants mentioned their aim to wear bright colours to look refreshing, youthful and active, the predominant colours in selected outfits were still dark and neutral in colour (Fig. 3). In addition, the amount of colour per garment was recorded by the researcher. The majority of clothes from older participants were in solid colour (see Fig. 3) suggesting that participants preferred simple and plain clothes rather than colourful designs.

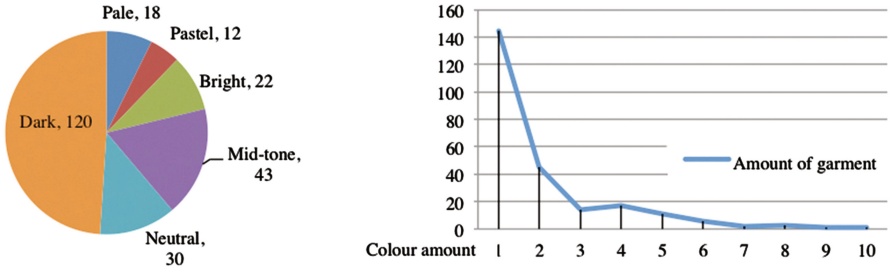

Fig. 3. Colour ranges and colour amount per garment.

Among the 36% of garments that had printed pattern on the fabric, there was a wide range of choices regarding pattern types. Floral prints were popular. Some pattern prints containing stripes, polka dots, checks, animal prints, geometric patterns, abstract patterns, and classical patterns, appeared on participants' garments but less frequently. Others like houndstooth checks, colour blocks, and camouflage patterns were rarely selected. Among all these types of printed pattern, some were illustrated with stylized Chinese painting and calligraphy or the pattern images were selected from traditional decoration elements. There were also some western-originating pattern prints like paisley and chevron on the clothes. Every pattern from the outfits in the wardrobe study was identified into four sizes: tiny, small, medium, and large. Because they were considered easy to match by participants, small and medium size patterns were preferred and accounted for 75% of the pattern sizes on the garments.

Older participants were open-minded about adding embellishment to their clothes. 74 out of 245 pieces of garment were found to be decorated in seventeen different ways (lace, zip, 3D, beading, rivets, stitching, texture-worn, buttons, Chinese frogs, drawcord,

embroidery, fur collar, quitting, knitted pattern, fringes, laser cutting, printed trim). The two most preferred types of decoration were beading (28 out of the 74 garments with embellishment) and stitching (17 out of the 74 garments with embellishment). Embroidery, quilting, Chinese frogs and rivets were only found on a few garments. Similarly, the other types of decoration listed in brackets above were only observed on a limited numbers of outfits in the photos.

5.4 Silhouette and Garment Construction

Overall silhouette. In the study half of the whole outfits selected by participants were H silhouette. Many participants also chose X silhouette and O silhouette. However, after classifying the outfits into seasons, the preference of silhouette was not influenced by season or temperature (Fig. 4). It was observed that this was influenced by the characteristics of the participants' body shapes.

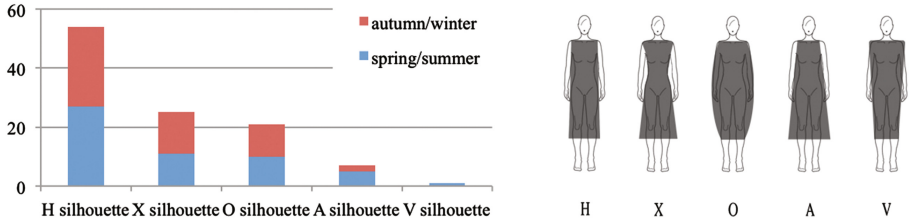

Fig. 4. Overall silhouette shapes.

Waistlines are an important consideration in the design of clothes for older women. 112 of the garments selected by participants were found to have obvious waist shaping/waist lines in the clothing design. More than half of the waist shaping in the designs were at what is considered a natural waist height. A high waistline accounted for 38% of the garments analysed (the second most popular waist height). However, empire line and dropped waist heights were rarely chosen by the participants. Amongst all the 112 waistline designs, 15 were from the upper body garments and 97 were from the lower body garments. Drawcords and belts were pointed out as the main ways for creating visualised or functionalised waistlines on upper body garments. However, in terms of lower body garments, 43% were designed with elasticated waists and waistbands (32%) and front tabs (21%).

Upper body garments. The most popular upper body garment length is hip-length or a little longer, so as to fully cover the hips (Fig. 5). It accounted for 57.7% of all the upper body garments from participants; whereas waist-length was considered as the least preferred and selected only twice by participants. For outerwear, knee-length was frequently considered by older participants, because it could not only keep the body warm, but was also convenient to move in. In terms of the shape of the upper body garments, H-shape was the preferred silhouette (Fig. 6). X-shape upper body garments achieved a feminine waistline by using belts or elasticated waists, instead of fitted pattern

cutting where shaping or suppression would create the silhouette. Nearly half A-shape upper body garments were longer than hip length. Some were thigh-length or knee-length, which made the participants' bodies look taller and slimmer. However, only one of the upper body garments selected was in V-shape with shoulder pads included.

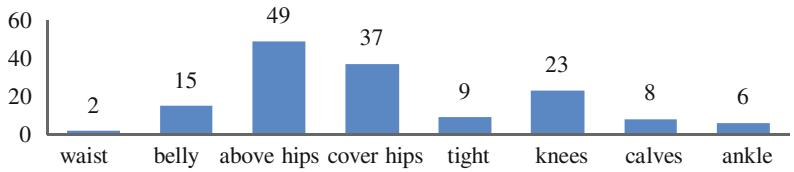

Fig. 5. Upper body garment length.

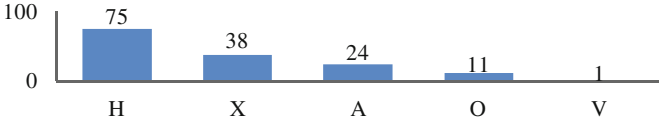

Fig. 6. Upper body garment silhouette.

In addition, the results presented diverse designs on the collar and the neckline from participant's upper body garments. 23 types of collar and neckline were found. Hood, round neck and stand-up collars were the most popular choice of designs. Scoop neckline, V-neck, shirt collar and mandarin collar followed. Although less popular than former types of collar, participants' choices also contained shawl collar, sailor collar, polo collar, peter pan collar, Henley, high neck, and collar and revere. Each of them accounted for 2.5% approximately. However, other types of collar were not found repeatedly.

Sleeve design was also explored in the wardrobe study, as older people require more care around their shoulder joints and prominent upper arms [31]. 112 out of 149 upper body garments from the outfits selected by participants were designed with set-in-sleeves, which indicated that participants shared common but basic preferences on sleeve design. Apart from the type of set-in-sleeves, capped sleeves and sleeveless designs were more acceptable to participants than other sleeve designs, which included adjustable sleeves, balloon sleeves, batwing sleeves, bishop sleeves, dropped shoulder sleeves, kimono sleeves, leg-of-mutton sleeves, and raglan sleeves.

Lower body garments. 93% of the lower body garments participants' selected were either ankle-length or classic length. No participants selected any short-length lower body garment cut above the knees as part of their four selected outfits in the study. For the shape of lower body garments, although some uncommon-shaped garments like palazzo pants, pegged pants, balloon pants and flare pants were collected in the wardrobe study, older participants expressed preferences for slim and straight silhouettes (Fig. 7). These two silhouettes account for 84% of the lower body garments.

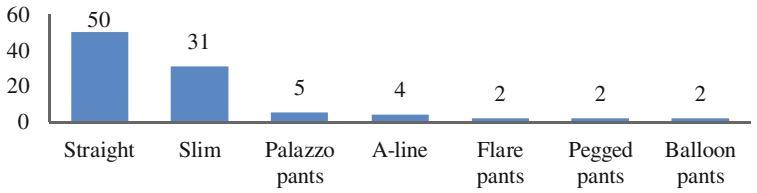

Fig. 7. Lower body garment silhouette.

Fastening. From the 27 participants' chosen outfits (resulting in 245 individual garments) there were 92 pieces without any fastening. Five fastening placements (front, side, back, diagonal, and waistband) were found on the rest of the garments, and 81% were designed to fasten at the front. The fastening types were also diverse (Table 1). Zips were the most popular fastening type and buttons and elasticated fastenings were also popular. Influenced by Chinese culture and aesthetic preference, 'Chinese frogs' fastenings were used on some traditional style jackets and blouses. For some clothes, more than one type of fastening were found on one piece of clothing.

Table 1. Fastening types.

Fastening types	Amounts	%
Zip	86	52
Button	39	23
Elasticated	25	15
Chinese frog	12	7
Drawcord	3	2
Hook	1	1

Pocket. Participants mentioned the convenience of having pockets on their clothes, therefore the number of pockets per outfit was counted (Fig. 8). The majority of outfits had pockets, and two or four pockets on a whole outfit was considered enough by participants for carrying small personal belongings.

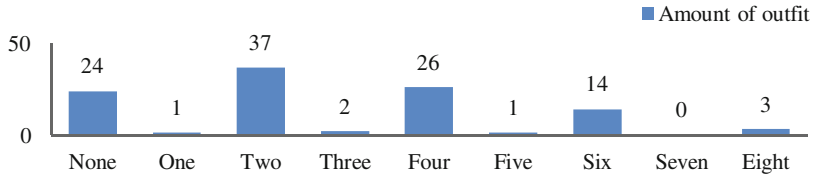

Fig. 8. Pocket amount.

6 Discussion

The results of the study suggested that older Chinese women showed diversity on conceptual style, garment category and selecting separates to put together an outfit;

however, there was commonality in participants' choices of garment designs in terms of cut, length, waistline height, and functional details.

There was a significant correlation between clothing preference and body shape by participants in the study. The clothes length and silhouette they chose was aimed at maximising their body advantage and minimising areas of concern, such as a prominent belly and hips. This suggests that design details like pads and pleats that create volume should be avoided during product development. Because of their changing body shape, older women claimed a strong willingness to wear casual and sporty styles in their daily life, but they are not in favour of sportswear with hoods or polo necks. Fabrics like jersey were considered too soft, and that they would crease easily. Participants felt that this might visually broaden their body shape and create a sloppy appearance.

Regarding clothing style and design, participants exhibited significantly more diversity in their choice of upper body garments than lower body garments. For example, eleven types of sleeves and twenty-three types of collar or neckline were found amongst participants' upper body garments. Design details were mainly presented on the upper body garments. No outfit shared the same upper body garments; however, some lower body garments were duplicated by participants in the wardrobe study within their 4 selected outfits. For fashion designers and companies that target the older population, the finding implies that product development strategy should focus on upper body garments as participants' selections of upper body garments showed greater diversity. More upper body garments should be located on the top level of the product development pyramid, so as to produce more profit for the business. In contrast, lower body garments only need to meet basic design criteria and could be provided at a lower price.

Another finding from the wardrobe study is that older women dress themselves based on the culture of moderation. This moderate approach was achieved by leaving out eye-catching patterned designs in favour of simpler patterns, or no pattern, and darker colours. This behaviour is adapted from Chinese philosophy, Taoism, which affects not only older women's dressing preferences, but also their life attitudes. However, when outfits are observed in detail, the participants still expressed their interest in unique embellishments or trims. This interest offers fashion designers a pathway to bring fashion trends into clothing for older Chinese female consumers.

Although the study presents an effective and logical method for exploring the fashion preferences of one group of users, one of the limitations of the study is the sample size. Firstly, the sample size including the number of participants and the selected clothes is small. Secondly, the participants are only based in one city (Beijing). Due to China's vast territory, collecting data in one single city can decrease divergence of clothes choices due to the different climate regions and cultural influences in different areas of the country. Thus, the study needs extending through further research with more Chinese female participants in the age range in different areas of China to verify the results. However, as an explorative study, the findings provide some insight into the clothing preferences of older Chinese female consumers in terms of clothing design features, fabrics, fastenings and fit that can inform designing clothing for this age range.

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