

Fake Two-Piece Design of Spring and Autumn T-shirts for Elderly Women ^{*}

Jing Liu, Li-Min Shi^{*}, Jin-Hui Ren

*School of Fashion Art and Engineering, Beijing Institute of Fashion Technology, No.2 Yinghua Road
Chaoyang District, Beijing 100029, China*

Abstract

In the context of an ageing population, the research and development of elderly women's clothing has been widely discussed, and its clothing market has a good prospect. However, research on the design of T-shirts is mainly aimed at young people, and there is still a lack of research on the design of spring and autumn T-shirts specifically for elderly women. This paper conducts on-site research to understand the physical characteristics and clothing needs of elderly women and selects elderly obese women as the research object. The spring and autumn T-shirts are designed using a fake two-piece structural style combined with imitation woven, knitted fabric, and the rationality of the spring and autumn T-shirt design is verified through 3D virtual trial wear.

Keywords: Elderly women; Physical characteristics; Wearing requirements; Spring and Autumn T-shirts; Design of fake two-piece

1 Introduction

1.1 Definition of Population

With the ageing population, the increasing number of elderly brings new problems to society. To face the challenges brought by the ageing population and realise the healthy development of society, we need to accelerate the development of elderly care services, promote science and technology for elderly care, and provide living security for the elderly [1]. In 2017, the World Health Organization made new regulations on age classification: young people under 44 years old, middle-aged people aged 45-59, young, elderly people aged 60-74, old people aged 75-89, and long-lived people aged over 90 [2].

In China's ageing blue book, people over 60 years old are called the elderly, people aged 60-69 years old are young, elderly people, people aged 70-79 years old are middle-aged people, and

^{*}Project supported by R&D Program of Beijing Municipal Education Commission (KM202210012001), and the project name is Research on the Structure and Function of Beijing Women's Clothing Aged 60-69.

^{*}Corresponding author.

Email address: fzyslml@bift.edu.cn (Li-Min Shi).

people over 80 years old are elderly people [2, 3]. The elderly women in this article refer to those over 60.

1.2 Current Situation of the Clothing Market for Elderly Women

In China, the index of more than 10% of the elderly population is used to delimit whether it belongs to the ageing society. By the end of 2007, statistics show that the elderly population of 60 and above had reached 153 million, accounting for 11.6% of the total population, qualifying the population as an ageing society. By 2030, the country's elderly population has reached 300 million. By the mid-21st century, the Chinese elderly population will exceed 400 million [4], suggesting the Chinese elderly market has huge potential [5]. From the world's perspective, there is a large proportion of the ageing population in many countries, especially in Europe, Japan, South Korea and other developed countries [6-8]. The elderly clothing market has a good prospect. These countries entered the ageing society earlier, and their research on clothing for the elderly was earlier than that of China, which is relatively more comprehensive and in-depth.

In China, for example, according to the Research Center on Aging of the Chinese Academy of Social Sciences, by 2025 and 2050, the potential market purchasing power of the elderly is expected to reach 1.4 trillion billion yuan and 5 trillion billion yuan. Clothing consumption spending is expected to reach 470 billion yuan and 500 billion yuan. The elderly clothing market has huge potential; the rise of the elderly economy and the silver hair economy has been the trend of The Times [4] [9].

According to relevant literature, older women's life expectancy is longer than older men's. With the increase of age, the proportion of the elderly women population gradually increases, so the ageing problem of the women population is more prominent [10]. With the rapid development of the economy, the living standard of the elderly is constantly improving, and the consumption demand for clothing is also gradually rising. In terms of clothing, elderly women spend more than elderly men. Therefore, elderly women are expected to become more potential consumers in the elderly clothing market [11].

1.3 Research Status of T-shirts for Elderly Women

The researches on T-shirts are very rich at home and abroad, and they started early. Through the literature research on T-shirts in recent years, the research objects on T-shirts are mainly for young people. At present, it is very limited to research T-shirts specifically for elderly women.

In 2013, Huang Huibiao et al. [12] developed a T-shirt textile fabric suitable for the elderly. The fabric can achieve an ideal state of air permeability, moisture permeability, moisture absorption, wettability, dryness, strength and elongation. And it isn't easy to wrinkle and deform. In 2014, Li Qiongzhou et al. [13] designed a health care old age silk T-shirt in response to the serious simplification of T-shirts for the elderly, the inability of materials to meet diversified needs, the lack of functional design and other problems. In 2016, Qiao Fei et al. [14] designed an elderly care T-shirt and its mobile terminal based on intelligent wear. The elderly care T-shirt includes a T-shirt body, a function detection device and a master controller. The elderly care T-shirt is designed with human body parts, more reasonable location, convenient detection, high efficiency and accuracy, more comprehensive detection functions, convenient wearing and carrying, good comfort, strong applicability, safety, and reliability.