

Longevity Clothes Using Adjustable Techniques for Children Ages 2 to 6 years

Enas A. H. El-Okda

Home Economics Department, Faculty of women, Ain Shams University, Cairo, Egypt,
Enas.elokda@women.asu.edu.eg

Wafaa S. M. Ahmed

Home Economics Department, Faculty of women, Ain Shams University, Cairo, Egypt,
wafaasaed34@gmail.com

Hebatullah A. A. Abdel-Hamed

Home Economics Department, Faculty of women, Ain Shams University, Cairo, Egypt,
heba.alim@yahoo.com

Marwa M. M. Khodary

Home Economics Department, Faculty of women, Ain Shams University, Cairo, Egypt,
Marwa.Khodary@women.asu.edu.eg

Abstract:

A rapid growth rate of children, in addition to constant movement and activity, makes the rate of purchasing and consuming clothes high, and this has a negative impact on the family budget as well as on the environment.

The research aims to design and produce sustainable children's clothing from 2 to 6 years old, with a focus on quality and design, using four key axes: First, Analyzing the differences in sizes during the age period under study. Second, designing seven clothing pieces that contain functional techniques to control the differences in lengths and circumferences between different age sizes, which support a longer period of time for use. Third, Choosing fabrics with good performance quality. The process involves dyeing and printing the fabrics to enhance their aesthetic appeal. Ultimately, we execute the suggested functional designs and administer a survey to specialists and mothers\consumers, to gauge the effectiveness of these designs and the level of consumer demand for them.

Children continue to grow at huge rates ranging from 5 to 8 centimeters a year from birth to adolescence, making parents constantly replace clothes that are no longer suitable for the child, and children get rid of their clothes long before the clothing reaches the maximum wear, which has an impact on the increase in family expenses. In addition, most items that are discarded end up in landfills. Clothing and textile products usually take a long time to decompose. It releases dangerous toxins into the ground, causing serious environmental damage.

In recent years, societies have begun to look for ways and means to contribute to increasing awareness of sustainable life as designers, garment producers, and manufacturers continue to seek solutions through innovative and alternative designs to combat waste, excessive consumption, and pollution problems.

Research problem: The research problem is summarized in how to develop design ideas to boost the consumption of children's clothing while taking into account the child's psychological, motor, aesthetic, and functional needs.

Objectives of the research: The research aims to propose some methods for designing and producing sustainable children's clothing with longevity. This is achieved by designing and implementing seven pieces of longer-lasting children's clothing for ages between 2 and 6 years utilizing extendable functional techniques. These pieces were designed to adjust and fit size differences through child growth. Also, they could meet the needs of children who have special sizes due to malnutrition or genetic problems, and take into account both aesthetic and functional values. This reduces the economic burden on the family, in addition to reducing the amount of clothing thrown in waste, which represents a burden on the environment.

Importance of the research: Increasing the consumption life of children's clothing, which may reach two years, by choosing good materials, extendable functional techniques, and choosing the parts of one piece of clothing wisely. Adding functional techniques to control lengths and circumferences based on the size differences between each size and the next helps not only to change the dimensions of the child's size from one age to the next but also helps in finding solutions to adjust sizes to fit children who suffer from physical problems resulting from obesity, thinness, dwarfism, or being taller than their peers of the same age. The longevity of children's clothes helps to reduce the purchasing process, reduce the economic burden on the family budget, reduce the stock of unsold clothes due to inappropriate fit and size, and thus reduce environmental problems.

Research Hypothesis The research assumes that the proposed designs will be accepted in general by specialists and mothers\consumers. The research assumes that the use of extendable functional techniques will be successful in controlling fit and size, which increases the consumable life of the clothing item. The research assumes that the implemented designs achieve integration between functional, aesthetic, and economic purposes and consider the overall child needs. The research assumes that the used dyeing\printing techniques with colour harmony, materials, and applied techniques are compatible with the applied designs and added an aesthetic value to the product. The research assumes that the product contributes to rationalization of expenditure and alleviation of the economic burden on the family budget, thus increasing demand for purchases as well as helping in the field of the clothing industry.

Research limitations Children's clothing ranges from 2 to 6 years old in Egypt. Arab Republic of Egypt: To collect the opinions of a random sample of Egyptian consumers.

Research Methodology The research relies on an analytical and applied study, which involves analyzing the size chart for children aged 2 to 6 years, selecting functional techniques that are appropriate for the child's age group and motor requirements, and then applying the results to seven different proposed clothing designs.

Methods

The following steps are applied to extend the consumable life of children's clothing, solve the problem of fitting and sizing resulting from the rapid growth in the child's body size as well as the differences in body dimensions from one child to another in the same age group, and reduce the family's spending on buying clothes for their children:

Results:

The results of the designed questionnaires verified that all the seven products were accepted by specialists and mothers\consumers in general with different values. However, the degree of acceptance of the implemented designs varied between specialists and mothers\consumers. Mothers\consumers showed a very high level of acceptance, with an average acceptance score of 98.40% for the seven implemented designs. On the other hand, specialists' acceptance of the implemented designs was somewhat acceptable, with an average acceptance score of 66% for the seven designs. The overall evaluation of specialists' opinions showed that the second design, no. 2, came first with average overall (71%), and the sixth design came in last with average overall (61%), while the overall evaluation of mothers'\consumers' opinions showed that the sixth design, the jacket, came first in all statements' evaluation with average overall (99%), and the fourth design came in last with average overall evaluation (97.02%). From the specialists' point of view, the second design is the most suitable one to achieve its purpose of increasing the longevity of a child's wear as it looks unique with creative features (zippers in different places), which make it comfortable in different sizes and also suitable for overweight children. Also, both the colors and the printing used in the design make it more attractive for consumers. That is why it came first in all proposed evaluations. From the perspective of mothers\consumers, the sixth design, the jacket, emerged first, offering numerous benefits such as having two front layers that help to fit different sizes, and also having two varying appearances. Additionally, since jackets tend to be expensive, investing in a jacket with adjustable features that can extend its lifespan significantly enhances its economic value. While, in their opinion, the second design that was chosen by the specialists is not as practical in use as the jacket, where it contains zippers that can be opened during children's activities and also can't be worn with different clothes.

Keywords :

Sustainable, longevity, children's clothing, functional techniques

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