

Ergonomic Requirements for Children's Clothing

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1 Context

Childhood is the period in which the experiences are in evidence. Healthy development of children comes from their interaction with the environment through play and discovery.

According to ABNT (2015) there is no specific national data on clothing accidents, but most of it occurs during leisure in playgrounds. In case of infants, suffocation is the leading cause of death within one year old.

According to data from the Brazilian Textile Industry Association (ABIT), children's clothing moves around R \$ 50 billion a year. Of these, 60.1% consist on casual clothes, 14% of sportswear, 9.9% of winter clothing and 9.9% other (SEBRAE / SIS, 2014). And so it's important that the market care about product planning, because the quality is a security issue in this segment.

In addition to these factors, one should also think about the ergonomics of clothing, in order to provide satisfaction, safety and convenience to children and their guardians.

Thus, the article presents the ergonomic requirements for children's clothing, in order the clothing sector contemplates factors related to child's development and its relationship with the environment in which it interacts.

2 Method

To make it possible to obtain the ergonomic requirements for Children's Clothing, was used as basis the ergonomic parameters for clothing of Rosa (2011), which

establish criteria concerning the Human Factors in clothing. In addition, was used the recommendations of the Norm NBR 16365: 2015, which provides safety in children's clothing for younger children (0-7 years completed) and older (7-14 full years). The search scope includes the younger group of children, who have a higher risk of accidents with clothing elements (ABNT, 2015).

Thus, given these directions and also the stages of child development, the ergonomic requirements were stipulated for the Children's Clothing to the stage of second childhood, which according to Manning (1977), is the period from six to twelve, but as this research addresses the younger audience of children, the recommendations follow up to the age of seven.

3 Results

The children, according to their growth, tend to have a different relationship with their clothes, according to the period of development on which they are. Therefore, the companies must consider all the factors that influences this relationship and users who are involved in this process.

At the time of early childhood, parents represent key role on choosing clothing and dressing the child. With this, clothing must include ergonomic requirements, but also involves the ease of wear and maintenance parts. Thus, the clothes should have practicality, comfort and safety, as well as articulate aesthetic with ergonomic factors.

On pre-school period, cognitive child's ability is in evidence, and at this stage it is interesting to think about the factors of attraction and the child's identification with the clothing, such as the use of characters on textile design.

At this stage, also starts the introduction of adult garments, such as jeans. And so, it's important to choose fabrics, trims and seams that provide safety and child welfare during use.

Thus, fabric enhancements can be used to ensure softness in parts, and the introduction of entertaining features on clothing, to stimulate the child's cognitive development.

In the period of the Second Childhood, children have physical and cognitive development, and possess skills for different activities.

Clothing must present ergonomic criteria compatible with the period, thinking about the user experience during use, because at this stage the child already looks at other factors beyond the aesthetic in clothing choice. Thus, symbolic issues such as the brand are evident, and identifying factors such as color and choice of characters continues.

Furthermore, preferences regarding style of clothing are intensified, since the child is building preferences and identity.

Thus, during the development of the child can observe the evolution of their interaction with the clothing, which is initially more passive, controlled by parents, for a more active role on identifying their personality and preferences through their choices.

4 Conclusions

This paper aims to present ergonomic requirements necessary for the development of children's clothing, so that the factors concerning the child and their parents are assessed during the planning of the product.

Thus, companies should think about the interaction of the child with clothes for every stage of its development, and pay attention to safety questions together with practical and aesthetics attributes, respecting the ergonomic criteria.

For this, it's important to enhance quality control processes with the product, to occur standardization and minimize the risk to the customer.

Moreover, it is also important to conduct market research to the public in order to identify hazards, needs, and opportunities reported by those responsible for the child, and see what are their difficulties and suggestions with respect to children's clothing.

Finally, companies should be aware of the launch of new technologies that can assist in this process, and to publish updates on regulatory industry standards.

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