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## **THE EFFECT OF GARMENT FIT AND ZIPPER APPLICATION ON THE PERFORMANCE OF ZIPPER ON THE GHANAIAN MARKET**

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### **ABSTRACT**

Zippers are one of the commonly used fasteners in the clothing industry in Ghana because zipper costs relatively less and are easier to fasten than other fasteners. However, it is perceived that most zippers on the Ghanaian market do not function effectively as they should due to incorrect practices in dressmaking. The aim of the study was to examine the factors in garment construction that affect the performance of zippers. The objectives are to identify the effect of garment fit on zipper performance and to determine the effect of zipper application method on zipper performance. The research design used was cross-sectional survey and the simple random sampling technique was used to sample 325 tailors, dressmakers and fashion students from the Cape Coast Metropolis for their views on the performance of zippers on the Ghanaian market. The main findings of the study were that Close fitted garments and the concealed zipper application method all affected zipper performance negatively. The study therefore recommended that dressmakers should upgrade their skills on appropriate garment fit and correct zipper application to reduce zipper failure.

**Keywords:** Zipper; Fastener; Performance; Garment; Ghana

### **INTRODUCTION**

Zippers are one of the commonly used fasteners in the clothing industry worldwide. Gaddis (2011) argued that zippers were the first machines that people learnt to master in their childhood and have remained the most common mechanisms of daily lives. It may in fact be just a little startling to think of zippers as machines, but surely that is what they are; carefully fitted pieces of metal and plastic that must move in close coordination. When this coordination fails, the garment may be unusable until the zipper is repaired or replaced.

There are many tasks that a zipper does better than alternatives do, but hardly any that cannot be done more simply. Buttons will handle a trouser fly or skirt placket very nicely, snaps or clasps will fasten a purse or a pocket with no difficulty, a flap and buckle will close a suitcase, a spring will keep a tobacco pouch secure. Yet this tucks is trusted to a mechanism that requires enormous ingenuity and precision (Secret, 2009). Few things combine simplicity and complexity as thoroughly as a zipper. Its working could hardly be more straightforward, but the technical requirement that must be met to ensure its smooth operation is particularly de-



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manding.

### **Problem Statement**

A casual observation and comments from both producers and consumers in the clothing industry indicate that most zippers on the Ghanaian market do not function effectively as they should due to incorrect practices in dressmaking. Zippers attached to clothes sometimes ply open in the middle as early as the first time of wear. This unfortunate incident has caused embarrassment to people in public; some weddings have had to be delayed because the bride's zipper failed and a new one had to be fixed. Such failure is one of the major causes of consumer dissatisfaction with the locally produced garment after fitting problems and inability to meet delivery date (Garner and Keiser, 2012). This unfortunate situation seems to be gradually making people lose interest and confidence in the performance of zippers used in the clothing industry in the country. Hence, people often resort to other forms of fasteners which may not be appropriate for the style of the clothes on which they are used. An example is the use of string in all types of skirt and the use of buttons and laced-up loops for all manner of dresses and blouses for fear of zipper failure.

Despite the importance of zippers in the clothing industry, there is inadequate literature that looks at the performance of zippers in clothes. Existing literature only looks at types of zippers and their mode of application in garments, neglecting the strength of the various types of zipper and factors that can affect their performance in clothes. The performance of zippers in clothes is an important subject which is worth investigating into because zippers have become an invisible but inescapable part of daily life in the mid and late 21<sup>st</sup> century.

### **Aim**

The aim of the study was to examine the effect garment fit and zipper application method on the performance of zippers on the Ghanaian market.

### **Objectives**

The specific objectives are to:

1. Identify the effect of garment fit on zipper performance.
2. Determine the effect of zipper application method on zipper performance.

### **Research Questions**

- 1 How does the fit of garments affect zipper performance as perceived by the users of zippers?
- 2 What are the views of the users of zippers on the effect of zipper application on zipper performance?



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## **LITERATURE REVIEW**

According to Jyler (2008), zippers are the principal items used in clothing that are partly textile in nature and partly non-textile, hard material. They provide a neat strong fastening in garments, and can be functional or decorative or both. They provide two edges that will mesh together and resist pulling apart when stressed on a tape support that can be sewn into the garment (White, 2009). Frings (2002) also added that, zipper are fastening devices consisting of parallel rows of metal, plastic, or nylon teeth on adjacent edges of an opening that are interlocked by a sliding tab. Thomas (2009) also indicated that, the zipper can also be used in divers ways for decorating clothes. The zipper is a recent addition to the family of sewn in closures, but it has pretty much taken over as the universal closure since its introduction.

According to Jyler (2008), zipper can vary in the materials of the tape, the form and materials of the meshing sections, and in the overall construction and function of the zipper. The latter affects predominantly their methods of attachment to garments. However, Stone (2004) added that all these zippers are produced to different specifications and their selection should be based on higher quality specification.

Different authors classify zipper differently, these classification vary according to zipper properties such as: form, material and purpose. Buchanan and Mayer (2002), and Jyler (2008) all classified zippers according to their form. Buchanan and Mayer classified zippers into two main groups which are: chain zipper (medium weight zippers with metal or plastic teeth) coil zipper (synthetic coils of polyester or nylon attached to a woven type) useful for fine fabrics. Jyler again indicated that the major types of zipper are: individual metal teeth, spiral coil, plastic molded teeth, and invisible zippers. These two classifications were based on the nature of meshing sections of the zippers.

### **Zipper Application**

Zipper application is the process of attaching zippers on a garment. This process can sometimes prove a bit difficult for beginners but they are really easy if the correct procedures are followed, and the zipper or cording foot is used on the machine (Diamond & Diamond, 2007). Inserting a zipper without this attachment may break the machine needle, perhaps damage the machine, and it's doubtful that the zipper will look trim once it's in the garment and may cause permanent damage to the zipper. There are various zipper applications depending on the placement of the zipper in the garment, and the type of garment. In addition, the type of zipper will also certainly determine the application method to be used. Generally zippers are centered in a slot seam or hidden in a lapped seam. Most zippers are inserted into seams.



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According to Buchanan and Mayer (2002), zipper application may be grouped into two main categories; the concealed and the exposed methods of application. The concealed methods are: centered, lapped, fly and concealed zipper applications. In this classification zippers were grouped according to the visibility of the zipper teeth. Garner & Keiser (2012) also indicated that zipper application can be put under three main headings: centered, lapped and fly front application. This classification was based on how the zipper was stitched and did not take into consideration how the zipper appeared in garments after application. While Buchanan and Mayer (2002), classified zipper application into six methods namely: centered, lapped, fly, concealed, exposed and open ended zipper application. This classification apart from taking into consideration how the zipper was stitched also looked at how the zipper appeared in garments after application. Quality workmanship means careful sewing, using appropriate techniques. Zippers applied on garments should open and close easily, and the stitching should be neat and secure.

### **Garment Fit**

According to Stone (2004), the fit of a garment also affect the performance of closures on them. There are three basic types of garment fit and these are loose fitting, semi close fitting and close fitting. There is no problem with the loose and semi close fitting garments however the problem is with the close fitting garments. The closeness of garments to the body put extra strain on the zipper (Gaddis, 2011). When these zippers get over stretched to their elastic limits due to the stress on it the teeth eventually pop open from the middle causing a permanent damage to the zipper. Ironically, many people buy or sew their clothes a little bit snug with the idea that it will make them look slimmer. The opposite is true. Too-tight clothing can make one look pounds heavier (Robison, 2010).

### **RESEARCH METHODOLOGY**

Cross-sectional survey was used to collect data to seek zipper consumers' perceptions on the performance of zippers used in the industry from a population of 600 garment producers which comprised of 439 tailors and dressmakers in the Cape Coast Metropolis and 161 fashion students of Cape Coast Polytechnic and Cape Coast Technical Institute. Simple random sampling procedure was used to get the sample size of 325 respondents comprised of tailors, dressmakers and fashion students.

Based on the objectives of the study, questionnaires were employed for the data collection. The administered questionnaires were edited and grouped under emerging themes based on the objectives of the study for easy analysis. Each response was coded and entered into Statistical Product and Service Solutions (SPSS) version 17 for analysis. Descriptive statistics such as frequencies, percentages, tables and figures were used to present the results.



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**FINDINGS AND DISCUSSION**

**Zipper Application Method most Prone to Failure**

According to Stone (2004), improper zipper application can disturb operability and consequently lead to permanent damage of the zipper, so an investigation into the zipper application method used by the dressmakers which was most prone to failure was done. The responses are tabulated in Table 1.

*Table 1: Zipper Application Method most Prone to Failure*

Zippers Application Method	Distribution of Respondents						Total	
	Fashion Students		Dressmakers		Tailors			
	No.	%	No.	%	No.	%	No.	%
Concealed	48	55.8	86	47.0	19	33.9	153	47.1
Lapped	34	39.5	88	48.1	23	41.1	145	44.6
Centred	4	4.7	9	4.9	14	25.0	27	8.3
Total	86	100.	183	100.0	56	100.	325	100.0

*Source: Field Work, 2012*

From Table 1, it can be observed that 47.1% of the respondents identified the concealed method as being prone to failure. Another large proportion of the respondents, forming 44.6% mentioned the lapped method and 8.3% of the respondents said it was the centred methods which were prone to failure.

These findings confirm the findings from the data tabulated in Table 8, where 72.8% of the respondents found the concealed zipper application method to be the most difficult method as compared to other methods. Hence, the suspicion that concealed zipper application method was the first reason for zipper failure on garments. The failure of zippers during garment construction was likely to have come from the use of the concealed method. The method may result in failure, and zipper damage due to bad application may be considerably high for inexperienced consumers because for a professional finish, one would have to stitch very close to the zipper teeth and also the use of the correct foot, when not properly done, can disturb operability and consequently lead to permanent damage of the zipper as stated by Stone (2004).

**Garment Fits that Affect Zipper Performance**

Respondents' views were sought on the garment fits which they thought affected zipper performance. Table 2 presents the views expressed by the respondents.



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Table 2: Garment Fits that Affect Zipper Performance

Kind of Garment fit	Distribution of Respondents							
	Fashion Students		Dressmakers		Tailors		Total	
	No.	%	No.	%	No.	%	No.	%
Close fitted	84	97.6	158	86.3	42	75.0	284	87.4
Semi-close fitted	1	1.2	18	9.8	5	8.9	24	7.4
Loosely fitted	1	1.2	7	3.8	9	16.1	17	5.2
Total	86	100.0	183	100.0	56	100.0	325	100.0

Source: Field Work, 2012

The data as presented in Table 2 shows that majority of the respondents named close-fitted garments as the garment fit which affected zipper performance. The view was put forward by 284 out of the 325 respondents who form 87.4%. Semi-fitted and lose-fitted affected zipper performance as they were represented by 7.4% and 5.2% of the 325 respondents respectively.

The views of the various groups of respondents were not different, as 97.6%, 86.3% and 75.0% of the fashion students, dressmakers and tailors respectively believed that close-fitted garments affected zipper performance. The finding in this study is in support with Stone's (2004) assertion that garments that fit the body snugly may have negative effects on the performance of fastenings on them. This was not surprising since the more fitted the garment the more pressure that it exerted on the garment as a whole. This pressure is felt more on the weakest areas of the garment which are the seams and the zipper, with the zipper being weaker generally than the seams.

## CONCLUSION

Based on the results, the following conclusions were drawn:

1. Close fitted garments exert more pressure on the garment; this pressure is felt more on the weakest areas of the garment which are the seams and the zipper, with the zipper being weaker generally than the seams.
2. Again, incorrect zipper application affected zipper performance negatively, the concealed zipper application method were a major cause of zipper failure in garments. The concealed zipper application method requires special expertise and zipper-foot for a professional finish however, the zipper-foots are very expensive when available.



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### **Recommendations**

To ensure reliable zippers for the clothing industry in Ghana the study recommends:

1. Dressmakers should not make garments to fit snugly to the body as this puts extra strain on the zipper to forcefully ply open.
2. Dressmakers should occasionally upgrade their skills on the correct application of zippers through workshops and short courses in order to reduce the incidence of zippers failure due to improper zipper application.

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