

## Smart Uniforms for Primary School Children

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**Abstract:** School uniform is the single-most visible element of any school. Students in school uniform are walking advertisements for a school, giving an impression of the school. Data was collected through a pre tested questionnaire from 100 primary school children from different schools of Hyderabad regarding their preferences about specialized school uniform such as colour combination, garment fit, collar, sleeve styles, level of satisfaction, desired fabric in comparison with present clothing. It was found that there was a definite need for specialized uniforms in order to meet the basic functions and comfort of children. Four school uniforms (two for boys and two for girls) were designed and manufactured. The present study aimed to find the acceptability of designed uniforms by the primary school children, parents and teachers. The results revealed that the designed school uniforms can be introduced for primary school children to improve their comfort while performing different activities in schools.

**Key words:** Primary school children, school uniforms, Colours, Texture, school uniform designs for boys and girls.

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### I. Introduction

A school uniform is an outfit, a set of standardized clothes worn primarily for an educational institution. They are common in primary and secondary schools in various countries. When used, they form the basis of a school's dress code. Many believe the uniform to be an accurate reflection of a school's discipline standards. In response to growing levels of violence in schools, many parents, teachers, and school officials have come to see school uniforms as one positive and creative way to reduce problems associated with discipline and increase school safety. In addition school uniforms serve several important functions such as helping prevent groups from forming on campus, encourage discipline, help students resist peer pressure to buy trendy clothes, help identify intruders in the school, diminish economic and social barriers between students, increase a sense of belonging and school pride, improve attendance.

### II. Objectives

Keeping the preferences in mind following objectives were framed for research  
Designing Smart uniforms for primary school children, designing comfortable uniforms to primary school children, Production of the designed Smart uniforms, assessing the performance of designed Smart uniforms.

### III. Methodology

A pre tested questionnaire was used to collect information from parents and teachers regarding features in school uniforms. It consisted of general information of the child, details about the features of the present uniform, style, problems associated, preferences of the style and features to be included in the present uniform. Data was collected from hundred primary school children (Boys and Girls) along with their parents and teachers from different schools of Hyderabad. Information collected had shown that there was a definite need for specialized uniforms to improve the comfort and function for better performance of the children. After collecting their preferences on the type of fabric and colour for the school uniforms and also after taking an informal market survey on the types of fabrics available, materials for school uniform were selected.

## IV. Results and Discussion

The results of the study are as follows:

### 4.1 The perception and preferences of children and parents with regard to present school uniform:

Maximum numbers of children around 53 percent of the children were not satisfied with their present uniform for reasons like poor sweat absorbing capacity of present uniform while involving in physical activities. Most of the children were feeling uncomfortable with the misfit of the uniforms at sleeve parts, crotch line and waist line. When the children were asked about features to be present in smart uniforms, around 86 per cent children preferred short sleeves. Most of the children preferred pocket placement on the left panel of shirt and set in pockets (seam pockets) on both the sides of short (knickers) and skirt. While 78 per cent children preferred shirt collar, the rest of the children especially girls preferred peterpan collar.

As per the data collected from the parents of primary school children maximum no of the uniforms were of cotton/polyester blend and very few uniforms were of pure cotton. Because of the cotton polyester blend in the uniforms, children felt uncomfortable while involving in different activities as the absorbing capacity of the polyester blends is very low.

With regard to their preferences for specialized smart uniform, maximum number of parents and children preferred cotton because of its light weight, absorbing capacity and comfort ability.

With regard to the fabric preference, most of the respondents preferred to have patterned fabric for school uniform. Striped fabrics were preferred by most of the parents and children. Few preferred plain fabrics also. Eighty nine per cent parents preferred to have alterations/minor modifications in the present uniform design to suit their children to perform activities in a much effective way. Regarding colour combination, tints and shades of green and blue were preferred by maximum number of children. Very few preferred tints and shades of red and yellow.

### 4.2 Designing of uniforms:

Designing was done incorporating all requirements to make them as comfortable as possible in schools. Hundred per cent pure cotton fabric was used to enhance the properties like absorbency, low thermal resistance, strength etc. as per the results of the data collected. Four garments were designed and referred as.

1. School uniform for girls "Design 1"
2. School uniform for girls "Design 2"
3. School uniform for boys "Design 3"
4. School uniform for boys "Design 4"

#### 4.2.1 School uniform for girls (Design 1):

The shirt and skirt were designed to add elegance and facilitate comfort to children in schools by incorporating some desirable design features. Features added in this style were peterpan collar along with centre front opening, set in sleeves, dart tucks at the shoulder level, tabs on both the shoulders and a "v" shaped back yoke. The skirt was designed keeping in mind the features preferred by majority of parents and children. The construction features incorporated were flaps for belt at both front and back, 3 pleats below the flaps, on both the sides which were closed up to 1/4<sup>th</sup> level in order to add good fitting till the hip level and pleats were opened from hip level in order to facilitate comfort while involving in various activities. Colours used for this design are lemon green for shirt, and a grey for skirt.



Uniform Design:1 School uniform for girls

#### 4.2.2 School uniform for girls (Design 2):

The second design for girls was planned with shirt and pinafore in slightly different manner. Shirt was planned with a peterpan collar and centre front opening, set in sleeve and tabs on both the shoulders. Pinafore was double breasted till waist region, with two pleats on both the sides of front panel. These pleats were closed till  $\frac{1}{4}$ <sup>th</sup> level from the waist and the rest of the pleat was opened. The colour combination for this uniform was sky blue coloured shirt and light blue coloured denim pinafore.



Uniform Design: 2 School uniform for girls

#### 4.2.3 School uniform for boys (Design 3):

The existing uniform was a striped shirt with set in sleeve and centre front opening with a back yoke and a plain short with side pockets. The shirt and short was differently designed from existing uniform with the following features to facilitate comfort and functional aspects to children. A princess panel shirt was designed with a set-in-sleeve, shirt collar, patch pocket and a back yoke in order to minimize the shoulder and back stress. The short consisted of flaps with buttons on both the sides, two side seam pockets and one set-in-pocket on the left side. Some design features such as addition of designed patches at the hem line were designed for the short to add beauty.



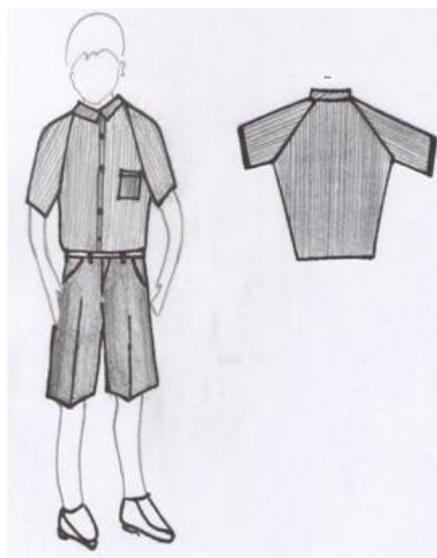
Uniform Design: 3 School Uniform for Boys

#### 4.2.4 School uniform for boys (Design 4):

The second design for boys consisted of shirt and short designed with raglan sleeve. This sleeve enabled the rotation of hand much easier than the set in sleeve. Additional features like shirt collar with centre front opening were designed to enable the child to easily put on and put off the garment by himself. Short was designed with side pockets on both the sides, back patch pocket and flaps for belt. The designed smart uniforms were made and evaluated in terms of acceptance by the parents and students. Sixty students (30 boys and 30 girls) and their parents of selected schools were chosen for this purpose. The opinion of the parents and students about the designed smart uniforms was collected using a questionnaire. The parents and students assessed the garments in terms of absorbency, comfort, appearance, cost etc.

The findings from subjective evaluation and opinion of target group were tabulated and analyzed using frequency, percentages and mean scores.

The overall acceptability was analyzed using a non parametrical test called Wilcoxon test.



Uniform Design: 4 School Uniform for Boys

The findings of the study are reported in tables.

**Table 1 Mean scorings for fabric suitability for designed uniforms**

S. No	Factors Evaluated - Fabric and its suitability	Scoring (out of 5)			
		Girls Uniform 1	Girls Uniform 2	Boys Uniform 3	Boys Uniform 4
1.	Texture of the Uniform	3.8	3.83	3.7	3.6
2.	Over all suitability of fabrics	3.7	3.73	3.5	3.6
3.	Strechability of the fabric	3.13	3.23	3.0	2.0
4.	Sweat absorbing capacity	3.63	3.8	3.5	3.7
5.	Comfort ability of garment	3.2	3.3	3.6	3.7

Majority of the children (target group) found the texture of the fabric as very good and suitable for all the four uniforms. It was evident from the data that maximum number of children rated the overall suitability of fabric used for girls uniform-2 as highly suitable followed by girls uniform-1. For boys, both the uniforms were rated as highly suitable. About the stretchability of the fabric girls uniform-2 was rated as good by majority of the target group followed by girls uniform-1. For boys, stretchability of boy's uniform-3 was rated as good followed by boy's uniform-4 by majority of target group. The sweat absorbing capacity of the girl's uniform-2 was rated as very good followed by girl's uniform-1 which was rated in between good to very good. For boys, uniform-4 was rated as having very good sweat absorbing capacity followed by uniform-3 by majority of target group boys. Comfort ability of girl's uniform-2 was ranked as comfortable followed by girl's uniform-1. For boys, uniform-4 was rated as highly comfortable followed by uniform-3 which was rated near to highly comfortable.

The mean scoring of designed uniforms for design and appearance attributes are furnished in table 2

**Table 2 Mean scorings for design and appearance of designed uniforms**

S.No	Factors Evaluated - Design and Appearance	Scoring (Based on 5 rating)			
		Girls Uniform 1	Girls Uniform 2	Boys Uniform 3	Boys Uniform 4
1.	Design/Appearance of the Uniform	3.73	3.76	3.7	3.5
2.	Suitability of Sleeves	3.46	3.3	3.7	3.83
3.	Selection of Collar	3.76	3.73	3.76	3.76
4.	Pocket Placement	3.4	3.56	3.63	3.7
5.	Colour Combination	3.73	3.6	3.86	3.6
6.	Quality of Stitching	3.63	3.46	3.6	3.8
7.	Overall Appearance	3.83	3.7	3.73	3.76
8.	Cost of the Uniform	1.7	1.86	1.9	1.73

More or less both the uniforms were rated equally as very good in design/ appearance by majority of the target group girls. For boy's, uniform-3 was rated as very good followed by uniform-4 for which the rating was given in between good and very good. Sleeves for both the girls uniforms-1 and 2 were rated as suitable. Set in sleeve for boys uniform-3 was rated as highly suitable Whereas Boys Uniform-4 with raglan sleeve was rated near to highly suitable by majority of boys. Peterpan collar for both the uniforms was rated almost equally as highly suitable. Both the uniforms for boys were rated equally as near to highly suitable. It was evident that majority of the girls from the target group opined the pocket placement on uniform-2 was highly suitable followed by uniform-1 which was rated as suitable. For boys, both the uniforms were rated as highly suitable for pocket placement. Regarding colour combination, uniform-1 was rated as very good followed by uniform-2. Colour combination for boys uniforms showed that school uniform-3 was rated as very good followed by uniform-4 which was rated as in between good and very good

The overall mean scorings and relative ranking for designed uniforms is given in table 3

**Table 3 Overall mean scorings and relative ranking for designed uniforms**

S.No	Factors Evaluated - quality parameters	Scoring			
		Girls Uniform 1	Girls Uniform 2	Boys Uniform 3	Boys Uniform 4
1.	Mean Scores	3.42	3.43	3.45	3.40
2.	Relative Ranking based on Mean Scores	II	I	I	II

As evident from table 3, the quality of the workmanship of girls uniform-1 was rated highest; this was followed by girls uniform-2. For boys quality of workmanship of uniform-4 was rated as very good by majority of the boys from the target group followed by uniform-3. Overall appearance of uniform-1 was ranked highest followed by uniform-2 by girls. For boys, it was found that uniform-3 and 4 were rated more or less equally in their overall appearance as very good. It was evident that cent per cent girls and boys from the target group expressed that the designed smart uniforms could be introduced in schools. The overall mean scores of smart uniforms indicated that designed smart uniforms for girls uniform-2 was ranked first followed by uniform-1. Among the designed smart uniforms for boys uniform-3 was ranked first followed by uniform-4.

Wilcoxon test results showed that there was no significant difference found in boys smart uniforms. In girl's uniforms, significant difference was found at 5 per cent level.

## V. Conclusion

Majority of the girls and boys and their parents from the target group opined that the smart uniforms are essential and helpful for children in participating in different outdoor and indoor activities. The smart uniforms designed for both boys and girls based on their perception and comfort factors were accepted by the target groups and recommended for introduction in schools.

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