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An investigation into how the human environment influences the clothes people wear in the Kumasi Metropolis of Ghana

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ABSTRACT

The general objective of the study was to investigate how the human environment influences the clothes people wear and the geographical area for the study was the Kumasi Metropolis. The survey population included people who wear clothing in the Kumasi Metropolis. The sample size was made up of Metropolitan Areas (150) respondents. This included thirty (30) respondents each from the five selected Sub-Metropolitan Areas in the Kumasi Metropolis. That is, Bantama, Nhyieso, Manhyia, Subin and Kwadaso Sub-Metros. The researcher used simple random and purposive sampling techniques for the study. Most of the respondents (40.7%) do not consider their environment in the selection of their clothes though some do to a limited extent. Ghanaians had positive approval of clothes such as knit close fitting garments, halter style garments, fitting trousers, Men's suit, kaba and slit, Fugu (smock), long sleeved men's shirt and women's suit but frowned on the wearing of short dresses and skirts, flared flippy skirt, short shorts, low waisted, revealing shirts, shirts showing chest and transparent lace clothes etc. These clothes are seen as alien to the social, cultural and religious beliefs of the Ghanaian people. Manufacturers of various clothing in considering the taste and preferences of the consumers should factor in the legal, cultural and religious beliefs of the people in the production of clothes as some clothes due to their lack of moral or ethical standards are anathemas in certain society. Suppliers due to climate variations should consider the kind of clothes they supply into a society.

Key words: **kaba, human environment, clothes, Manufacturer, fitting garments, Fugu**

1. INTRODUCTION

In prehistoric times man wore furs of animals to protect himself from whether hazards.

Successively over the centuries, clothing has also become a tool to help distinguish between groups of people in the society. Clothing has, in addition, an important impact on people's perception of the indoor environment. Clothing behaviour has been analyzed by investigating the outdoor and indoor parameters that motivate people's choice of clothing.

Clothing refers to any covering for the human body. It serves as a layer between the macro and micro environment. The wearing of clothing is exclusively a human characteristic and is a feature of most human societies. The amount and type of clothing worn depends on functional considerations (such as a need for warmth or protection from the elements) and social consideration (Bittel et al., 1998)

According to Morgan (2003), 'Clothing' performs a range of social and cultural functions, such as individual, occupational and gender differentiation, and social status. Thus whatever garment or clothing one wears should aid their activities. Ergonomic comfort is an integral part of clothing wear. Ergonomics looks at what kind of work you do, what tools you use and your whole job environment.

Learning the right way to lift heavy objects to prevent back injuries using handle coatings or special gloves to suppress vibrations from power tools no matter what the job is, the goal is to make sure that you are safe, comfortable, and less prone to work-related injuries. The textile industry touches the lives of all people in one or the other ways. Apparel, Home textiles, Technical textiles, Industrial textiles, Medical textiles, Safety textiles, Smart or Intelligent textiles, there are variations for all - Consumers, Traders, Manufacturers, Technologists, Engineers and others(Hendrick, Martyniuk, Spencer, & Flynn, 1997).

Clothing and textile industry has come a long way to be an organized industry from being a mere domestic industry. Starting with the Industrial Revolution, it has gained a state of supremacy with time. High production of wool, cotton and silk all over the world has given a boost to the textile industry in past years. Though the industry originated in UK, the art of textile production passed to Europe and North America after mechanization of textile manufacturing process in those areas.

It has been realized that some people wear clothes for adornment, expression of personal taste or style, modesty, religion, gender distinction and social status without considering the environmental factors such as indoor and outdoor climates of places they visit. These clothes provide a hygienic barrier in the sense that, it keeps toxins away from the body which limits the transmission of germs. Also clothing enhances safety during hazardous activities. Protection against the rain, sunshine, fire and snow in temperate regions

In the light of the above, the study is therefore aimed at investigating how the immediate environment and the various environments affect the clothes humans wear. Also finds out the extent to which the people of Ghana consider environmental conditions in the selection of clothes they use.

2 General Overview of Clothing

Clothing is a factor in everyday human life and interactions with others (Hendrick et al., 1997). It can transmit a vast array of meanings such as identity, value, mood, and attitude (Stone, 1962). Khan(1993) introduced an interdisciplinary and conceptual framework using symbolic interaction theory and cognitive social psychology for studying clothing and appearance as a form of communication.

Symbolic interaction involved with interactions among individuals (i.e., interpretations of clothing symbols between a wearer and a perceiver) whereas cognitive social psychology regards clothing cues as items that might be selected by perceivers to initiate inference processes about wearers. Interdisciplinary and conceptual framework by Khan (1993) involved the study of the interpersonal and situational aspects of the meanings assigned to clothing and the understanding of clothing as a symbolic representation of the self and others.

This framework showed the importance of clothing cues in perceptual and communicative processes. Chebat and Michon, (2003) developed a theoretical framework for understanding the linkages between identity and the social aspects of clothing. The authors discussed clothing as a communicator of identity from the perspective of symbolic interaction theory. Individuals acquired identities through social interaction in various settings such as social, physical, and biological surroundings. Identities were communicated by clothing because it showed the social positions of the wearer to both the wearer and the perceiver.

Arnheim (1949) and Asch (1946) indicated that the perceiver organized component parts of appearance into a global impression. Interdependent meanings were developed from the perceiver's organization of the physical message cues within the surrounding context or background. Bendelow (1993) emphasized that clothing was a systematic means of transmission of information about the wearer, meaning that multiple messages might be sent to the perceiver.

Clothing fashion is composed of silhouette, design details, and material. ‘Silhouette’ refers to the shape or lines of the style, for example, tubular or triangular silhouettes. ‘Design details’ are the particular elements of constructions such as collars, pockets, and sleeves. ‘Material’ refers to the fabrics as composed by a combination of pattern, colour, and texture (Smith, 1991).

Also, meaning is the social construction of reality that explains the world and helps people make sense of what is around and decide how to act (Gagge et al., 1971). Following the tradition of Forum for the future (2007) and Barthes (1983), meaning in clothing can exist in two different dimensions: denotation and connotation. Denotation refers to the literal meaning, whereas connotation relates to abstract associations that many times imply judgments, feelings and values. In this study, the emphasis is in the connotative meaning of clothing.

2.1 Importance of clothes

Some of the needs fulfilled by fashion adoption are intrinsically related to the functions of clothing. The early studies in the area of psychology of clothing distinguish four intrinsic functions of clothing: protection, modesty, immodesty and adornment any writers have categorized the wearing of clothes into theories which are for modesty, immodesty, protection, and, adornment,

while others includes status, sexual attraction, identification and communication (Sproles & Burns, 1994).

2.2 Protection

The basic function of clothing is its protective function, which refers to the intrinsic characteristic of covering the body (Barnard, 1996; Lurie, 1981; Sproles & Burns, 1994). The protection clothe offers is not only material protection of the body from heat, cold, and accidents, but also immaterial, in the sense that it protects the soul and the mind from evil. For example, just as umbrellas, visors, gloves protect against the sun or the cold, amulets and other magical adornments protect people from magical and spiritual agencies as well as from sin and obscenity (Forum for the future, 2007).

It is not accurate to say that clothing is the cultural response to a basic (EIPRO, 2006) (Hendrick et al., 1997) defined the word protection as a covering that is intended to protect from damage or injury. Man is one of the weakest animals in terms of physical strength. Man lacks the natural protection that other animals have. The skin is easily pierced or bruised. The absence of a thick skin or fur of other animals has exposed man to external dangers. Man therefore had to depend on protective covering devised by man's own ingenuity. (Havenith et al., 2001) and (Craig, 1968) acknowledge that this has been an important factor in man's survival

2.3 Environment

Environment literally means surrounding and everything that affect an organism during its lifetime. In another words "Environment is the sum total of water, air and land interrelationships among themselves and also with the human being, other living organisms and property". It includes all the physical and biological surrounding and their interactions.

2.4 Environmental impact related to Clothing

The life cycle of clothes has associated environmental impacts which are mainly related to: Energy use for production of raw materials, especially for man-made fibres, and for Laundry during the use stage (Allwood, 2006).Depletion of natural resources for the production of synthetic fibres made from nonrenewable fossil fuels (Cherret et al., 2005).

The Use of chemicals such as fertilizers and pesticides in particular for cotton cultivation. Cotton plants are indeed very prone to be attacked by certain insects and fungi (Chen & Burns, 2006). As an example, it is estimated that in India cotton accounts for more than half of all pesticides used annually while cotton crops only occupy 5% of agricultural land (Forum for the Future, 2007).

Worldwide, cotton uses about 3% of farmland but 25% of world's pesticides (Chen & Burns, 2006). In addition, cotton requires large amounts of water for growth. It is estimated that on the average 10 000 liters of water are necessary to grow 1 kg of cotton. In most areas rainwater is not sufficient and irrigation is required. The most well-known environmental disaster associated with water withdrawals for cotton irrigation is the shrinking of the Aral Sea Release of chemicals in waste water during the manufacturing processes (use of dyes, sizing agent) (Cherret et al., 2005).. During the use stage, the discharge to wastewater of phosphates contained in washing powders and liquids promote excessive growth of green algae which can harm some water-based organisms (Allwood et al., 2006; Forum for the Future, 2007).

Solid waste generation from the manufacturing processes and from the disposal of products at the end of their life. Synthetic fabrics based on oil like polyester pose a specific problem when disposed of in landfills since they take a long time to degrade (Allwood et al., 2006; Forum for the Future, 2007). The extent of these impacts resulting from clothing is of course related to our consumption. Having seen that about 6% of the total household expenditure is spent on clothing and footwear, one can wonder how much does clothing contribute to our individual assessments of products?

Clothing is reported to account for between 2 and 10% of our environmental impacts. Euro stat report (2006) edited by the European Commission identifies the types of products with high environmental impacts in the EU and reviews several environmental impacts. Clothing and footwear comes after food and drink, transport and housing that together is responsible for 70 to 80% of the environmental impact of consumption.

The contribution of the use stage, where energy and water are used for washing and drying, compared to the manufacturing stage seems to be highly dependent on the product material.

The report "Well Dressed from Cambridge University" (Allwoodet al., 2006) states that for a cotton T-shirt, 60% of the primary energy consumption over the life cycle takes place during the use stage, assuming 25 washes at 60°C and tumble drying. For a viscose (made from cellulose) blouse, the use phase is estimated to represent 14% of the primary energy requirements mainly due to a lower washing temperature and hang-drying.

Over the whole life cycle, the viscose blouse appears to consume twice less primary energy than the T-shirt (Allwood et al., 2006). Clothes made from man-made fibres require more energy during the raw material stage but the savings realized during clothing care can provide energy savings over the whole lifecycle.

3.1 Research design

Forum for the Future, (2007) describes a research design as "a plan that describes how, when and where data are to be collected and analyzed". Huizenga (2001) define a research design as "the researcher's overall for answering the research question or testing the research hypothesis". Qualitative and quantitative research designs were used in this study as they complement one another. Researchers use the qualitative approach to explore the behavior, perspectives, experiences and feelings of people and emphasize the understanding of these elements. Quantitative approaches give overviews and use useful in penetrating large amounts of data as well as being an essential tool for explaining correlations (Chebat & Michon 2003)

3.3 The study area

Kumasi Metropolis was used as the area for the study. The study area is the capital city for Ashanti's. The area under study is within the reach of the researcher and that there are many fashion designers and majority of people wear clothing articles and that the researcher was able to find answers to the research questions.

3.4 Population of the Study and Sample size

Population is the total of all elements that share some common set of characteristics (Hair, 2007) and the survey population in this study included people who wear clothing in the Kumasi Metropolis. The sample size for the study was made up of Metropolitan Areas one hundred (150) respondents. This included thirty (30) respondents each from the five selected Sub-Metropolitan Areas in the Kumasi Metropolis. That is Bantama, Nhyieso, Manhyia, Subin and Kwadaso Sub-Metros and one hundred (150) respondents were used in the study because the researcher believes that this sample size is manageable and that she can comfortably handle or work with.

3.5 Sample techniques

Purposive sampling and simple random sampling techniques were used in the study. Kamuzora, 2008 defines purposive sampling technique as a non-probability sampling that permit the researcher to select only those elements that are needed in the study. Purposive sampling is based on the theory that one wants to discover, understand, gain insight; therefore, one needs to select a sample from which one can learn most. Again, Simple Random Sampling technique is a probability sampling whereby all members in the population have equal chance of being selected to form a sample (Kamuzora, 2008). According to Ndunguru (2007), simple sampling has the property that every possible combination of objects in the population studied has an equal chance of being selected. For this study, these techniques were used to select some of respondents depending on their availability and willingness to provide information on the phenomena.

3.7 Data collection instrument

Questionnaire and a semi-structured interview guide were used to collect data from respondents. Questions were divided into five ranks based on Likert scale. Again, a semi-structured interview was constructed to gather information from fashion designers.

3.8 Data analysis procedure

Data analysis was performed using SPSS. The data from the respondents' were carefully edited to ensure accuracy and consistency. The edited data was analyzed by means of quantitative and descriptive methods of data analysis. The responses from wearers and fashion designers were collated and put into percentages.

Analyses and Interpretation of Questionnaire

Table 1 Demographic Information of Respondents

Variables	Frequency /Percentage (%)
Age	
20-29	52 (34.6)
30-39	46 (30.7)
40-49	42 (28.0)
50+	10 (6.7)
Total	150 100.0
Gender	
Male	82 (54.7)
Female	68 (45.3)
Total	150 100.0
Level of Education	
BECE	6 (4.0)
SSSCE/WASSCE	29 (19.3)
Polytechnic	41 (27.3)
University	74 (49.3)
Total	150 100.0
Religion	
Christian	118 (78.7)
Muslim	24 (16.0)
Traditional	8 (5.3)
Total	150 100.0
District of Residence	
K.M.A	81 (54.0)
Atwima Kwanwoma	37 (24.7)
Bosomtwe	14 (9.3)
Offinso	10 (6.7)
Others	8 (5.3)
Total	150 100.0

Source: field survey, 2014

In considering the ages of the respondents, it is found in Table 4.1 above that is, 52 respondents (34.7%) of the overall 150 respondents, are between the range 20-29 years. The age range of 30- 39 years had 46 respondents (30.7%) of the total 150 respondents. The age range of 40- 49 and 50+ had 42 respondents (28.0%) and 10 respondents (6.7%) of the overall 150 respondents respectively.

Gender wise, majority of the respondents that is, 82 (45.3%) of the overall 150 respondents as shown in Table 4.1 above were males and the remaining 68 respondents (45.3%) of the total of 150 respondents were females.

With regards to respondents' levels of education, 74 respondents (49.3%) of the total of 150 respondents were university graduates. Polytechnic graduates were 41 respondents (27.3%) of the overall 150 respondents. The SSSCE/WASSCE graduates and BECE graduates were 29 respondents (19.3%) and 6 respondents (4.0%) of the total 150 respondents respectively.

Religious background of the respondents in Table 4.1, Christians dominated with 118 respondents (78.7%) of the 150 respondents. Muslims followed with 24 respondents (16.0%) of the overall 150 respondents. The traditionalists were 8 respondents (5.3%) of the total 150 respondents.

Regarding the district of residence of respondents, 81 respondents (54.0%) of the 150 respondents as indicated in Table 4.1 were in Kumasi metropolis. Thirty seven (37) respondents (24.7%) of the total 150 respondents were resident in the Atwima Kwanwoma District. The Bosomtwe District had

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14 respondents (9.3%) of the 150 respondents residing in it. The Offinso district and other districts had 10 respondents (6.7%) and 8 respondents (5.3%) of the total 150 respondents respectively residing in them.

From the Table 4.1, correlation was run to ascertain the level of relationship that exist between the demographic variables of the study respondents. It was discovered that there was a negative correlation between respondent's religion and level of education. There was again a negative correlation between respondent's education and gender. It was however, discovered that there was a positive correlation between religion and age.

Factors considered for clothes selection

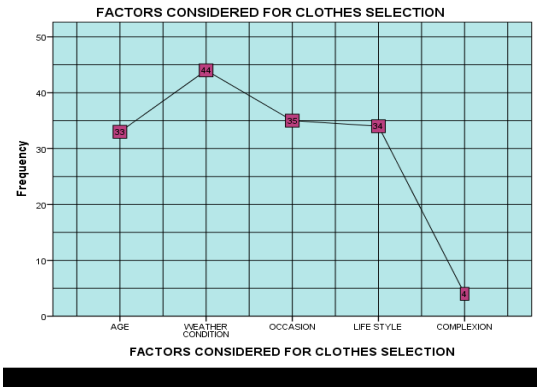

Figure 1 Factors Considered For Clothes Selection
Source: field survey, 2014

From Figure 1, 44 (29.3%) of the 150 respondents said weather condition was the factor considered for clothes' selection. Thirty-five (35) respondents (23.3%) of the overall 150 respondents said occasion to be attended is the factor considered for clothes' selection. Lifestyle was what 34 respondents (22.7%) of the 150 respondents mentioned as a factor considered in the selection of clothes. Thirty three (33) respondents (22.0%) of the total 150 respondents also mentioned age as a factor considered for clothes' selection. The least were 4 respondents (2.7%) of the overall 150 respondents who said complexion was the factor considered in the selection of clothes.

Tables 2 Do You Think Some Kind of Clothes Should Not Be Worn In Certain Environments

Variable	Frequency (F)	Percentage (%)
Yes	120	80
No	30	20
Total	150	100

Source: field survey, 2014

Respondents were quizzed on whether they think some kind of clothes should not be worn in certain environments. From the Table 2 that considered dichotomous scale measuring respondents' yes or no response, 120 respondents (80.0%) of the 150 respondents answered yes. The remaining 30 respondents (20.0%) of the total 150 respondents also answered no. Figure 4.2 further elucidate the findings. Some clothes should not be worn in certain environments. For instance wearing black attire in sunny weather conditions absorbs more heat.

TABLE 3 Give Examples If Yes

Variable	Frequency (F)	Percentage (%)
Sexually exciting	16	10.7
Skimpy dresses	52	34.7
Transparent	61	40.7
dress	13	8.7
Sexually enticing	8	5.3
Others	150	100
Total		

Source: field survey, 2014

Respondents who answered yes in Table 3 gave the following responses. Sixty-one (61) respondents that is, 40.7% of the total 150 respondents said transparent dress are the kind of clothes that should not be worn in certain environments. Fifty-two 52 (34.7%) of the total 150 respondents said skimpy dresses are the kind of clothes that should not be worn in certain environments. Another 16 respondents (10.7%) of the total 150 respondents mentioned sexually exciting clothes as clothes that should not be worn in certain environment. Sexually enticing and other clothes aside the aforementioned ones were mentioned by 13 (8.7%) and 8 (5.3%) of the total 150 respondents as clothes that should not be worn in certain environments. Demographic, religious and cultural

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differences accounted for the difference in the responses of respondents.

Table 4 Gender and clothes selection factors cross tabulation

		GENDER		Total
		MALE	FEMALE	
FACTORS CONSIDERED FOR CLOTHES SELECTION	AGE	20	13	33
	WEATHER CONDITION	24	20	44
	OCCASION	20	15	35
	LIFE STYLE	18	16	34
	COMPLEXION	0	4	4
Total		**82**	**68**	**150**

Source: field survey, 2014

From Table 4 which is on factors to be considered in cloth selection cross tabbed with the respondents gender, discovered weather condition of a given geographical area is the most important variable that influence both males and females selection of cloth. Interestingly, whereas occasion is considered the second most important factor for male in cloth selection, the females on the other hand are influenced by lifestyle in selecting their second most important cloth, It was not surprising whereas complexion is one of the factors considered by females in the selection of cloth, none of the males was interested in that hence recording zero response rate.

Table 5 Age and clothes selection factors cross tabulation

	AGE OF RESPONDENTS				Total
	20-29	30-39	40-49	50+	
FACTORS CONSIDERED FOR CLOTHES SELECTION	AGE	13	8	8	4	33
	WEATHER CONDITION	6	18	16	4	44
	OCCASION	13	14	8	0	35
	LIFE STYLE	20	4	8	2	34
	COMPLEXION	2	0	2	0	4
Total		54	44	42	10	150

Source: field survey, 2014

From Table 5, respondents' ages were cross tabbed with factors influencing their choice of cloth. It was revealed whereas respondents between the age groups 20-29 were influenced by lifestyle as the top most factors to be considered in selecting cloths, those within the age group between 30-39, and 40-49 were influenced by weather condition in selecting their cloth. It was not quite surprising to discover age as the most important factor considered by those within and above 50 years in selecting a cloth. It can be concluded at this point that age indeed has most influence when it comes to selection of cloth for use.

Table 6 Factors to Consider For Appropriate Clothes Selection

Variable	Frequency (F)	Percentage (%)

Source: field survey, 2014

With regards to factors to consider for selecting appropriate clothes, 61 respondents (40.7%) of the overall 150 respondents mentioned the weather condition of a place as a factor considered in the selection of clothes. Another 51 respondents (34.0%) of the overall 150 respondents mentioned the culture of the people as a factor considered in the selection of clothes. Age range and economic state were mentioned by 28 respondents (18.7%) and 10 respondents (6.7%) of the overall 150

respondents respectively as factors considered in the selection of clothes.

5.1 SUMMARY OF FINDINGS

Demographic Information of Respondents

Taking into consideration age of respondents, majority of the respondents i.e. 52 respondents (34.7%) of the overall 150 respondents were between the age ranges of 20-29 years. The age range of 30- 39 years had 46 respondents (30.7%) of the overall 150 respondents. The age ranges of 40- 49 and 50+ had 46 respondents (30.7%) and 10 respondents (6.7%) of the overall 150 respondents respectively. Gender wise, majority of the respondents i.e. 82 (45.3%) of the overall 150 respondents were males and the remaining 68 respondents (45.3%) of the overall 150 respondents were females.

With regards to respondents' level of education, the tertiary level of education dominated with university and polytechnic graduates numbering 115 respondents (76.6%) of the overall 150 respondents. The SHS and Basic level of education also had minor representations. Religious wise, Christians dominated with 118 respondents (78.7%) of the overall 150 respondents though there were Muslims and traditionalists.

Regarding the district of residence of respondents, majority of the respondents were resident in the KMA metropolis. However, there were respondents residing in Atwima Kwanwoma district, Bosomtwe district, Offinso district and other districts

Factors to consider for the selection of clothes for particular environment

Factors considered by respondents for the selection of clothes for particular environment, majority of the respondents said weather condition was the factor considered for clothes selection. The study found some of the respondents mentioning the occasion to be attended, Lifestyle, age and complexion as the factors considered in the selection of clothes.

Respondents were quizzed on whether they think some kind of clothes should not be worn in certain environments. Majority of the respondents i.e. 120 respondents (80.0%) of the overall 150 respondents answered yes which meant not all clothes could be worn in certain environments. Clothes that were named as not suitable to be in all environments were transparent dress, skimpy dress, sexually exotic and sexually enticing were mentioned as clothes that should not be worn in certain environments.

Respondents named the following as factors considered for selecting appropriate clothes. The majority mentioned the weather condition of the place. Culture of the people, Age range and economic state were also factors mentioned by some respondents to be considered in the selection of clothes.

5.2 Conclusions

It is obvious that reasons like the weather condition, culture, religion, an occasion to be attended, lifestyle, age and complexion influence people in the selection of clothes. Not all clothes were viewed as appropriate or decorous to be worn by the respondents. Most respondents do not consider their environment in the selection of their clothes though some do to a limited extent. Reasons attributed to people wearing clothes were for protection, to show off, to cover their nakedness, for sexual attraction, for prestige, for decoration, for identification, for self-esteem, to project features of the human body, for status.

5.3 Recommendations

i. Manufacturers of various clothing in considering the taste and preferences of the consumers should factor in the legal, cultural and religious beliefs of the people in the production of clothes. As some clothes due to their lack of moral or ethical standards are anathemas in certain society.
ii. The climate of a place should also be considered by manufactures in the production of clothes. Clothes should be made to suit the climate of the place so that consumers are not inconvenienced.

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