

UNIVERSITY OF CAPE COAST

UNDERWEAR CHOICE AND MANAGEMENT BY COLLEGES OF
EDUCATION MALE STUDENTS IN THE CENTRAL REGION OF
GHANA

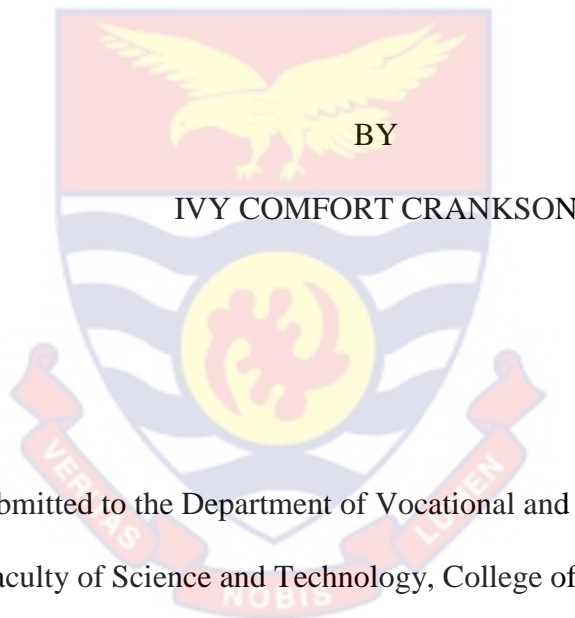


IVY COMFORT CRANKSON

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UNIVERSITY OF CAPE COAST

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EDUCATION MALE STUDENTS IN THE CENTRAL REGION OF
GHANA



Thesis submitted to the Department of Vocational and Technical Education of
the Faculty of Science and Technology, College of Education Studies,
University of Cape Coast, in partial fulfilment of the requirements for the
award of Master of Philosophy degree in Home Economics Education

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date:

Name: Ivy Comfort Crankson

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature:..... Date:.....

Name: Ms. Irene Tawiah Ampong

ABSTRACT

The study aimed to explore the underwear choice and management by colleges of education male students in the Central Region of Ghana. The descriptive survey design was utilized in this study. Purposive and convenient sampling were used to select the respondents for the research from the Ola College of Education, Komenda College of Education and Fosu College of Education. Thirty participants were sampled. An interview schedule was used to collect the data from the participants. Thematic analysis was used to analyse the interview schedule. The study revealed that male students often wore singlet, undershirt, vest, boxer brief, brief, boxer shorts, thongs, tanga, mankini, tights, dual pouch underwear, jockstrap and G- string. Two major factors influenced the student's underwear choice and these were personal factors and product factors. Some of the challenges related to their choice of underwear was discomfort, heat rashes and bruises and cuts. It was revealed that most of the students do not pay much attention to their care of underwear which leads to them facing some challenges with their choice of underwear. I therefore recommended that male students in the various Colleges of Education need to be educated on the health implication and possible risk related to their underwear choice and how they tend to manage the underwear used by them.

ACKNOWLEDGEMENTS

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DEDICATION

To my father, Mr. Samuel Crankson, my husband Mr. Paul Ato Ocran and my
uncle Mr. Samuel Marmaduke Smith.

KEY WORDS

Adornment

Apparel

Arouse

Clothing

Festering

Loincloth

Moisture

Underwear

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CHAPTER ONE

INTRODUCTION

Background to the Study

The goal of living a happy, healthy, and peaceful life for oneself as well as for society as a whole has been a consent since the beginning of human existence on earth. As a result, man made the decision to seek out clothing as a means of self-defence against environmental threats. The definition of clothing is anything put on the body or carried around to change how someone looks (Forster, 2014; Gavor, Among & Tetteh- Coffie, 2015). Every piece of clothes a person wears naturally reveals something about their emotional or psychological state. Forster believed that clothing is a silent language that communicates information to the wearer and onlooker and hence conveys information about the wearer before they speak. Clothing serves as a "second skin" in defining an individual's physical boundaries, according to Tsaousi (2016).

Clothing is a component of one's body image. After food, one of the needs of existence is clothing. Anything worn on the body to beautify, protect, or signal intent is considered clothing (Anyakoha & Eluwa, 2017). Clothing is therefore a visible reflection of one's values and it is one of the communication symbols that promotes social acceptability. Forster (2014) categorizes clothing into three categories: clothing, accessories, and cosmetics. Clothing includes outerwear such skirt suits, coats, jackets, dresses, trousers, T-shirts, shorts, blouses, etc.; innerwear like top wear or tubes, waistcoats, shirts, shorts, trousers; and underwear like boxer shorts, singlets, brassieres, underskirts, and panties.

Datta and Agrawal's assessment (2019) claimed that underwear has existed since ancient times as a sort of clothing. According to historians, undergarments were worn by the ancient Greeks, Romans, and Egyptians. Clothing worn next to the skin, i.e., under a dress, is referred to as underwear (Forster, 2014). For protection from the waist to the legs, both men and women typically wear underwear to cover the torso. Boxer briefs, briefs, boxer shorts, thongs, c-strings, and other types of male underwear are frequently worn.

The function of an undergarment is not diminished by the fact that it is typically hidden (Hodges, 2013). For men's underwear, three factors need to be taken into account: comfort, style, and colour. A basic requirement is comfort. The size, climate, and fabric all have an impact on how comfortable the underwear is. Better comfort is offered by wearing undergarments that adjust to the body's temperature regardless of the season or weather (Hodges, 2013).

Underwear is often sized using the letters S, M, L, and XL which stands for small, medium, large and extra-large respectively. The leather loincloth, which historians claim to be the earliest version of men's underwear, was used by cavemen as early as 3000 BC (Cole, 2012). The most basic type of undergarments were loincloths, which were worn around the hips and groin. For the first time, men were seen wearing something other than a fig leave to cover up their privates. This remained in the trend for several years. The only change was in terms of fabric used in making of this apparel.

When loose fitting trousers known as braises became popular, the loincloth variation appears to have persisted. Trousers tied at the waist and

thighs were popular throughout the Middle Ages. In the 16th century, these were upgraded into codpieces. These underwears were a fashion statement, usually in bright colours and with padded contraptions (Cole, 2012).

Underwear comes in a variety of styles, and most men prefer to wear a particular style regardless of the activity. The days of simple and limited men's underwear options are long gone. Despite the fact that underwear is a less discussed topic in menswear, the options available in this category these days are plentiful. Underwear can be worn to arouse sexual interest or for erotic purposes, as well as for sports and fashion. Underwear such as boxers, briefs, boxer briefs, jockstraps, trunks, bikinis, thongs, G-strings, and c-strings have been a part of both men's and women's wardrobes for over a century.

Working on identity through the purchase and wearing of underwear may satisfy or generate longings, potentially leading to intensified experiences, feelings, and sensations of 'who I really am' (Jantzen, Stergaard, & Vieira, 2016). According to the protection theory, underwear is an additional layer of clothing that helps to keep the wearer warm in a cold environment.

Clothes serve many functional and aesthetic functions, such as environmental protection, personality enhancement, and role identification (Tsaousi, 2016). Underwear also protects the body from contamination caused by the outer garment. Underwear, as a type of clothing, can protect the skin from many things that could harm the naked body (Tsaousi, 2016). Furthermore, they absorb body fluids such as sweat to keep the body dry and free of infections, as well as to keep outer garments clean from body secretions. Underwear serves to keep the skin clean by shielding it from the

outer garments and shielding the outer garments from the skin. Human attitudes toward cleanliness have shifted dramatically over time. Certain types of underwear may be worn to enhance the adornment effect of outer garments. For example, a G-string panty can be worn under a pair of trousers to hide lines, while padded underwear can be worn under the pants to hide a larger backside or buttocks.

Underwear is available in a variety of fabrics, including nylon, cotton, modal, silk, spandex, and lycra, and selecting the appropriate fabric is a personal preference. An undergarment should be breathable, stretchy, not warp easily, and provide adequate ventilation to ensure a comfortable fit, warmth, support, and hygiene. According to Datta and Agrawal (2019), the right underwear can change the way we feel in our clothes, giving us the confidence and coverage we need to wear everything from t-shirts to evening gowns.

Though nylon is a common fabric used to make underwear because it is inexpensive and easy to launder, according to Foster (2014), fabrics like nylon emit heat when used in the tropics and are thus unsuitable for use in our continent. Cotton fibers, on the other hand, are absorbent and comfortable to wear in the tropics. Modal fabric is also made from a semi-synthetic cellulose fiber, which is produced by spinning cellulose from beech trees. This fabric is 50% more absorbent than cotton (Short sleeve, 2017). Underwear, which is also a part of clothing, must be managed and cared for properly in accordance with the properties of the fabric used in order to prevent fabric deterioration.

Clothing deterioration is defined by Kaiser (2015) as "anything that causes the appearance, nature, or characteristics of the clothing item to change to the point where it can no longer serve its purpose." Undergarment care is

critical, according to Cheng and Kuzmichev (2019). We have disposable and re-useable underwear available in our societies, but when comparing the two, disposable underwear is more expensive and less available in the market than re-useable underwear, which are economical and easily available in the market, but constant care for these underwears appear to be a problem for a lot of people, and some do not have enough to last for a longer period. Some of this underwear appears to cause a lot of infections if not managed and cared for properly, resulting in health consequences. Clothing care necessitates decision making (Anyakoha & Eluwa, 2017). Clothing care decisions include selections, storage facilities, methods of storing specific items, factors influencing the procedures to adopt, and how to launder your clothes.

Knowledge of proper care practices is critical. Individuals' poor clothing care practices in the community can result in skin diseases, bad body odour, an unwholesome attitude, and poor social adjustment (Marshal, Jackson, Stanley, Keffgen & Tochie -Specht, 2020). As Gupta (2020) explains, maintaining underwear hygiene is even more important because it prevents microbes and bacteria from accumulating and festering in and around the vagina. This also aids in the prevention of odour and itching.

Again, underwear is delicate and, like the rest of your wardrobe, must be handled with greater care. If possible, try washing them separately, though this is not required. Because underwear clings to your sensitive skin area for extended periods of time, it is recommended that you wash it separately to avoid bacteria transfer from other clothes when they are stored together. It is critical to use a detergent that is both gentle and effective. It is critical to hang clothes outside to dry after washing because the sun acts as a natural sanitizer.

The sun's ultraviolet rays will aid in the killing of bacteria. When underwears are not properly dried, damped, or kept in a laundry basket for an extended period of time, there is a possibility of moulds growing or developing on your underwear. Because used underwear contain fluid from the body, moisture will be found in your underwear, exposing you to serious health implications and other infections. Mould is a fungus, which can be harmful to your health.

When this fungus comes into contact with your underwear, it can cause yeast infection because certain factors can cause the fungus to multiply out of control (Zoppi, 2020). As a result, it is not recommended that underwear be dumped or left in the laundry basket for an extended period of time before being washed, as this increases the likelihood of mould growth. According to Sanusi (2019), thong underwear is a bacterial transporter when worn, and this type of underwear is very harmful to both females and males. As a result, there is a need to investigate the type of underwear worn by students in colleges of education, as well as the care, management, and health implications associated with the type of underwear worn. Broader educational initiatives, such as encouraging people to wash their clothes only when absolutely necessary and where possible, could also be beneficial (Mendelson, 2015).

Individuals' poor clothing care practices in the community can result in skin diseases, bad body odour, an unwholesome attitude, and poor adjustment to social groups (Marshal et al., 2020). The first boundary formed as a 'second skin' is between us and the other clothes we wear; a reality that creates not only physical but also psychological distance. Nothing comes between us and our undergarments, as a popular advertisement stated about its apparel. To be

healthy and comfortable, we take care of our natural skin by washing it, applying lotions, and so on.

Statement of the Problem

Underwear is worn next to the skin and under outer garments to protect them from being soiled or damaged by body secretions, to add fullness to the outer garment, to reduce friction between outerwear and the skin, which can be uncomfortable for the wearer, and to provide a covering for sensitive or private parts of the body. Since, it is expected that one wears underwear, most people will choose and use underwear. However, making the right choice appears to be a problem because they come in various sizes, colours, designs, and fiber sources, and not everyone knows how to choose to suit their particular condition (Aprilianty, Purwanegara & Suprijanto, 2016).

Managing underwear appears to be another issue due to the closeness of underwear to the skin, and the potential effect it could have on the body and the individual's health. As a result, it is critical to carefully select required underwear that is appropriate for the intended use. The wrong size, type, and colour of underwear will not provide the required services. Dark-coloured underwear, for example, may not show dirt but, if not properly cared for, may harbour dirt and bacteria that can cause infections. Underwear made of low moisture absorbency fabrics, can also promote yeast and bacterial infections and cause discomfort (Nasaraki, 2016).

Male students from around the world choose and use underwear for a variety of reasons, but do not pay close attention to its care and management, which may have consequences for their health (Nasaraki, 2016). Some of them are unaware of the type of fabric used to make their underwear and the

implications that come with it because their underwear may be purchased for them by their siblings, spouse if married, or girlfriends.

A cursory examination and my own personal experience in a boarding institution has revealed that some students dry their underwear in their dormitories due to theft cases and a lack of sufficient space to dry their underwear in the best conditions. Others wash underwear after long usage and then hang them in their dormitories or the bath house where there is not enough sunlight and air to dry them well. As a result, their underwear may not be properly dried, allowing bacteria and mildew to grow and pose a health risk.

The underwear some people choose and wear for fashion may have serious consequences for their health in the near future. The inappropriate underwear worn by some people especially males can result in low sperm count and should be avoided (Phau, Teah, Lim, & Ho, 2015).

Some studies have been done by other researchers on underwear use and care. In Ghana, for example, Banasam (2019) conducted a study on the selection, use, and care of underwear and found that there was an inappropriate usage of underwear by males. However, the study was conducted among Senior High School students at Kwanyarko in the Central Region of Ghana (Banasam, 2019).

In addition, Hale and Hodges (2013) conducted a study on men's branded underwear in the USA and found that most male students did not take good care of their underwear. However, this study was conducted at the western world leaving a contextual gap in Africa and specifically, Ghana. There has been little or no studies on Colleges of Education male students'

underwear choice and management therefore looking at the importance of this clothing for the individual, I decided to look at this issue closely to find out what exactly the practice is among this group.

Purpose of the Study

The study aimed to explore the underwear choice and management by colleges of education male students in the central region of Ghana.

Objectives of the Study

Specifically, the objectives of the study were to:

1. Identify the types of underwear used by male students in the College of Education.
2. Identify the factors students consider before choosing a type of underwear
3. Find out the underwear use related challenges students face.
4. Investigate the care methods adopted by students to maintain their underwear and any challenges they face.
5. Explore the health implications related to underwear choice and care among students in the Colleges of Education.

Research Questions

The following research questions guided the study:

1. What type of underwear are used by male students in the Colleges of Education?
2. What factors do students in the Colleges of Education consider before choosing the type of underwear they use?
3. What is the underwear use related challenges students face?

4. What are the care methods adopted by students to maintain their underwear and the challenges they face?
5. What are the health implications related to underwear choice and management practices?

Significance of the Study

The following were the significance of the study:

1. The study would aid students in the Colleges of Education on how to adopt effective care and management practices for their underwear.
2. The study's findings would equip students in the Colleges of Education to be knowledgeable in the selection, use and care of underwear and to impart this knowledge to their potential students when they go out to teach.
3. The findings of this study would inform authorities in boarding institutions to put in place facilities that would promote safety of clothing used by students to keep them safe.
4. The area of this study is less researched; therefore, the findings would contribute significant literature for scholarly work.

Delimitation of the Study

The study was focused on underwear choice and management for male users. The researcher would have wished to contact all Colleges of Education students in Ghana however, the researcher delimited the study to only Central Region. The researcher also delimited the study to only mixed gender Colleges of Education in the Central Region. However, only male students were used in conducting the study because male have been in a way neglected with the possible risk associated with the wrong use of underwear. Further, the

researcher exempted students of the second cycle institution because at this level most of them do not purchase their own undergarments but rather it is their parents who purchase for them, or sometimes it is gifted to them by other relatives.

Limitation of the Study

In conducting the study, it was difficult to get related literature due to limited researches in the area of study. Most of the studies were related to females neglecting the males.

Using limited number of respondents for the study limits its generalization to the population of all males in Colleges of Education.

It is also difficult to conclude that the practices of students while in school would be the same when at home therefore the conclusion is based on practices in school.

Organisation of the Study

The study was organized into five (5) chapters. Chapter One, the introduction, covered the background to the study, the statement of the problem, purpose, specific objectives, research questions, significance of the study, delimitations, limitations and organisation of the study. Following the present was Chapter Two, which dealt with the review of related literature. Chapter Three described the methodology, covering issues such as the research design, population, sample and sampling procedures, instruments, data collection procedures and data analysis approaches. Chapter Four presented the results and discussions of the findings of the study. Chapter Five, being the last chapter, covered the summary, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviewed theoretical issues, and conceptual and empirical studies relating to the study. The study seeks to identify the underwear choice and management among male students in the Colleges of Education in the Central region. This section will review the literature related to the concept under study. Relevant theories were reviewed under the theoretical framework. Various issues under the concept of the study were also reviewed. Then the empirical review was based on the objectives of the study.

Theoretical Framework

This section presents a discussion of the theoretical underpinnings of the study. Concerning the purpose of the study, three theories guided the study. These are immodesty theory, protection theory and adornment theory.

Immodesty theory

The immodesty theory contends that individuals dress more to draw attention from on lookers than to conceal themselves. The immodesty theory asserts that clothing is worn to arouse the curiosity of the opposing sex and acknowledges that is a basic human inclination. As different theorists started to dispute the rationale of modesty as the only reason for wearing clothes, greater attention was paid to the unbreakable link between modesty and immodesty, according to Kaiser (2015). Clothing is worn for sexual appeal. Kaiser went on to mention two authors, Westermarck and Langner, who each stated that clothes should highlight or draw attention to the features of the body rather than cover them up. She asserted once more that the human body is less fascinating or seductive when it is completely exposed. Immodest

dressings has focused on attracting the attention of the onlooker to the contour and outlook of specific parts of the body such as the upper torso (chest/breasts), waist, hips, buttocks and legs. The concept of attraction becomes apparent as clothing decisions are made. Vanderhoff (2014) claimed that clothing can likewise communicate without using words. People's clothing conveys information about the wearer and also sends information to the observers. They could give away how someone feels about themselves and how they feel about others. This comes to play only when both the person giving and receiving the message understand the intent behind the words or actions can communication be said to have been successful. The reaction is visible on the clothing. This might be accepted, totally rejected, or misinterpreted. The theory involves a sophisticated mix of concealing and exposing methods using provocative clothes as a sexual strategy to highlight intimate aspects of the body.

The immodesty theory relates to the study as male students need to be aware of the meanings that are conveyed by their clothing. The theory can be adopted to maximize the impact of trying to draw the attention of the opposite sex. The psychology behind the immodesty idea of clothing holds that concealment fosters attraction while familiarity fosters apathy (McGhee et al., 2013).

Protection theory

Since ancient times, people have used clothing to protect themselves from harsh weather conditions including winter, rain, and summer (Vanderhoff, 2014). Special clothing is needed when exposed to hazardous substances and environments like furnace, boiler, and thermal stations.

According to the protection theory, wearing garments is mostly done for psychological and physical safety. To protect ourselves from the elements and their surroundings, some people dress in specific apparel, such as labcoats, raincoats, winter coats, and wide-brimmed sun hats. The opposite sex may most of the time have an impact on one's wardrobe choices in a school setting, which likely to hinder learning or distract the opposite sex in a lecture hall setting or campus life in general. Sports or jobs needing interaction with potentially hazardous substances or elements, for example, require protective wear and functional apparel. To prevent injuries and allow for freedom of movement, specific apparels are designed specifically for specific functions and the industry. Additionally, certain types of armour, such as helmets, partial body shields, armoured suits, and bullet-proof vests, could be covered by clothing for some combatants. Some types of clothing are made to safeguard workers in risky occupations, such as padded suits, helmets, and protective aprons.

Clothing can occasionally serve as protection from evil spirits, according to Vanderhoff (2014). It is thought that the clothing worn by witch doctors, traditional dancers, and spiritualists will ward off evil spirits. As a result of research showing that it can get into contact with corrosive substances, wearing a flowing dress in a lab is not permitted but the appropriate garment which is the laboratory coat is to be worn in the lab. The laboratory benches and frequently the skin can be destroyed by spills like these (Okwu, 2016). Concentrated sulphuric acid burns leave a long-lasting scar and a wound that takes a long time to heal therefore it is appropriate to wear protective clothing at such places. The kind of clothing worn for lectures

and the lab are two very distinct things. For instance, casual attire is acceptable for the laboratory, formal attire is preferred in lecture rooms.

The theory relates to the study as male students need to know what kind of underwear to wear for psychological and physical safety. Many individuals with injuries or handicaps use protective clothing to prevent further body damage or to substitute for loss of body functions. The concept of protection has had many connotations for various cultures in different eras.

Adornment theory

Right from the origin of mankind, people were trying to beautify themselves. Clothing has always supported this idea and helped one to form beautiful appearance. Wearing beautiful garments gives an aesthetic appearance. According to the principle of adornment, people wear clothes to look good (Allwood et al., 2015). But what exactly is beauty, you ask? How do people decide someone is and is not attractive? We constantly receive signals from society defining what beauty is, but on what foundation do they rest? Do we intentionally choose the people we are drawn to, or are there some biological components? For millennia, people have researched the topic of beauty and how we define it. Researchers from all academic disciplines have looked for the "recipe" for beauty. There is no definition of beauty; people and students dress per their sense of self-worth and social expectations. According to Dibley (2014), Darwin remarked in his book "The Descent of Man" that, "It is undoubtedly untrue that the human form meets any universal criterion of beauty in the eyes of man. However, there is a chance that over time, particular tastes may be passed down via families, however, I can find no

supporting evidence for this." The importance of wearing clothing to decorate or adorn the body per cultural norms is stressed.

People want to look well and be attractive, and one of the key roles of clothing is to adorn the body in a way that makes it more appealing. The role of attraction that was once played by men today is played by women. This explains why attractiveness-based beauty contests are only held for women, giving rise to the proverb "dress makes the woman." Beauty draws people's attention. However, different communities have different ideas about what is beautiful. Beauty "lies in the eyes of the beholder," as the saying goes. As a result, one must dress per the standards of his or her community or environment (Dibley, 2014).

To adorn means to "make attractive" or to "lend beauty" and in the case of clothing, the objects or adornment becomes the self. The most widely accepted theory used to explain the original purpose of clothing relates to adornment or decoration, the creative urge for an artistic experience. Those who accept this theory believe that all people have an urge to express themselves creatively and this urge to improve the appearance is universal. There are not people who do not adorn their bodies in some fashion. It is probable that various forms of adornment, such as body painting, tattooing, scarification, mutilation, and deformation, preceded the actual wearing of clothes (Dibley, 2014). This theory includes all the many aesthetic uses of clothing.

This theory relates to the study as it stresses that males should consider colours, textures, and the use of varied materials for the decoration of underwears. Ornamentation also finds inspiration in nature and imitates

nature. Designers produce abstractions in the form of ornamentation by taking their cues from nature. Fashion forecasting, a crucial activity in the fashion business, is based on the embellishment of fabrics for apparel and home décor through imaginative interpretations of surface ornamentation. For the development, processing, and manufacture of fabrics and clothing, fashion designers combine elements of heritage and contemporary.

Conceptual Framework

Underwear choice and management implications

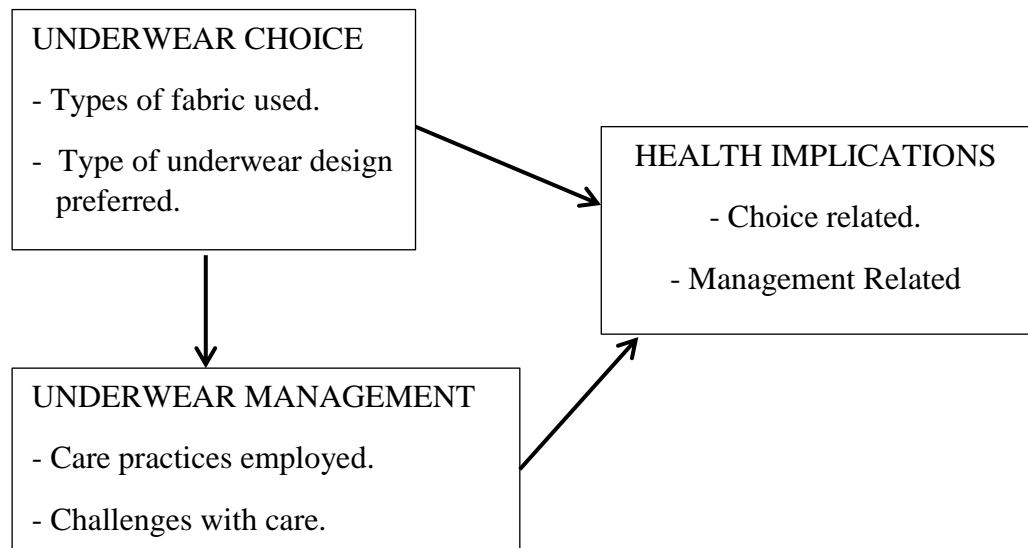


Figure 1: *Underwear choice and management implications on health.*

(Author's Construct)

The figure presents the conceptual framework of this study. As seen in the figure, the type of fabric used to produce the underwear will determine the underwear choice and the management and care required. Underwear management-related challenges the student's experience on campus will also determine the underwear management and care to be employed. Similarly, the type of underwear chosen and the underwear management and care employed may have positive or negative impact on the health of users.

Conceptual Review

History of Clothing

Anthropologists believe that the first-time humanity wore clothing was between 100,000 and 500,000 years ago, while the exact date is unknown. Animal skin, fur, grass, leaves, bones, and shells were used to make the first garments. Even though clothing was frequently hung or knotted, sewing leather and fur clothes at least 30,000 years ago is attested to by basic needles made of animal bone (Bellis, 2020). Cloth-making, which drew on basketry skills, evolved as one of humankind's core technologies when established neolithic tribes realized the advantages of woven fibers over animal skins. The history of textiles goes hand in hand with the history of clothes. Humans had to develop weaving, spinning, tools, and other processes in order to be able to create garment textiles (Bellis, 2020).

According to Faleyimu (2016), textile made from woven, knitted, or twined diverse animal and plant fibers has supplemented or replaced leather and skins in numerous civilizations. The material can be draped as one tactic. Many individuals have worn and do wear clothing made of rectangles of fabric that have been tailored to fit. The first two outfits only required a simple tie-up, whereas the latter two outfits required belts or pins to keep them in place. Another method is cutting and stitching the fabric, but using the entire rectangle of fabric to make the garments. The tailor may cut triangle-shaped pieces from one corner of the fabric and add them as gussets to other areas. The astounding variety of clothing styles that humans have developed throughout thousands of years are many of which we can reconstruct from

surviving clothes, pictures, paintings, mosaics, as well as from written accounts (Faleyimu, 2016).

The Concept of Clothing

Clothing is defined as any article worn on the body for purposes of aesthetics, protection, or expression (Anyakoha & Eluwa, 2017). It is very important as to how one looks. There are also all of the many items of clothing, jewellery, and accessories that people wear. Clothes made of textiles are one of the basic requirements of humans, along with food and shelter (Adu-Akwaboa, 2020). Although eating comes first in most situations, according to Wilson and Nelson (2022), without clothing a person can be misunderstood as being insane or delirious in a civilized culture. Food and shelter are often more important, yet this is still true. Clothing can be interpreted broadly to include anything that covers the torso, limbs, hands, feet, head, socks, shoes, sandals, and boots. The term "clothes" (also known as "a dress, a garment, a garb, or apparel") is used to describe almost everyone's use of clothing (Dzramedo, 2019). It has been viewed as a personal characteristic of an individual. It is one of the most private aspects of daily life and also an expression of the social interactions established in the cultural standards of a certain age (Dzramedo, 2019).

In their article on dress and identity research, Roach-Higgins and Eicher (2014 p. 1) define clothing as "an assemblage of adaptations to the body and/or supplements to the body." According to Sproles and Burns, clothing includes the full display of all coverings and ornaments worn on the human body (2021, p. 7). The body's modifications and additions communicate the wearer's abstract characteristics, interpersonal connections,

and the types of settings they are involved in observers (Damhorst et al., 2019).

Furthermore, they adorn their bodies with jewellery, fragrances, and other ornaments. In certain cases, they additionally mark their skin in addition to cutting, colouring, and styling the hair on their bodies, faces, and heads (by tattoos, scarification, and piercing). The overall impact and meaning of the garment are enhanced by all of these embellishments. According to Rouse (2019), the transfer of acquired ways of life is only feasible because people have a highly developed and specialized capacity for unambiguous communication.

Although several sociologists and anthropologists lately suggested that language is merely one of the ways that people interact, it is still the most significant type of communication. They contend that culture is a sophisticated system of communication. Leach (2016), an anthropologist, sets out to study how cultures interact in one of his publications, "Culture and Communication." His theories are especially helpful in explaining how nonverbal cultural expressions like dress and body art communicate. In order to teach some mathematical principles, this research uses clothes, which is a nonverbal form of communication.

According to Rouse (2019), it is also evident that clothing conveys just a certain and limited range of information. Brain-to-brain communication is not a viable method of direct human interaction. The message must be conveyed in a way that other people can understand. To reflect the message and stand for anything, something must be employed. People's general clothing style is a result of the culture they live in. similar to how language is

used and how food is consumed. For this reason, according to Rouse (2019), individuals may be without clothing, but they are never fully bare. If a person is not dressed, he or she most likely has a nose, ear, lip plug, scarification, pants on the face, hair curls, haircuts, darkened teeth, or has had their teeth knocked out. As a result, clothes will evolve along with technology.

Uses of Clothing

The primary goal of clothes, among others, is to cover the body. Also, it encourages social interaction and helps you feel more appealing. For a variety of reasons, people dress. These factors include some physical ones. You adorn clothing for protection and comfort (Kiron, 2015). Others involve clothes for social and psychological motives. Your individuality and self-confidence are expressed through your wardrobe. You can identify with other people better through clothing. Every person has fundamental necessities. Fulfilling these requirements makes life satisfying and enjoyable. Some of these demands are met in part by clothing. Understanding the function of clothing can improve your understanding of both yourself and other people. Everybody's life includes intricate but fascinating aspects of clothing. Every person's clothing serves several crucial roles (Kiron, 2015). As a result, clothing is used for the following:

Protection

We can easily be impacted by the elements, such as rain, snow, wind, cold, and heat because our skin is exposed to the environment. We can suffer harm or injury while working or playing sports. We occasionally need to use our clothing to protect ourselves. Your comfort is aided by clothing. It serves as a barrier between your body and unintentional burns, scratches, and rough

surfaces while absorbing sweat, preventing chills, and preventing sudden chills (Kiron, 2015). The correct clothing can protect your body from severely cold or hot weather. People who live in extremely cold areas, like the Eskimos, can stay warm by donning parkas and leggings lined with fur. The warmth from their bodies is trapped by the fur, which also acts as an insulator, preserving their lives. Desert nomads cover up with long flowing robes and headdresses to prevent the sweltering heat from drying off their bodies. In actuality, their apparel keeps them cooler (Kiron, 2015).

Safety

Wearing clothing helps shield your skin from damage and injury. For safety reasons, several sports and jobs need protective gear. To lessen the risk of injury during physical play, for example, in American football, the players wear helmets and padding. Some people's jobs require them to work in hazardous environments. Even some clothes are marked with the word "safety" to distinguish them from common clothing and accessories. In dangerous circumstances, firefighters wear asbestos-containing clothes. Bulletproof vests are worn by police personnel. To be seen by cars and to avoid accidents, road workers wear bright orange reflective vests (Kiron, 2015).

Sanitation

Considering hygienic reasons, special attire and accessories are frequently used. Clothing serves several vital roles. Workers in facilities that make food and pharmaceuticals use protective clothes, face masks, and hair coverings. This safeguard against microbial contamination of the goods. Doctors and nurses don disposable hygienic suits, gloves, and face masks in

operating rooms. Additionally, it is utilized as a sanitary napkin for ladies during their menstruation (Kiron, 2015).

Identification

People can be identified as belonging to a group by their clothing. Certain organizations, hobbies, and jobs have come to be associated with certain styles of clothes, colours, and accessories. People might also demonstrate their group affiliation by just wearing alike. Example: pilots, doctors, air hostesses, and other personnel (Kiron, 2015).

Uniforms

One of the simplest ways to recognize group members is by their outfits. Uniforms can aid in quick identification or project a unique image of the organization. Uniformed members of the military, police force, and fire department can be identified for the sake of public safety. Athletic teams distinguish themselves from their opponents by donning distinctive colours. Service industry employees, including those who work in restaurants, on aeroplanes, and in hotels, also don distinctive uniforms. These uniforms assist provide a professional image for the organization and help clients recognize the employee (Kiron, 2015).

Styles and Colours

Some professions have specific dress codes. Judges typically don a black robe. For performing religious services, ministers, priests, and other clergy members may don particular attire. To visibly demonstrate that what they are doing is connected to the past, the fashion of the dress frequently goes back several centuries. For unique events in their life, lots of people dress in

distinctive designs and hues. Graduates may don long robes and tassel-adorned mortarboard caps (Kiron, 2015).

Insignias

Badges are symbols used as insignias to signify membership in a group. On the pockets of a jacket or a blazer, patches or symbols may be worn. Wearing a school letter with a sports pin on a blazer or shirt to represent athletic activity (Kiron, 2015).

Status

Crowns serve as a distinguishing feature for kings and queens among their subjects. Their crowns serve as a visual cue to the group they belong to, as well as to their status. People express their degree of significance through their attire and other accessories. The user may also utilize them to make them feel significant. Clothes or other objects are status symbols if they give the average individual a sense of status. These goods typically cost more or have the most recent designs. Fur coats, pricey jewellery, or fashionable clothing may be status signals for some people (Kiron, 2015).

Decoration

Self-decoration is done to make one look better. They adorn themselves with clothing, jewellery, and cosmetics to seem better and draw positive attention. Additionally, decorating and adornment allow individuals to exhibit their individuality and ingenuity. There are several ways to enhance attractiveness using clothing and accessories. Adding decorations to clothing may make it more distinctive and remarkable (Kiron, 2015).

Types of Fabrics

Depending on the sort of fibres they are made from, textiles can be roughly categorized as either synthetic or natural fabrics. Cotton, wool, and silk are popular natural fabric examples. These textiles may always be made with fibres that come from natural sources. Fabrics composed of synthetic fibres are those that are artificial or manufactured by humans. Rayon, nylon, velvet, and felt are typical examples of synthetic fibres (Byjus, 2022).

Cotton

The most significant textile fibre in the world is cotton, sometimes known as the "King of Fibers." One of the world's oldest textiles, cotton has been used since ancient Egypt and prehistoric Mexico (Goff, 2021). With the development of the cotton gin, cotton fabric manufacture on a large scale started in the 1700s. The most common fabric for clothes in the United States of America and the globe remains to be cotton. Even in the manufacturing of underwear, cotton used to be the common fabric used in producing underwear across the Globe. Cotton is very soft and lightweight, the fabric has tiny pores that allow breathing well, cotton underwear provides a comfy feel down there and Cotton has high absorbency and is moisture resistant therefore best for the production of underwear (Datta, 2018). It is utilized to create jackets, singlets, shorts, and blouses. Additionally, it may be used to create curtains, rugs, pillows, and bedspreads. Cotton materials are renowned for being supple, adaptable, light, and elongating.

Silk

Silk is a natural fabric as well. One of the most sophisticated and expensive textiles have traditionally been thought to be silk. It is sometimes

referred to as the "Queen of fabrics." The silk strands are extracted from the cocoons and used to weave clothing as part of the process of breeding silkworms. Reeling, Throwing, Degumming, Weaving, Dying, and occasionally Weighting are steps in the manufacture of silk (TextileTriangle, 2022). Silk fabrics are renowned for their smooth, opulent feel, deep brilliance, warmth, durability, and crease resistance, as well as their strength and superb drape. The smooth and soft texture of silk provides luxurious feel down there (Datta, 2018). From stiffer dresses and suiting cloth to heavier brocades to rich pile velvet, a broad variety of textiles are produced. For ceremonial events, evening or day clothing, and lingerie, silk works best (Agyemang, 2021).

Wool

Wool is a protein-rich natural fibre that is regarded as man's greatest friend. Before it was understood that fibres could be spun into yarns or even felted into fabric, sheepskin, including the hair, was presumably utilized for a variety of purposes. Mesopotamia is where wool originated, yet the oldest pieces of woollen fabric have been discovered in Egypt. After the animal has been killed for its flesh, the hide may be peeled apart and the wool sheared from it. The wool obtained from the skins of animals that have been put to death is known as pulled wool and is of lower quality than fleece or clip wool, which is the wool that has been sheared (TextileTriangle, 2022). Since numbers may be used to describe the quality of wool higher values indicate greater grade and finer wool. The youngest sheep provide the best wool. Wool fabrics have a significant tendency to shrink, and their crimp changes whether

they are wet or dry. Wool can be dry-cleaned, but washing it is challenging. Wool can be dyed and has good colour fastness.

Viscose Rayon

Viscose Rayon is a synthetic fibre; however, it differs from other synthetic fibres in that it is created from wood pulp, a naturally occurring, cellulose-based raw material. As a result, viscose rayon is not characterized as a synthetic base polymer, but rather as a natural base polymer, or as a semi-synthetic fabric used in clothing (Sen, 2022). The characteristics of viscose rayon, therefore, resemble those of cellulose-based natural fibres like cotton or linen more so than those of synthetic fibres manufactured from petroleum, like nylon or polyester. Just like cotton Rayon is a comfortable and one of the fibres that is now being used in making underwear for men as well (Datta, 2018).

Polyester

A synthetic cloth commonly made from petroleum is polyester. One of the most widely used fabrics in the world, this material is employed in many domestic and commercial settings. Polyester is a chemical polymer made up mostly of substances containing an ester functional group. Ethylene, a component of petroleum that may also be produced from other sources, is used to create the majority of synthetic and certain plant-based polyester fibres. While certain types of polyester are biodegradable, the majority of them are not, and polyester usage and manufacture both add to global pollution. They dry quickly, don't need ironing, and are simple to wash. Polyester is extremely strong and does not stretch or shrink. Thus, underwear made of polyester last longer than usual undies (Datta, 2018). Polyester is used in a variety of

industrial products, including laundry bags, calendar sheets, press covers, conveyor belts, fire hoses, fish nets, ropes, and protective garments, in addition to being used for clothing. Implants for surgery are a significant use for polyester (Hodakel, 2022).

Nylon

Nylon fabric is a synthetic material derived from petrochemicals. It is renowned for its tremendous strength, durability, and flexibility. Nylon fabric, sometimes known as polyamide fabric, is used for outerwear and bulletproof vests. Nylon is the most popular material for swimwear due to its great water resistance (Bobbin, 2022). Nylon is frequently utilized in clothing, furniture, and industries. It is a popular fibre in the production of hosiery and lingerie because it is durable, has high elastic recovery, dimensional stability, form retention, and is scratch resistant. It is also found in carpets and upholstery textiles. The strength of the nylon makes the undergarments made of this fabric durable. The smooth texture of the fabric has excellent abrasion resistant (Datta, 2018).

Underwear

Underwear is worn for several purposes. They protect outer clothing from sweat, urine, sperm, pre-seminal fluid, faeces, vaginal discharge, and menstrual blood (Voelkel, 2016). Underwear is the clothing worn beneath outerwear, generally in direct touch with the skin, however, they may consist of more than one layer. They protect outer clothing from being soiled or destroyed by biological excretions, reduce friction between outerwear and skin, contour the body, and give hiding or support for sections of it (Voelkel, 2016). Long underwear is occasionally used to offer extra warmth in cold

conditions. In the same way that women's brassieres support the breasts, men's briefs do the same for the male genitalia. In addition to changing a woman's body form, a corset may be worn as a base layer to support the breasts and torso (Barsky et al., 2016). Men frequently don more form-fitting underwear while participating in sports, such as jockstraps and jockstraps with cup pockets and protective cups, for more support and protection. Women can increase comfort and decrease the risk of damaging the chest ligaments during high-impact workouts like running by using sports bras that offer more support. Underwear may serve as an additional layer of clothing in cold areas to keep the user warm.

Additionally, undergarments can be used to maintain modesty; for example, some ladies wear sheer clothing with camisoles and slips (petticoats) below (Shen, 2017). On the other hand, some styles of underwear, including crotchless panties or edible underwear, can be worn for sexual titillation. Under space suits and dry suits, undergarments are worn for insulation. When using dry suits, the insulation value of the clothing is chosen to correspond with the anticipated water temperature and the intensity of the intended dive or aquatic activity (Barsky et al., 2016).

Types of underwear

Underwear is available in different styles and the majority of men generally prefer wearing a particular style no matter the activity.

Briefs

Briefs, the most form-fitting type of regular men's and women's underwear, hug the body closely and keep everything in place while you go about your daily activities. The back and front of your shape should be kept

snug and secure, leaving the thighs alone. You may choose from a variety of everyday underwear alternatives in various colours and designs to suit your style, which is sometimes lovingly referred to as "tighty-whiteys" (Boody, 2022). (Refer to Appendix D Figure 1).

Boxers

Of all the men's underwear designs, boxers feature the loosest fit. The traditional boxer for daily use resembles a thin pair of shorts that are fastened at the waist with an elastic band to allow for optimal airflow. When worn beneath tight pants or zipped up and down when nature calls, boxer shorts' loose fit can occasionally be uncomfortable (Boody, 2022). (Refer to Appendix D Figure 2).

Boxer Briefs

An innovation in men's fashion from the 1990s, boxer briefs marry briefs' supportive architecture with the extra coverage offered by boxers. Instead of hanging loose down the leg, a boxer brief fits close against the thigh and buttocks while offering enough room to keep the airflow circulating where you need it most (Boody, 2022). Figure 3 displays the image of mens boxer briefs. (Refer to Appendix D Figure 3).

G-string for women

G-string or thongs are articles of clothing that are considered to be the most comfortable type of female underwear (Frankel & Wallen, 2020). It is made from a triangular patch of fabric and covers the genitals; however, it thins out in the back leaving the buttocks area bare. This is what makes it the most comfortable as when time goes on it begins to feel as if the individual

wearing it is naked. Figure 5 shows an image of G-string. (Refer to Appendix D figure 5).

G-String for men

The G-String kind of underwear is for people who desire the most airflow and breathability possible since it gives the least amount of covering. G-Strings frequently use very thin fabrics that offer nothing in the way of support or covering. If you want to feel more air down there or if you are completely secure in yourself, wear them. Just make sure your shorts or pants fit properly since, when exposed, G-Strings do not leave much to the imagination (Friedman, 2022). Figure 6 shows an image of G-string for men. (Refer to Appendix D Figure 6).

Bikinis

This type of female underwear is very similar to that of the male briefs. However, they do not offer as much coverage as the briefs do. They are known to have a low rise on the hip, a high cut on the legs and full coverage for the bottom area (John, 2021). As compared to the other types of female underwear, bikinis are more revealing than concealing. Figure 7 shows an image of a bikini. (Refer to Appendix D Figure 7).

Bikini Cut

The term "bikini cut" describes a type of underwear that exposes even more of your thigh and falls between the cuts of briefs and trunks. In Europe, where they are particularly well-liked, you may find them in a number of men's swimming suits. With a tiny bit more top-leg coverage, they offer the same support as briefs. The Bikini Cut could be right for you if you want to

add some style and individuality to your underwear collection (Friedman, 2022). A bikini cut is seen in Figure 9. (Refer to Appendix D Figure 8).

Slip shorts

Slip shorts are another type of female underwear that is popular for its anti-chafing nature which provides comfort. The length of these shorts is also known to provide extra coverage when wearing skirts and dresses. Lastly, it is known to smooth and tone the thighs in dresses and skirts (John, 2021). Figure 9 shows an image of slip shorts. (Refer to Appendix D figure 9).

Brassiere

Brassiere, more commonly called bra, is a form-fitting undergarment that is primarily used to support and cover breasts. In a normal bra, two breast cups are supported by a chest band that wraps around the torso and is fastened by shoulder straps. Beyond their basic functional purpose, bras have taken on symbolic meaning. Training bras might represent a transition into maturity because they become common during puberty. Figure 10 shows an image of brassiere. (Refer to Appendix D figure 10).

Trunks

Trunks are a hybrid between boxer briefs and briefs; they sit on the thigh between the two and offer the support and snug fit of both. Consider these to be somewhat shorter boxer briefs or slightly longer briefs. They provide more breathability than boxer briefs, making them perfect for extended workdays in a hot workplace or for wearing beneath shorter shorts (Friedman, 2022). A picture of a trunk is seen in Figure 11. (Refer to Appendix D figure 11).

Jockstrap

The jockstrap, which is typically used for intense sports activity, totally covers the front of the genital region while leaving the back bare. Many times, jockstraps come with a pocket where you may put extra protection, like a cup. In order to increase coverage without sacrificing the additional protection, you can pair a jockstrap with another layer of underwear, such as a performance boxer short (Friedman, 2022). Figure 12 depicts a jockstrap. (Refer to Appendix D Figure 12).

Long Underwear

When the temperature lowers, you reach for long underwear, often known as long johns. When it gets colder, both inside the house and outside, long underwear that covers your entire leg is ideal. For long underwear with lots of stretch, big and tall guys should buy. For the best possible warmth in the coldest weather, search for warming materials with insulation technology when purchasing long underwear. If you have cold feet, long underwear goes nicely with warm-weather socks (Friedman, 2022). Figure 14 shows an image of long underwear (Refer to appendix 13).

Underwear Management and Care

Choosing high-quality fabric is essential for creating clothing that is both stylish and durable to manage or care for underwear, it essential to wear the right fabric at the right time. Choosing the right fabric is just as important as choosing the right style. It is essential to choose a fabric that is appropriate for the season and activity, as well as being comfortable. While it is important to choose a fabric that is stylish and durable, it is also important to wear the right size. Furthermore, it is essential to take proper care of clothes by washing

and drying them frequently to keep them looking fresh and new. It is essential to take proper care of clothes by changing them into clean and dry ones after sweating to keep them looking fresh and new (Christopher, 2022). In terms of soaking, underwear and undergarments are to be separated according to colour and washed in their separate groups. Colour-safe bleach and disinfectant should be used to ensure bacteria are taken care of whilst maintaining the colour of the fabric. The underwear's care tag should be properly considered before this is done to ensure that the instructions are followed towards proper care and maintenance of the underwear. Underwear is also to be soaked between 5 and 10 minutes.

In the case where an underwear must be bleached to either keep the colour or take away a stain, all fabric bleach must be considered for use instead of chlorine bleach. This is because chlorine bleach is much stronger than all fabric bleach and all fabric bleach might work well with every type of fabric. Spandex, wool and leather are known fabrics that do not work well with chlorine bleach. (Shannon, 2022).

The type of fabric used in underwear production influences the way it should be ironed. All of these fabrics react differently to temperature. Fabric and washing instructions can be found on the tag and it will frequently advise whether or not the clothing should be ironed and the specific temperature or range of temperatures to be used on that fabric.

Set your iron to the setting recommended by the tag's ironing instructions. Set the iron according to the fabric type if there are no instructions on the tag. Start the iron off on low if that isn't displayed on the dial. If the heat is too low, turn up the dial; it's better not to burn the fabric.

It is advised to fold underwear into thirds before bringing the bottom up to the waistband when folding them in half. Once they have been sorted and folded, file-fold them so all pairs can be viewed front to back before putting them in the drawer. To allow each bra to tuck behind the other, it is advised to clasp the bra before putting it flat. To keep the shape of the bra cups, bras are to be stacked one on top of the other rather than folding them in half. Drawer organizers can also be used to further organize their individual categories. All types of innerwear are to be organized according to type, size and colour. This ensures that they are properly and neatly kept.

Students in the boarding house are normally regulated by school authorities as to when laundry is to be done in the school due to the schedule of their academic activities where they are to attend lectures from Monday to Friday and from morning to afternoon and also get engaged in other co-curricular activities in the college of education (Lee, 2018). Students are usually assigned or permitted to wash their clothing once or twice in the week which is likely to affect the washing of their underwear.

Due to numerous students washing on the same day, there is usually insufficient drylines for students to hang their clothing not to think of a better place to hang their underwear and even when they are hanged, theft may occur where other students may intentionally steal these underwears or sometimes get mixed up with the clothing of others who are not even aware due to the fact that a lot of clothing are laundered and dried the same day. Some even end up drying them on lawns or walls at their hostels (Lee, 2018).

In the boarding house, students are from different works of life and also have different training from their various homes. Due to the kleptomaniac

attitude of some students, they end up putting fears into other students who end up not hanging or drying line with the fear of theft and even when they finally hang them, they are hidden in such a way that they may not be stolen (Lee, 2018).

Empirical Review

Types of underwear used by College of Education students

Men are known to stick to the usual choice of underwear and undergarments, such as singlets and boxer briefs. However, modern times have introduced a shift and a change in men's choice of underwear and undergarments. They now range from the traditional boxer brief and boxer short styles to the radically fashionable men's thongs, G-strings, and even C-strings. These more revealing styles have become increasingly popular among men, not only because they are attractive, but also because they provide comfort and allow for a full range of motion (Datta, 2018). Even though men may be perceived as being conservative when it comes to undergarments, there has been a definite shift in their choice of underwear. There are different types of underwear and they have different functions. Some men wear briefs for greater support, while others prefer boxers for comfort. Women's underwear and panties reveal a lot about the individual personalities of each of us. Some women prefer G-strings and thongs which is the bolder choice and other women prefer bikini briefs and high cut panties for more comfort. Women who prefer G-strings are known to have flamboyant characters whilst those who prefer high cut panties have calmer characters.

In an online poll, 274 respondents participated in the poll to determine the type of underwear girls wear most of the time. The results from the poll

revealed that 3.65% of the respondent wear G strings, 11.31% of them wear thongs, 25.91% of them wear bikini briefs, 24.82% of them wear Frenchies, 12.04% of them wear shorties, 12.04% of them wear girl boxers and 10.22% of them granny pants (Horn & Gurel, 2013). Another survey by Horn and Gurel (2013) which focused on British men, found that overall, 37% of respondents preferred boxer shorts (loose boxers), 27% preferred briefs, and 25% wanted boxer briefs (tight boxers). This survey shows a marked difference in preference among men when it comes to underwear.

Factor students consider before choosing a type of underwear to be used.

In a study by Dibyendu (2018), the respondents ranked comfort as the most crucial quality when choosing ordinary underwear. The most crucial aspect of underwear is comfort. Men and women often prefer underwear made of cellulosic materials. When compared to cellulosic-based materials, synthetic fabrics are frequently thought of as being sportier and cooler. They are also strongly linked to sports, good ventilation, great quality, good support, comfort, and staying dry. Society is transitioning from simple cotton underwear to designer vests made of cutting-edge materials that are intended for activewear and adhere to certain fashion trends.

The range of fabrics used to make underwear is a new rising trend in the innerwear market. People favour these materials because of their comfort and fit. Stretchable underwear with the ideal fit and design is offered on the Indian market, and producers want to grow by focusing on the expanding innerwear industry. The innerwear market has embraced certain contemporary innovations, which bodes well for the industry's future (Dibyendu, 2018).

Quality of underwear has been linked to product durability, use, and comfort. For the consumer, the physical qualities and functioning of underwear are crucial. Brand recognition is very important for businesses whose clients repurchase based on the comfort, utility, and quality of clothing, according to a study by Hume and Mills (2013).

Client fashion e-commerce is connected to product quality and warranty replacement and return of clothing, claim Suzianti et al. (2015). Therefore, when taking into account the quality of both the product and the distribution channel, the conditions exist to imply that businesses in the textile underwear industry, advertised through the internet, tend to have better sales and long-term relationships with customers.

According to qualitative research conducted in 2016 by Jantzen and colleagues, women take great care in selecting, purchasing, and donning particular undergarments for particular events. They also believe that their undergarments may be a reflection of "who I truly am." However, it's not always enjoyable to spend time and money on undergarments (Jantzen et al., 2016).

The structure and finishing of the clothing, the fabric's quality, its appropriateness for the job, and its ease of washing and maintenance are among the physical aspects that influence clothing choice. Clothing choices were impacted by psychological aspects such as appearance, personal values and beliefs, current fashion, and smart appearance (Riungu, 2019).

According to Lee (2018), college students in their 20s varied in their interest in how they looked, and this interest affected their choice of underwear brand and style. On the other hand, it was discovered that male students' interest in their looks had no discernible impact on the underwear

industry's economic aspects. According to Lee (2018), underwear marketing strategies should be developed by analyzing the purchase form of underwear per the level of interest in appearance because the groups with a high level of interest in appearance and the group with a low level of interest in appearance management displayed similar purchasing behaviour.

Women express their preferences for undergarments based on their habitually held beliefs about their role and function, and this embodied cultural capital supports aspects of feminine identity which they uphold and stand by. They also make use of the choice of outerwear to determine the type of underwear, its style and the fabric of the underwear (Tsaousi, 2016).

Types of fabrics used in the production of underwear

Due to the functions and delicateness of this piece of clothing, there are preferable fabrics that are used in its production. It must be noted that this piece of clothing can be worn by both men and women and as such, fabrics used in their production are considered based on this purpose. Although there are many fabrics on the market, only a few are taken into consideration for the creation of underwear. Nylon, modal and cotton are some of the textiles that are frequently utilized. These have the ideal amount of spandex integrated into them to guarantee their high quality, comfort, and flexibility. The fabric of the undergarment is specifically made stretchy by the addition of Lycra and Elastane (Cole, 2012).

According to Datta (2018), cotton is preferred in the production of underwear because of its soft and lightweight features. This fabric has tiny pores and this makes it breathable. Cotton has a high absorbency and is moisture-resistant. It is the best-suited fabric for underwear that can be long

for longer periods of the day. Due to its soft and lightweight nature, it is soft, gentle and does not irritate (Kiron, 2022).

Nylon is a synthetic fabric made from crude oil. When it is extracted from crude oil, it is first plastic and after some rigorous chemical processing, it then becomes a tough fabric. It has the advantages of high strength and good wear resistance and has a wide range of applications in clothing and industrial fields (Zhou, 2022). Nylon is preferred for the production of underwear because of its strength and its colour retention property also; it prevents heat from escaping through it and has a low absorbency, hence, dries quickly. (Springer, 2018).

The pulp from beech trees that are used to make modal is extensively processed. It's a marvellously soft type of viscose that is extremely eco-friendly and has recently begun to appear as a cotton substitute (no reference). Modal is one of the softest fabrics used in the production of underwear because of its soft and silky feel and it is for this reason that it is most preferred for men's undergarments. (Corazza et al., 2015). Its absorbency is fifty-one per cent higher than that of cotton as such; it comes in third when cotton is not available during underwear production.

Care Methods in Maintaining their Underwear

Underwear and undergarments are delicate pieces of clothing that need to be separated from the other clothes when it is laundry time. This is mostly because many underwear and undergarment have specific ways to be cared for. The types of fabric used and the styles of these pieces of clothing influence the methods used in caring for them. These methods are put in place

for the longevity of the fabric first of all and for maintenance of the underwear itself so it can perform the functions it has been made for.

The first care method to consider with underwear and undergarments is to attend to the underwear or undergarment with the type of fabric used in mind. Underwear and undergarments are to be separated from the other pieces of clothing- this process is known as sorting. This is because of the delicateness of the underwear fabric and also to avoid fabric friction with the other pieces of clothing. Fabric friction refers to the resistance to motion that is detected when a fabric is rubbed mechanically against other fabrics and the thumb and finger. It is a surface phenomenon governed by the surface of the fabric and the bulk properties combined to make the fabric. With this in mind, consumers are to first understand the basic facts about the fabric (Gupta, 2020). Hot water is known to keep stains in fabric as such, cold water is to be used at all times.

Fabric softeners should not be used for underwear and undergarment made with synthetic fabric. Fabric softeners work by coating the fabric of the underwear or undergarment and this can destroy some features of synthetic fabric such as moisture wicking. Moisture-wicking refers to when clothes absorb moisture (in the form of sweat), spreads it to a larger surface, and dry more quickly than a regular clothing item. Hence, it avoids saturation of the moisture and the feeling of dampness (Gupta, Garg & Saini, 2015).

Underwear implications on health related to the type of fabric used

The type of fabric used in underwear production is very important to the consumer as well because of the implications – both positive and negative. These implications stem from the type of underwear and fabric type that may

have been used. When Cotton is used in the production of underwear, consumers have ensured a breathable and lightweight fabric that gives optimum comfort. It ensures ventilation and circulation when it comes into contact with the skin and this is a result of the presence of tiny pores in the fabric (Datta, 2018). However, it is not recommended during the winter season because of its slow-drying capacity and also not a recommended piece of underwear for exercising as it will cause abrasions (Datta, 2018) due to increased friction during exercise.

One property of the Nylon fabric is that it has a low absorbency rate, thus, dries quickly when wet. This makes it the best choice of fabric for underwear for people who sweat profusely, especially in the crotch areas (Datta, 2018). Nylon is known to have a low water retention quality and is the preferred fabric type when making gym wear and swimsuits (Datta, 2018). Underwear and undergarments made using modal fabric are known to produce optimum comfort for its consumers because of its soft and silk-like nature (Corazza et al, 2015).

Underwear-related Health Challenges

Regardless of the fabric used in the production of certain undergarments, the fit and style of these undergarments often pose challenges to the consumer. Some undergarments come in uncomfortable and complex designs and styles and often defeat their purpose – to protect the consumer and the clothes he or she has on. Past conversations indicate that underwear and undergarment that are tight because of the fabric choice and the design of the underwear are among some of the challenges students' experience. According to some students from the Colleges of Education, tight underwear often causes

irritation and infections because of the lack of ventilation in the crotch areas especially (Datta, 2018). According to Mínguez-Alarcón et al., (2018), there exists a prevalence of low sperm count in men who are often found to wear tight underwear. Tight underwear raises the scrotum's temperature because the heat and moisture are all trapped in one place instead of being dispersed and absorbed respectfully. This has an observable impact on the body's sperm production. The research conducted by Mínguez-Alarcón et al., (2018) indicated that men who wore loose underwear and undergarments had sperm concentrations that were 25% greater than those who wore tight underwear. Women's underwear that clings too tightly to the upper or lower abdomen could contribute to discomfort. High-rise panties that are too tight can compress the stomach and cause acid reflux into the oesophagus, which leads to heartburn. Low-rise panties that are too tight can decrease blood circulation in the upper thigh area, resulting in irritation, tingling or numbness. Underwear and undergarments made from polyamide or a majority of polyester are mostly ventilation free and increase the chances of chafing and acne. It is also known to hold onto an odour even after multiple washes (Christopher, 2022). Abdominal discomfort has been linked to overly compressive underwear and decreased sperm production. Undergarments usually have elastic bands that can compress the abdominal and groin areas, which are major locations of thrombus formation (Matarasso, 2016).

CHAPTER THREE

RESEARCH METHODS

The study sought to identify the underwear choice and management for male students in the Colleges of Education in the Central Region. This section provided an overview of the research methods used in the study. These include the research design, study area, population, sampling procedure, data collection instruments, data collection procedures, and data processing and analysis.

Research Design

A research design consists of procedures that are used in the collection of data for a research study. Bellis (2020) define research design as the conceptual blueprint within which research is conducted. According to Akhtar (2016), research design can be considered as the structure of research as it is the “Glue” that holds all of the elements in a research project together. Research design is also defined by different social scientists in different terms. Ahuja (2020) defines research design as the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure. Creswell (2015) also defines research design as the procedures for collecting, analyzing, interpreting and reporting data in research studies. It is the overall plan for connecting the conceptual research problems with the pertinent (and achievable) empirical research. Research design sets the procedure on the required data, the methods to be applied to collect and analyze this data, and how all of this is going to answer the research questions (Grey, 2020). As

explained by Grey (2020), there are three possible forms of research design: exploratory, descriptive and explanatory.

The goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with ‘what’ rather than ‘how’ or ‘why’ something has happened. Therefore, observation and survey tools are often used to gather data (Gall, Gall, & Borg, 2017). In such research, the data may be collected qualitatively, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships. Qualitative research, however, is more holistic and often involves a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives, and attitudes. The purpose of this study is for description purposes; therefore, the descriptive survey design was utilized. Creswell (2015), argues that a descriptive survey is used to collect the views or practices of a group of people through interviews or by administering questionnaires. Therefore, descriptive survey design was used in this research because the researcher wanted to systematically describe a population or phenomenon.

Study Area

The study was conducted in the Colleges of Education in the Central Region of Ghana. Though, there are three Colleges of Education in the Central Region, the purpose of the study was to investigate the health implications of underwear choice and management among male students in the Colleges of Education therefore the all-female institution (OLA College of Education) was not selected.

Since the researcher needed variables with same characteristics then Colleges of Education A and B were utilised in the study since these two College are mixed gender (male and female) Colleges of Education.

Komenda College of Education (College A) is a co-educational teacher training school (institution) which offer Bachelor of Education certificate at the end of its four years education, which is also known as first degree in education. As one of Ghana's 46 public educational institutions, it was a participant in the DFID-funded Transforming Teacher Education and Learning Ghana initiative. The Komenda College of Education is set on Assai Hill, at the outskirts of Komenda town. Komenda College was established in 1948.

Komenda College of Education started out of the buildings Barracks left by the Fleet Air Arm of the British Navy after the World War II. Through the efforts of Mr. A.B. Sam, regent of Komenda, the legacy was leased to the Methodist Church Ghana, in 1947 to be used as a training college. On March 11, 1948, the first batch of students numbering forty men was enrolled to start an initial 2-year Teacher's Cert 'B' programme. In 1952, the college became a co-educational institution with its first batch of thirty women. The motto of the college is “Bepɔwso Kurow Hyer3n”, meaning a city set on a hill, shines forth. Komenda College of Education is located in a fishing community in the Central Region. Though the college is located in a fishing community, people from all part of the country are admitted to have their teacher education training.

Foso College of Education (College B) is a co-educational teacher Education College located in Foso (Assin North Municipal District, Central Region, Ghana). The College also offers a Bachelor of Education certificate at

the end of its four years of education which is also referred to as first degree in education. The college is located along the Assin Foso–Cape Coast highway between Assin Foso and Assin Atonsu on a land area of one square kilometre that was leased to the government for the purpose of the Aboabo Stool of Assin Nyankomasi. Dr. Kwame Nkrumah opened Foso College in 1965. Foso College of Education (which is often referred to as the University of Assin by the local people) was opened on 15 November 1965. The students were made up of 120 Post Middle 4-Year and 120 Post ‘B’ 2-Year Certificate ‘A’ groups. It was opened under the headship of Mr. R. R. Essah, with its motto: “Character, Wisdom, Knowledge”.

The college's catchment area extends beyond the Central Region of Ghana into the Ashanti Region, Brong-Ahafo Region, Eastern Region of Ghana, Greater Accra Region and Western Region of Ghana. The College's vision is to become a centre of excellence for training quality teachers whose orientation is holistic and consistent with national aspirations and development.

Population

The population of this study included male students in Colleges of Education. Specifically, Colleges of Education A and B. A sample size of 30 male students based on Mason’s (2013) assertion was utilized in the study: thus 16 participants from (College A) and 14 participants from (College B). The sample size of 16 and 14 was derived from the use of proportionate sampling which goes by the total of male population of a school/ the total of both male population of schools* the sample size. The total population for the colleges was $1841+1650=3491$ for (College A) and (College B) respectively.

The population of male students were 1121 and 1015 for (College A) and (College B) respectively. The total population for male students for both Colleges was $1121+1015=2136$. The proportionate sampling for (College A): $1121/2136 \times 30 = 15.7$, (College B): $1015/2136 \times 30 = 14.2$. Since both calculations give a decimal figure, it was converted to whole number, where the sample for (College A) was converted from 15.8 to 16 and the sample for (College B) was converted from 14.2 to 14.

Sample and Sampling Procedure

Proportionate and Convenience sampling was used in selecting respondents for the research. There are three Colleges of Education in the Central Region, these are Our Lady of Apostles (OLA) College of Education, Komenda College of Education and Fosu College of Education. However, Fosu and Komenda Colleges are mixed gender Colleges of Education whiles OLA College is a female College of Education.

Moreover, there is no male College of Education in the Central region which can be used for the purpose of the research hence the researcher had to fall on the two Colleges of Education which are mixed population hence the two colleges were used since both have male students as part of the school's population. Females were exempted from the research sampling leaving only the males since they are the only population needed in the research work.

The proportionate sampling technique was relied upon to ensure that equal proportions of students were sampled based on a stratum. According to Mason, (2013), an ideal sample size for qualitative research is 20 to 30 participants before one reach saturation. Therefore, a total of 30 students was used in the study, 16 participants from College A and 14 participants from

College B who summed up to give the total of 30 participants for the research work.

Convenient sampling was used to select participants. Convenient sampling is also sometimes referred to as accidental sampling as it involves choosing the nearest to serve as respondents and continue until the sample size have been achieved. Through the convenient sampling, the researcher involved the nearest and available respondents for the study.

Data Collection Instrument

Interview schedule was used for this survey. The interview schedule contained four-point close-ended Likert type items ranging from strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD), with 1 to 4 as their values and open-ended questions. The close ended questions were followed with an open-ended question which was probed further to find out from participants why they choose a particular response from the close ended question so as to get explanation for their choice.

Again, the close ended question is limited in the interview schedule because the interview schedule is purposely to probe the respondent to express themselves freely on the paper without being limited or restricted, since they may not be able to tell the truth or open up fully to the researcher who is conducting the study. Section A of the interview schedule looked at Bio-data, Section B looked at type of underwear used by students, Section C also looked at factors that influence underwear choice, Section D looked at Care methods adopted to maintain underwear by students and finally Section E looked at health implications related to underwear choice and care among students. The

items were developed to reflect on the key objectives raised in the research questions.

Interview schedule as a research instrument was used because it is an efficient means of gathering large amount of information from sizeable sample size or population. It is also effective for measuring subjective behaviour, preferences, attitudes and opinions. And also, here the respondent was able to express themselves freely on the paper since there was no one present to make them feel intimidated or shy to respond to the interview items.

Data Collection Procedure

All participants in the research were asked to express informed consent. The complete objectives of the study were communicated to them, and the confidentiality of their information were assured. The study's advantages were presented to them as well. Those who decide not to give information were questioned about their reasons, and any misunderstandings regarding the research were addressed.

Those who declined to participate despite a comprehensive explanation were exempted from the research. Most of the completed interview schedule was collected back the same day, while few others were collected within two weeks. After collecting the data, respondents were appreciated with a writing pen and a note pad. A period of two (2) weeks was used for the data collection exercise. The data collection took place on weekends since there was no lectures on those days.

Data Analysis

Responses from respondents on the interview schedule was tallied in order to get the responses that could form a theme. Thematic analysis was used to analyse the research questions.

Ethical Consent

Since this study was a little sensitive as it probed into private issues of the participants, protection and consent of participants and their responses were assured by obtaining due permission, protecting privacy and ensuring confidentiality. In doing this, description of the study, the purpose and the possible benefits and risks was made known to the participants. The researcher allowed participants to freely withdraw or leave at any time if they deemed it fit. A statement of consent was given to participants to sign as evidence of their willingness to participate in the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

The study explored the implication of underwear choice and how it is managed by users. It focused on students in the mixed Colleges of Education in the Central Region of Ghana. The preceding chapter presented the research methods that guided the study. This chapter presents the results, interpretation and findings from data collected from the field. The descriptive survey design was utilized. The population of this study was male students in Colleges of Education. Specifically, a sample size of 30 male students was utilized in the study. This included 16 participants from College A and 14 participants from College B. In all 30 respondents participated in the study. Purposive and convenience sampling were used in selecting participants for the research. Interview schedule was used for data collection. Data on students' demographic variables were analysed using frequencies and percentages. Data from interviews were analysed using thematic analyses to answer the four research questions that guided the study. Results on the demographic information of the respondents, and the main results in line with the research questions are presented followed with discussion of the results.

Demographic Information

The demographic information of the participants included age, level and hall of residence.

Table 1: *Age of respondents, Level of study and Halls of residence*

Variables	Frequency	Percentage
Age		
18-20	6	20
21-23	10	33.3
24-26	5	16.7
27-29	4	13.3
30-31	3	10
32-33	2	6.7
Total	30	100
Level of study		
100	10	33.3
200	16	53.3
300	4	13.4
Total	30	100
Halls of residence		
College	Hall	Participants
Komenda College	Victorious	4
	Indomitable	4
	Formidable	3
	Illustrious	5
Sub total		16
Fosu College	Essah	3
	Aboabo	4
	Obiri Yeboah	2
	Quayson	5
Sub total		14
Total		30

Source: Field data (2023)

Age of respondents

According to Table 1, the age of the interviewed participants of this study revealed that majority (10) of the respondents were 21 to 23 years old (38.5%). Participants between 18-20 years were 6 (24%). This was the second highest frequency recorded. A total of 5 participants were 24-26 years, 4 were 27-29 years, 3 and 2 were 27-29 and 30-32 respectively. The implication of this is that majority of the participants are in their youthful age and are likely to be fashion conscious and also dress for belongingness.

Level of study

Data was also taken on the level of study of the participants. The study revealed that there were 16 level 200 students, representing majority (53.3%) of the respondents. A total of 10 (33.3%) respondents were in level 100. This was the second highest recorded frequency. Also, 4 participants were in level 300 (13.3%). This is also presented in table 1.

Hall of residence

Participants were asked to indicate their halls of residence. This is presented in Table 1. From the responses, majority of the respondents (16) were from Victorious (4) hall, Indomitable Hall (4), Fomidable hall (3) and Illustrious Hall (5) all of Komenda College. Five participants each were in Illustrious Hall (Komenda College) and Quayson hall (Fosu College), this was the highest recorded frequency.

Themes as well as subthemes pertaining to respondents

The researcher began the analysis of the data by first reading to the transcribed data to the audiotapes that included the collected information. In order to become comfortable with the data, the transcribed information was

read over and over again over the course of time. The formulation of preliminary codes represented the second stage of the data analysis process. This was done by the researcher so that the data could be organised methodically pertinent to the research aims. The researcher came up with the primary themes and sub themes by basing them on the objectives and meaning gleaned from the data. The themes and sub themes drawn from the data are outlined. The findings were backed by the comments made by a few of the participants. By providing each participant with pseudonym, (participant one, two etc..) the researcher was able to protect their anonymity and maintain their confidentiality.

Research Question One

What types of underwear are often used by male students in the Colleges of Education?

Research question one sought to identify the types of underwear often used by male students in the College of Education. Respondents were asked to indicate the type of underwear they frequently used.

Theme One: Type of underwear

A total of 16 underwear choices were made available to respondents. Participants were asked how often they used singlet, undershirt, vest, boxer brief, brief, boxer shorts, thongs, tanga, mankini, thighs, dual pouch underwear, jockstrap and G-string. These were categorized into two that is underwear that covered the torso and those that are worn to cover the waist buttocks /thighs.

Underwear that covered the torso

From the responses, majority indicated they most often used singlet (24). Also, respondents indicated they sometimes used undershirt (18) and vest (20). From the responses, the most frequently worn underwear that cover the torso was singlet. Some responses from the participants are indicated below;
We often use singlet as well as undershirt and vest (S1).

Another student also expressed that;

Most of us are fond of making use of singlet as well as vest (S5)

Underwear that covers the Waist and Buttocks/Thighs

From the responses, majority indicated they most often used boxer shorts (26). Respondents often used boxer briefs (19), brief (18), Tanga (16) and Tights (10). Also, respondents indicated they sometimes used thongs (10), Mankini (10), Dual pouch (11), Jockstrap (9), and G-String (8). From the responses, the most frequently worn underwear that cover the waist and buttocks was Boxer Shorts. Some responses from the participants are indicated below;

We often wear boxer briefs, Tights, thongs (S24).

Another student also expressed that;

Most of us are also fond of making use of Dual pouch as well as Jockstrap and Mankini (S16)

Research Question Two

What factors do students in the Colleges of Education consider before choosing the type of underwear they choose to use?

Research question two sought to identify factors that influence respondents' choice of underwear. A total of 4 open ended and one close

ended question were used in the interview schedule. Furthermore, respondents were asked to indicate the frequency and extent to which they consider brand, colour, durability, sports, comfort, type of fabric, outer garment and breathability before choosing their underwear. These were grouped into personal and product factors for clarity.

Theme Two: factors influencing underwear selection

Respondents were asked to indicate who usually help in their selection of underwear, they were provided with the options to select from the options if they select the underwear themselves, if their mum help in the selection of their underwear, if they are assisted by their dad in the selection of their underwear or they have other people such as friends who help them in the selection of their underwear,

Individual responsible for underwear purchase

Respondents indicated who helps in their selection of underwear. In response to who helps respondents in choosing their underwear, majority (20) revealed that they purchase their underwear by themselves. A few respondents revealed that their mum (6) and Dad (4) help in choosing their underwear. From the responses, majority purchased their underwear themselves.

From the responses, majority (12) purchased their underwear from thrift sellers (second hand clothing). A few respondents (8) purchased their underwear by visiting traditional stores. Others purchased their underwear from online sellers (6) while a few purchased from mobile vendors (4). From the responses, majority bought their underwear from thrift sellers. Some responses from the participants are indicated below;

Our parents are mainly responsible for underwear purchase (S17).

Another student also expressed that;

Most of us purchase our underwear from thrift sellers (second hand clothing (S16)

Theme Three: Factors under performance

It was enquired from Respondents how long they use their underwear before it was changed and also the number of underwear they own. They were also asked if they really do look out for durability of the underwear before purchasing, most of the respondents gave a positive response that they prefer product of good quality to last long.

Duration of underwear use

Respondents gave an estimate of the number of underwear they have. Majority (17) had between 5-10 underwear. The rest had 11 or more underwear. Respondents were asked to give reasons thereof for the number of underwear they had. Majority stated it was as a result of theft, others indicated the number they had was okay for them, they had insufficient funds to buy more and because some are worn out yet to be replaced. Participants' statements are presented below.

According to participant 3:

"I had more but some have been stolen or they got missing".

Participant 7 also indicated:

"I do not have enough money to buy new underwear"

On the other hand, participant 25 indicated:

"The number I have is enough for me"

Respondents indicated how long they use one underwear before changing. Several respondents indicated they used one underwear for 3 days before changing. According to the responses, this was the frequently mentioned number of days respondents used their underwear before changing into a new one. Other respondents specified that they used their underwear weekly before changing into a new one. This was the second frequently mentioned number of days they used their underwear before changing into a new one. Other participants mentioned changing their underwear daily. Selected relevant responses to the open-ended question are presented below.

Participant 1 indicated:

3 days

According to participant 29:

"I use it for three days"

In addition, participant 6 specified:

"I use it weekly"

Participant 16 also added:

"I often change my underwear daily"

Participants were asked to give reasons for the number of days they use their underwear before changing into a new one. Majority of the participants indicated they did not have enough time to wash their underwear. This was the frequently cited reason for wearing their underwear for a long period before washing. The second frequently cited reason was that they did not have enough underwear, hence they had to use one for a long period before washing it. Others also mentioned washing their underwear frequently would make it wear out, hence they had to use it for a long time.

Participant 20 indicated:

“I do not have time because I have to study”

Participant 7 specified:

“Because of my studies, I don’t have time to wash everyday”

Participant 8 added:

“My underwear are not many, so I manage them”

Participant 11 also mentioned:

“Some of them, if you wash it frequently, it won’t last long”.

Durability

Majority of the respondents most often considered the durability before buying an underwear. The reasons given included that they considered they do not want to buy underwear that will not last long or they wanted underwear they could wear for a longer period.

Participant 19 responded:

“I prefer underwear that will last longer”

Participant 12:

“So that my underwear will keep long”

According to participant 22:

“So, I don’t spend a lot of money buying underwear”

Theme Four: Factors influencing choice of underwear

Respondents were asked to indicate the frequency with which the listed factors influenced their choice of underwear. These factors include brand, colour of underwear, outer garment, sports and comfort and breathability. Respondents were further asked to give reasons for their responses.

Brand

According to majority of the respondents they most often considered the brand before buying an underwear. The reasons given included that they considered trending or famous brands, brands they see on television and the cost of the brand.

According to participant 2:

“Some brands are less expensive than others, so I go in for the less expensive ones”

Participant 5 added:

“I consider the brand that is popular among my colleagues. Sometimes I ask their opinion before buying”

Participant 9 also added:

“I buy underwear based on brands I or my friends have used before so I don’t buy inferior ones”

Colour of underwear

Participants were asked to specify their preferred choice of underwear colour. From the responses, the frequently cited colours were black and blue. A few other respondents mentioned white and others mentioned Burberry colour.

In addition, respondents were asked to indicate whether they considered colour before buying their underwear, and give reasons for their preferred colour of underwear. Participants considered the colour of the underwear most of the times before buying it. Majority indicated they chose their underwear colour because even when it is dirty, it does not show. Others

also chose it because it will not get dirty easily. Other respondents specified they chose their underwear colour based on their preference for the colours.

Participant 8 indicated:

“I choose underwear colours that will not easily get dirty”

According to Participant 6:

“I prefer colours that I can wear for long period”

Participant 25 added:

“Blue is my favourite colour”

Participant 1 specified:

“There are some colours which do not get dirty easily, so I choose those colours”

Sports

In relation to sports, majority of the participants mentioned they considered sports often in choosing their underwear. The reason was for easy movement during sports and to reduce tension during their movement. Therefore, they chose underwear that gives them the opportunity to move around easily without any friction that can lead to injuries.

Participant 28 indicated:

“To prevent injuries during football”

Participant 9 added:

“For easy movement during sports programs”

Comfort and breathability

Participants' responses to comfort and breathability as a factor was similar. Participants revealed that they considered comfort most often before buying an underwear. The most common reason cited was to feel relaxed and

comfortable. Therefore, their underwear choice was determined by the need to feel relaxed and not tensed during the day. Sample participants' responses are presented below.

Participant 4 specified that

"I choose underwear that are comfortable"

Participant 5 added:

"I choose underwear that I can walk well in it. Some underwear can hurt if it is too tight"

Participant 1 specified:

"To feel relaxed when walking"

Outer garment

Participants were asked whether they consider their outer garment before choosing an underwear type. Most participants indicated they often consider the outer garment they were wear before choosing an underwear type. Some participants' responses in relation to this question are presented below.

According to participant 17

"I prefer underwear that will not be too visible in my trousers"

Participant 20 also added:

"I consider outer garment when wearing light-coloured pants to prevent any visible lines or stains."

Research Question Three

What are the underwear management related challenges the students experience?

Research question three sought to identify the underwear management related challenges students face. Underwear Management, in the context of this study, refers to the process of handling, maintaining, and addressing issues related to the use of undergarments, particularly by students. An open-ended questionnaire was presented for participants to provide the challenges they face when it comes to their underwear use. Participants were asked to identify the challenges associated with managing their underwear. Major challenges prevalent among the responses were feeling uncomfortable, getting heat rashes and cuts. These were respondents' major challenges when it comes to their underwear.

Theme five: Challenges with Underwear Use

Respondents were asked about some of the challenges they do experience with type of underwear used be it the type of fabric used to produce the underwear or the nature of underwear worn the respondents complained about discomfort and inflammation and bruises.

Discomfort

Participants responses revealed that some underwear were too tight which made it difficult to wear for long hours.

According to participant 5:

“Some underwear are too tight which makes it uncomfortable to wear”

Participant 7 specified:

“I sweat when I wear tight boxers for long”

Participant 30 specified that:

“When I wear it for long, I don’t feel comfortable”

Inflammation and bruises

Respondents also revealed that they get inflammation and bruises from underwear use. This happens if the underwear is too tight or made from a rough or abrasive material.

Participant 1 also indicated:

“Underwear can cause bruises. It makes it difficult to wear.”

Participant 7 also specified that:

“One challenge is rashes. When I wear underwear for long, I sometimes get rashes from that.”

Research Question Four

What care methods are adopted by College of Education students to maintain their underwear?

The fourth research question sought to find out the care methods adopted by students to maintain their underwear. A total of 11 open ended questions were used to solicit data from respondents. Participants responded to open ended questions that sought to find out various strategies that were employed by students to care for their underwear. These were classified into three stages. which are care methods before washing, care methods during washing and care methods after washing.

Theme Seven: underwear management

Underwear needs to be managed in order to be reused again, respondents were asked how they manage their underwear that is how they store their underwear, stain removal, and exposure to sunlight.

Storage in laundry

Participants' responses on caring for their underwear before laundry were sought. The results indicated that most participants kept their dirty underwear together with their dirty clothes in a laundry basket. Several respondents also revealed they wash their underwear weekly, particularly on weekends. Some responses are presented as follows:

Participant 10 revealed that:

"My dirty underwear are kept together with my dirty clothes."

Participant 13 also responded:

"I keep it together with my clothes."

Participant 16 specified:

"I wash my underwear on weekends."

According to participant 14

"I wash them once a week because I normally wash during weekends."

Stain Removal

Many individuals tend to launder their underwear alongside their regular clothing. This practice is facilitated by the fact that stains on underwear can be readily eliminated through the use of detergent. In terms of water temperature, the majority of students opt for washing their underwear in water at a standard temperature. The detergent of choice for most is

washing powder, a readily available and affordable option in the market. Notably, when it comes to bleaching, it is observed that most participants do not employ bleach in the laundering of their underwear.

Participant 5 specified:

“I keep my underwear for a week before washing since weekends are the only free days I can get to wash.”

Participant 7 added:

“When I wash my underwear, I wash it with other clothes.”

Participant 1 indicated:

“I remove stains from my underwear using washing powder.”

Participant 8 added:

“My underwear are washed with normal water.”

Participant 3 specified:

“I do not bleach my underwear.”

Exposure to sunlight

Participants' care methods after washing were analysed. Responses revealed that most often they dried their underwear including other clothing on the lawns when the drying lines are occupied due to insufficient drying lines in their respective halls. Most often, they keep their underwear in a locked bag after drying it. Respondents also revealed they do not iron their underwear after washing.

Participant 28 specified:

“I dry it on the drying line.”

Participant 17:

“Mostly on the drying line but sometimes on the lawns when the drying line is occupied.”

Participant 8 added:

“After drying it is kept in my bag.”

Participant 15 indicated:

“I have a small bag I keep it in.”

Participant 4 added:

“I do not iron my underwear.”

Research Question Five

What are the health care implications related to underwear use and management?

This research question aimed to explore the often-overlooked territory of underwear practices among students and sought to illuminate the potential health risks and concerns associated with these practices. By examining students' responses and experiences, the study aimed to identify the health implications linked to how they managed and used their underwear, providing valuable insights into the often-underestimated aspect of daily underwear habits. In doing so, it underscored the significance of proper hygiene and comfort in maintaining a healthy lifestyle for students and, by extension, the broader community.

Health Implication 1: Skin Infections, Discomfort, and Odour

Improper care practices, such as keeping dirty underwear together with other clothes in a laundry basket, infrequent washing, and not rinsing properly, can lead to the accumulation of bacteria and dirt. This can result in

skin infections, discomfort, such as itching, and the development of an unpleasant odour. Skin infections, combined with discomfort and odour, can negatively impact an individual's health and well-being.

The practice of wearing underwear for extended periods, combined with infrequent washing, can create conditions favourable for the development of heat rashes. Heat rashes occur when sweat and moisture become trapped against the skin due to inadequate ventilation, causing redness, itching, and discomfort. Frequent occurrence of heat rashes can impact one's skin health and overall comfort.

The storage of damp underwear in locked bags after drying can create a humid environment conducive to bacterial growth and an unpleasant odour. These conditions increase the risk of urinary tract infections and other health problems (Datta, 2018). Reduced hygiene in underwear management can have long-term implications on an individual's health and well-being, especially in sensitive areas (Tsaousi, 2016).

Health Implication 2: Potential Allergic Reactions

Neglecting to iron underwear after the washing process, especially when it is dried outdoors on lawns or other surfaces, can introduce an unexpected health risk. When underwear is dried in open environments, it becomes susceptible to exposure to various outdoor allergens. These allergens may include pollen, dust, mould spores, and other environmental particles that are carried by the wind and can settle on clothing while it dries (Lee, 2018).

When individuals wear underwear that has been exposed to these outdoor allergens, the allergens can come into direct contact with their skin.

This contact can lead to the triggering of allergic reactions, manifesting in various ways. Common allergic reactions include skin rashes, hives, and itching. These reactions occur as the body's immune system responds to the presence of foreign substances and attempts to eliminate them.

The consequences of such allergic reactions can be more than just discomfort; they can significantly affect a person's well-being. Persistent itching and skin rashes can disrupt daily activities and cause distress. In severe cases, these allergic reactions may necessitate medical attention, which can include the administration of antihistamines or other allergy medications to alleviate symptoms.

Health Implication 3: Psychological Stress and Discomfort

The issues associated with underwear use and management extend beyond physical discomfort; they can have profound psychological implications. Problems related to underwear, such as discomfort, skin issues, and self-esteem concerns, are not merely inconveniences but can become sources of psychological stress and discomfort. When individuals are preoccupied with the physical discomfort or health-related issues caused by their underwear, it can have a cascading effect on their mental health, self-confidence, and overall well-being.

The constant discomfort or irritation caused by ill-fitting or poorly managed underwear can create a persistent background of distress in an individual's daily life. This discomfort is a constant reminder that something is amiss, which can gradually erode one's mental state. As individuals become preoccupied with these physical issues, it can consume their thoughts

and divert their attention from other important matters, including academic and personal responsibilities.

The consequences of this psychological stress can be far-reaching. For example, the ongoing discomfort and dissatisfaction with one's underwear may lead to feelings of self-consciousness and decreased self-esteem. The concern about how one looks or feels in their undergarments can affect their overall body image and self-worth. This, in turn, can hinder their self-confidence and willingness to engage in social or academic activities.

Furthermore, sustained psychological stress related to underwear issues can contribute to broader mental health problems. Anxiety may arise from the constant discomfort, and this anxiety can negatively impact daily life, relationships, and academic performance. Additionally, the reduced quality of life resulting from persistent psychological stress can lead to a decreased sense of well-being and satisfaction with one's life.

Discussion

Research Question One

Research question one sought to identify the types of underwear often used by male students in the Colleges of Education.

Underwear that covers the torso

Based on the analysis of the responses provided, most commonly worn type of underwear that covers the torso is the singlet. According to Tug (2021), singlet are sleeveless undershirts that cover the chest and often the back, and they are often worn for warmth or to absorb sweat and prevent odours from permeating outerwear. This explains the reason why most male students choose singlets as their underwear because it covers the chest and

allows easy and free movement of the arms and also provides the arms with enough ventilation in the uniform unlike the other sleeved undershirt (Datta, 2018). Singlet can be made from a variety of materials, including cotton, wool, and synthetic fabrics, and they can be worn as an undershirt beneath other clothing or as a standalone top.

The fact that singlet was reported as the most frequently worn type of underwear that covers the torso may reflect their versatility and practicality. Singlet can be worn in a variety of settings, from casual wear to athletic activities, and they can provide an extra layer of warmth or protection without adding bulk or restricting movement. Additionally, singlet can be relatively inexpensive and easy to find, making them a popular choice for many people.

Underwear that covers the waist and buttocks/thighs

From the responses, majority indicated they most often used boxer shorts. Respondents often used boxer briefs, brief, Tanga and Tights. Also, respondents indicated they sometimes used thongs, Mankini, Dual pouch, Jockstrap and G-String.

Based on the responses provided, boxer shorts are the most commonly worn type of underwear that covers the waist and buttocks and used by students in the Colleges of Education. According to Datta (2018), boxer shorts are loose-fitting shorts that typically have an elastic waistband, and they can be made from a variety of materials, including cotton, silk, or synthetic fabrics. They are often worn for comfort and breathability, especially in hot weather, and they provide coverage and support for the groin area. The fact that boxer shorts were reported as the most frequently worn type of underwear that covers the waist and buttocks may reflect their popularity, fashion trends

and wide availability due to their busy study schedule, the students may decide to boxer shorts which will keep them safe and comfortable during the long periods they remain in their class. They may want to look fashionable and trendy as they are in their youthful age and may also compete among themselves for attention, Boxer shorts can be found in a variety of styles and designs, from solid colours to patterns and prints, and they are often affordable and easy to find in many retail stores and online sales.

Though men may be perceived as being conservative when it comes to undergarments, there has been a definite shift in their choice of underwear. They now range from the traditional boxer brief and boxer short styles to the radically fashionable men's thongs, G-strings, and even C-strings as indicated in the results of this study. These more revealing styles have become increasingly popular among men, not only because they are available on the market and attractive, but also because they provide comfort and allow for a full range of motion (Datta, 2018). A survey by YouGov in 2016 as cited by (Datta, 2018) which focused on British men, found that overall, 37% of respondents preferred boxer shorts (loose boxers), 27% preferred briefs, and 25% wanted boxer briefs (tight boxers). It has been observed that among the youth especially, there is the trend of fashion competition among peers, which compel individuals to assume images that would make them be the first or among the first in fashion adoption, so they go after anything new which makes them stand out. This makes the use of newly introduced undergarments use a passion for some individuals.

Research Question Two

Research question two sought to identify factors that influence respondents' choice of underwear.

Individual responsible for underwear selection

Respondents were asked to indicate who helps in their selection of underwear. In response to who helps respondents in choosing their underwear, majority revealed that they purchase their underwear by themselves. This is due to the fact that the students to receive allowances and therefore have personal monies they spend with little or no supervision from their parents hence they are matured enough to know what they want based on their experiences such as lifestyle, personal values and interactions with others around (Datta, 2018). A few respondents revealed that their mum and dad help them in choosing their underwear. From the responses, majority purchased their underwear themselves.

Based on the responses provided, majority of respondents purchase their own underwear, indicating a high degree of autonomy in their clothing choices. This may reflect a broader trend towards increased individualism and independence in modern society, where people are more likely to make decisions based on personal preferences and self-expression. The fact that most respondents purchase their own underwear may also reflect the personal and intimate nature of underwear as a clothing item. Underwear is often worn close to the skin, and can have a significant impact on comfort, hygiene, and overall well-being. By choosing their own underwear, respondents may feel more in control of their own bodies and more attuned to their own needs and preferences. However, it's worth noting that some respondents indicated that

their parents help them in choosing their underwear. This may reflect cultural or familial traditions, where parents play a more active role in guiding their children's clothing choices. Additionally, some parents may have specific concerns around modesty or comfort that they want to address when helping their children select underwear.

Ultimately, the decision of who helps in choosing underwear will depend on individual circumstances and cultural norms. However, the fact that most respondents purchase their own underwear suggests that people are taking an active role in managing their own comfort and personal style, and that underwear choices can be a reflection of individual identity and self-expression

Duration of underwear use

From the responses, majority purchased their underwear from thrift sellers (second hand clothing). A few respondents purchased their underwear by visiting traditional stores. Others purchased their underwear from online sellers while a few purchased from mobile vendors. From the responses, majority bought their underwear from thrift sellers provided.

Based on the finding that majority bought their underwear from thrift shops, which are stores that sell second-hand clothing items, a variety of factors, including economic constraints, sustainability concerns, and a desire for unique or vintage clothing items have been identified to be possible reasons. Thrift shopping has become increasingly popular in recent years in the country (Hobbs, 2016). The participants further explained that by purchasing second-hand items, they can reduce their environmental footprint by preventing clothes from going to waste and avoiding the environmental

costs of producing new clothing. They also found thrift shopping as an affordable way to find clothing items, including underwear. For students on a tight budget, as some depend on the money given to them by their parents and others surviving on the allowance given to them by the government, buying second-hand clothing can be a cost-effective way to meet their basic needs while still enjoying the benefits of new clothing items (Banasam, 2019).

However, it is important to note that there are also potential drawbacks to buying underwear from thrift sellers. Underwear is an intimate clothing item, and there may be concerns around hygiene and cleanliness when purchasing used items. Some thrift stores may have policies in place to ensure that clothing items are properly cleaned and sanitized before being sold, but this may not be the case for all stores. Ultimately, the decision of where to purchase underwear will depend on individual preferences and circumstances (Hobbs, 2016). While thrift shopping may be a popular option for some, others may prefer to buy new items from traditional stores or online sellers. Whatever the choice, it is important to prioritize comfort, fit, and personal hygiene when selecting underwear.

The fact that some respondents reported having their underwear stolen suggests that theft may be a significant concern for some individuals. Theft and property crime can be more common in schools (Kijanczuk, 2014). To address this concern, individuals may need to take additional precautions, such as storing their underwear in secure locations or investing in high-quality locks or security systems. For those who indicated that the number of underwear they had was sufficient for their needs, this may reflect personal preferences or lifestyle factors. Some individuals may prefer to have a smaller

number of high-quality underwear items, while others may prioritize quantity over quality. Additionally, some individuals may have specific hygiene or comfort needs that require them to have a certain number of clean, fresh underwear items available at all times.

For those who cited financial constraints as a factor in the number of underwear they had, this highlights the economic challenges that many individuals face in purchasing basic necessities like clothing. Underwear can be a relatively low-cost item, but it can still represent a significant expense for those on a tight budget. To address this concern, individuals may need to budget carefully or look for affordable options, such as buying second-hand or shopping during sales.

Finally, for those who indicated that some of their underwear items were worn out and in need of replacement, this underscores the importance of regular maintenance and care for clothing items. Underwear can be subject to wear and tear over time as they are worn next to the skin and experience much abrasion. According to Komasi (2018) underwear may also result particularly if it is not washed or maintained properly though frequent abrasion may assault fabric. By investing in high-quality underwear items and taking care to launder and store them properly, individuals can help extend the lifespan of their clothing and reduce the need for frequent replacement.

The responses regarding how long respondents use one underwear before changing varied, with the most frequently mentioned time being three days. It is worth noting that the length of time one can wear an underwear item before changing it depends on several factors, including personal hygiene, physical activity levels, and sweat production. Some people may

need to change their underwear more frequently due to excessive sweating or high physical activity, while others may be able to wear the same pair of underwear for several days without issue.

Wearing an underwear item for three days before changing may be considered acceptable by some individuals, but others may consider this to be highly unacceptable. Those who change their underwear daily find it to be a more hygienic option, as it allows for regular change of underwear and reduces the build-up of sweat and bacteria. However, it is important to note that the length of time one can wear an underwear item before changing it may depend on several factors, including the fabric type and quality of the item.

On the other hand, those who change their underwear daily may prioritize cleanliness and hygiene. This can be especially important for individuals with sensitive skin or who are prone to infections. Changing underwear daily may also allow for regular laundering, which can help maintain the quality and lifespan of the clothing item.

Ultimately, the length of time one wears an underwear item before changing it is a personal choice that may depend on individual factors such as personal hygiene preferences, physical activity levels, and sweat production. It's important to prioritize hygiene and comfort when choosing how long to wear an underwear item before changing it, and to regularly launder and care for clothing items to maintain their quality and lifespan.

The reasons given by the participants for the number of days they use their underwear before changing into a new one varies, with the most frequently cited reason being lack of time to wash their underwear. This may

be due to a busy schedule or a lack of access to laundry facilities, which can make it difficult to wash and dry clothing items regularly. The second frequently cited reason for wearing underwear for a long period before washing was a lack of sufficient underwear. This may be due to financial constraints or theft cases on campus when they dry them on the drying line. As a result, some individuals may wear their underwear for a longer period than recommended to keep them covered all the time in the face of inadequacy.

Another reason mentioned by some participants for wearing their underwear for a long period before washing was the concern that frequent washing could lead to the item wearing out more quickly. This may be due to the use of harsh detergents when washing which can cause damage to the fabric over time. It is important to note that while wearing underwear for an extended period before washing may be a personal choice, it can also have health implications. According to Datta and Agrawal (2019), bacteria and sweat can accumulate in the fabric, leading to unpleasant body odours and potentially increasing the risk of infections such as excessive itchiness around the genitals. As a result of built-up bacteria, acne and pimples around the genitals, and yeast infection can also happen due to accumulation of sweat settling in their overused underwear.

According to Sanusi (2019), clothing does come into contact with body sweat, oil exuded from the body, bacteria from the environment and other dirt in the environment therefore. It is recommended to wash underwear after each use to maintain hygiene and ensure the longevity of the clothing item because if underwears are not washed when dirty, it will eventually lose

its beauty and also cause health problems to the wearer. Overall, the reasons participants give for wearing their underwear for a long period before washing may vary and may depend on personal circumstances. However, it is important to prioritize hygiene and regularly wash underwear to maintain the quality and lifespan of the clothing item though washing of underwear regularly may lead to deterioration as a result of frequent exposure to sun and too much abrasion it is also the best way to care for underwear to prevent bacteria from hiding in the underwear (Komasi, 2018).

When asked how long underwear are kept before washing, most of the participants responded that they do wash their underwear when they go to the bathhouse to take their shower hence not getting ample time to effectively wash underwear very well in order to do away with all stains. Most of the participants accepted that they know that they are not able to wash their underwear well because whenever they go to the bathhouse, they are always in a hurry to come out as others will be in cue to also come to take their bath or they might be in a hurry to attend lectures. When asked why not wait and wash them on weekends it was explained that they were scared of theft as they feared waiting to wash your underwear and dry them in the dryline will attract other students to come for them, only few admitted that they do wash them on weekends when they are able to make time to wash them (Datta, 2018).

Colour of underwear

Participants were asked to specify their preferred choice of underwear colour. From the responses, the frequently cited colours were black and blue.

A few other respondents mentioned white and others mentioned Burberry colour.

The preferred choice of underwear colour may vary from person to person based on personal preferences, cultural influences, fashion trends, and social norms. However, the results of the survey show that the most frequently cited colours for underwear were black and blue. Black is a classic and timeless colour that is often associated with sophistication and elegance. It's a versatile colour that can be worn with a variety of outfits and can also give the wearer a sense of confidence and empowerment. Blue is a popular and widely accepted colour that can range from light blue to navy blue. It's often associated with trust, loyalty, and stability. Blue is also a calming colour that can help to reduce stress and anxiety and is also associated with males. (Datta, 2018).

White was also mentioned by some respondents as their preferred choice of underwear colour. White is a clean and crisp colour that is often associated with purity and innocence. It is a popular choice for formal occasions, and it can also be paired with a variety of outfits. Burberry colour was mentioned by a few respondents as their preferred choice of underwear colour. Burberry colour is a distinctive beige colour that is often associated with luxury and high-end fashion. It's a bold and statement-making colour that can be a popular choice for those who want to stand out and make a fashion statement.

Overall, the preferred choice of underwear colour may depend on personal preferences, cultural influences, and social norms. While black and blue were the most frequently cited colours in the survey, it is important to

choose underwear colours that make you feel comfortable, confident, and happy. One of the colleges wear maroon or blue-black coloured pants as their uniform and outing wear while in the other college, students wear black for lectures. With the colours of their uniform, any colour of underwear can be worn under since their uniform pants are made of dark coloured cotton fabrics which will not expose their underwear (Hobbs, 2016).

In addition, respondents were asked to indicate whether they considered colour before buying their underwear, and give reasons for their preferred colour of underwear. Participants considered the colour of the underwear most of the times before buying it. Majority indicated they chose their underwear colour because even when it is dirty, it does not show dirt. Others also chose it because it will not show dirt easily but then underwear will get dirty as long as it rubs against the skin which secretes body perspiration and oils. Again, while one eases himself, there may be little droplets of urine or even faecal matter stain, which cannot be easily seen. Other respondents specified they chose their underwear colour based on their favourite colours. It is important to note that one needs not choose underwear colour to hide dirt because hiding dirt in dark colours is a means of breeding bacteria in the underwear, which can be harmful to their health (Mendelson, 2015).

Brand

The reasons given included that they considered trending or famous brands, brands they see on television and the cost of the brand. Though, they mostly buy from the thrift sellers, they do take their time to search through to select used brands from the second-hand goods which they term as the first

selection which is believed to be store reject though not in bulk as may be seen in shops (Hobbs, 2016).

The fact that majority of the respondents consider brand before buying underwear could be attributed to various factors such as fashion trends, perceived quality, social status and as a result of their stage of development which make them to adopt fashion and follow it readily. Popular brands often have a reputation for producing high-quality products, and consumers tend to associate them with quality and durability. Overall, the brand of an underwear is an important consideration for many consumers, as it can be a reflection of their personal style, perceived quality, and social status.

Durability

According to the respondents, they considered the durability before buying an underwear. One of the reasons given for considering durability is that they do not want to buy underwear that will not last long or they wanted underwear they could wear for a longer period. The importance of durability when purchasing underwear is not surprising. Underwear is an essential item of clothing that is worn frequently, and due to heat from the atmosphere and care practices, heat of the body and body fluids that they come into contact with most of the time they tend to deteriorate easily. It is therefore important that it can withstand the wear and tear of daily use and frequent care. Fabric such as cotton is strong and can withstand heat, abrasion, detergent and even bleach, modal blended with cotton has a soft and silky hand but then a strong fabric that can stand tear and wear of daily use (Datta, 2018).

Sports

In relation to sports, three students who participate in sports mentioned they considered sports often in choosing their underwear (Datta & Agrawal, 2019). The reason was for easy movement during sporting activities and to reduce tension during movement. Therefore, they choose underwear that gives them the opportunity to move around easily without any friction that can lead to injuries. During sports, you want to feel comfortable in your underwear, and this is especially important for activities that involve a lot of movement, such as running or cycling. It is also worthy of note that as one seeks comfort in clothing, it is also necessary to choose underwear that would hold the genitals firm instead of a loose one that would make them dangle. For sports that involve a lot of running or jumping, it is important to choose underwear that provides adequate support for the groin area. Choosing the right underwear can help reduce tension and irritation caused by rubbing or chafing during exercise, which can be distracting and affect performance. When underwear worn makes one uncomfortable, it leads to the individual losing confidence in whatever they do and this therefore end up affecting their performance such as engaging in sporting activities those who are not able to control themselves from the discomfort end up distracted from whatever they may be doing. This can help prevent injuries and discomfort, and allow the one to focus on the activity.

Comfort and breathability

Participants' responses to comfort and breathability as a factor were similar. Participants revealed that they considered comfort most often before buying an underwear. The most common reason cited was to feel relaxed and

comfortable. Therefore, their underwear choice was determined by the need to feel relaxed and not tensed during the day. (Hobbs, 2016).

Outer garment

Participants were asked whether they consider their outer garment before choosing an underwear type. Most participants indicated they often consider the outer garment they wear before choosing an underwear type.

The current study confirms that underwear choices were impacted by psychological aspects such as appearance, personal values and beliefs, current fashion, and smart appearance (Riungu, 2019). Similarly, it is related to the study by Dibyendu (2018), where the respondents' ranked comfort as the most crucial quality when choosing ordinary underwear. The most crucial aspect of underwear is comfort. Brand recognition is very important for businesses whose clients repurchase based on the comfort, utility, and quality of clothing, according to a study by Hume and Mills (2013).

Research Question Three

Research question three sought to identify the underwear use related challenges students face.

Discomfort

Participants' responses revealed that some underwear was too tight which made it difficult to wear for long hours. Tight underwear can constrict blood flow, cause discomfort, numbness, or tingling in the groin area. Wearing tight underwear can cause problems with sperm production (Kaya, Aykaç, Kaya & Taş, 2020). It is important to choose underwear that fits well and is not too tight to avoid these issues. Similarly, according to Datta, (2018) the usage of tight underwear often causes discomfort, irritation and infections

because of the lack of ventilation in the crotch areas especially around the testicle. Also, According to Mínguez-Alarcón et al., (2018), there exists a prevalence of low sperm count as a result of yeast infection in men who are often found to wear tight underwear which accumulate so much sweat and heat.

Inflammation and bruises

Respondents also revealed that they get inflammation and bruises from underwear use. This happens if the underwear is too tight or made from a rough or abrasive material. Wearing underwear that is too tight or made from rough and abrasive materials may cause inflammation, bruises, and other injuries to the skin (Datta, 2018). This can be especially problematic for people who wear underwear for long periods of time, or engage in activities that demand much of body parts movements which may cause abrasion of friction. It is important to choose underwear that fits well but not tight, feels comfortable, and is made from soft and breathable materials to avoid these problems.

Research Question Four

The fourth research question sought to find out the care methods adopted by students to maintain their underwear.

Storage in laundry

Participants' responses on caring for their underwear before laundry were sought. The results indicated that most participants kept their dirty underwear together with their dirty clothes in a laundry bag. Several respondents also revealed they wash their underwear weekly, particularly on weekends, this is due to their busy schedule for lectures and other activities

during the week days. The findings of the study highlight the importance of understanding people's attitudes and behaviours towards caring for their underwear before laundry. Keeping dirty underwear with other dirty clothes in a laundry bag is a common practice for many students and washing underwear weekly is also a common routine for some students. But then it is a wrong practice to keep underwear in the same bag with used clothes due to the fact that outer garments do come into contact with other bacteria from the outside and also from our body secretions therefore it is not the best to mix used underwear with dirty outerwear because the bacteria can be transferred to the underwear which is likely to have implications on one's health when the underwear is used (Bobbin, 2022).

Stain Removal

Participants' responses on care methods when washing their underwear were sought. Respondents answered six questions on how they care for their underwear during laundry. Most participants revealed that they wash their underwear once a week. They also wash their underwear together with other clothes. Furthermore, stains are easily removed from underwear because they are washed with detergent. With regards to the temperature of water used, most students use water of normal temperature to wash their underwear. Most often, the detergent used is the readily available or cheap washing powder that they can easily buy to save cost. When it comes to bleaching, most participants do not bleach their underwear.

The responses from the participants suggest that most people wash their underwear along with their other clothes once a week. This frequency of washing can be influenced by various factors, including personal hygiene

practices, lifestyle, and the type of clothing worn. However, it is important to note that certain types of underwear, such as those worn during exercise or in hot weather, may require more frequent washing to prevent the build-up of bacteria and unpleasant odours. Furthermore, it is interesting to note that most participants use water of normal temperature and a popular washing powder brand, Omo, to wash their underwear. While it is essential to use an appropriate detergent that is suitable for delicate fabrics and does not cause damage, it is also crucial to follow the instructions provided by the manufacturer on the product label.

Regarding bleaching, most participants do not bleach their underwear. According to Narasaki (2016), bleaching can be effective in removing stains and disinfecting clothes, it can also cause damage to delicate fabrics and reduce the lifespan of the clothing. Therefore, it is advisable to avoid using bleach unless necessary and to opt for alternative stain removal methods, such as soaking in vinegar or baking soda solution. The responses from the participants provide valuable insights into how students care for their underwear during laundry. While the washing practices may vary among individuals, it is essential to adopt good hygiene practices and use appropriate washing methods and detergents to ensure that the underwear is clean, fresh, and long-lasting it is also important for students to note that enough water needs to be used in rinsing their underwear and it must also be dried at a good and clean place because having soap left in underwear may cause irritation of skin since it is worn directly close to the skin and also weakening of fabric can occur.

Exposure to sunlight

Participants' care methods after washing were analysed. Responses revealed that most often they dried their underwear on the dry line with their clothes or on the lawns when the drying lines are occupied. Most often, they keep their underwear in a locked bag after drying it. Respondents also revealed they do not iron their underwear after washing.

Based on the participants' responses, it can be observed that the majority of them prefer to sun dry their underwear along with their clothes. Keeping the underwear in a locked bag to prevent the underwear from being stolen and for easy reach when needed after drying it and it could be also seen as a way to prevent dust or other particles from settling on them before use. The fact that participants do not iron their underwear after washing could be attributed to the nature of the fabric used which is cotton blend with other fabrics in making the underwear, they are most often easy or wash and wear. Some fabrics used for making underwear such as nylon and polyester do not require ironing and ironing them could lead to damage or distortion of the material. Overall, these care methods are indicative of individual preferences and cultural practices regarding the care of underwear after washing.

Research Question Five

The implications for education resulting from underwear use and management issues are multifaceted and can significantly impact students' academic experiences. Discomfort or health-related problems stemming from poorly managed underwear can have a distracting effect, leading to reduced concentration and focus during classes and study sessions. Students may find

it challenging to engage fully in their education when dealing with constant itching, irritation, or other physical discomfort caused by their underwear.

In more severe cases, these discomforts can lead to missed classes and delayed assignments. Students may need to take time off from their studies to address these issues, which can result in falling behind in their coursework and potentially lower academic performance (Narasaki, 2016). Moreover, the psychological stress related to underwear problems can contribute to mental health issues, such as anxiety and low self-esteem, which can interfere with a student's overall well-being and their ability to engage effectively in their education.

Time management can become a challenge for students dealing with the consequences of poorly managed underwear. The time and energy spent managing discomfort, seeking medical attention, or addressing other related issues can disrupt their academic schedules and affect their ability to meet their educational commitments (Narasaki, 2016).

Students who feel uncomfortable or self-conscious about their underwear-related issues may withdraw from social interactions (Cunnington & Cunnington, 2022). Social isolation can limit their engagement with peers, extracurricular activities, and academic discussions. In addition, poor underwear management can impact a student's self-esteem and self-confidence, affecting their willingness to engage with professors, peers, and academic activities.

Health-related absences can also result from underwear-related problems, particularly allergic reactions or other health issues. When students

miss classes due to such problems, they miss valuable educational content and interactions that can affect their overall learning experience (Narasaki, 2016).

Ultimately, the impact of underwear-related issues extends beyond physical discomfort. It can affect a student's quality of life, including their experience of education. By addressing these issues and promoting proper underwear management practices, institutions can contribute to students' overall success and well-being in their educational journey.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview of the Study

The purpose of the study was to explore underwear choice and how it is managed by male users in the Colleges of Education in the Central Region of Ghana. The preceding chapter presented the analysis and discussion of findings. This chapter is a presentation of the summary, conclusions and recommendations drawn from the study.

Summary

The purpose of the study was to explore underwear choice and how it is managed by male users in the Colleges of Education in the Central Region of Ghana. The study's goal was descriptive in nature; hence, this research was more concerned with what rather than how or why something has happened. It sought to describe the types of underwear used, factors that influence choice of underwear, care methods and challenges associated with the use and maintenance of the underwear used by male students. The study focused on the male students in the Colleges of Education in the Central Region of Ghana.

From 30 respondents, interview schedule was used to collect data for the study. The interview schedule was in five (5) sections. Section A, B, C, and D. Section A looked at demographics, B looked at types of underwear used, Section C looked at the factors that influenced underwear choice, Section D looked at care methods adopted by respondents for underwear and finally, Section E looked at health implications related to underwear choice and care among students. Content validity was established by presenting the interview guide to both the supervisor and other expertise in the field of

clothing and textiles from the vocational and technical education department this step ensured that the questions in the guide accurately and comprehensively covered the relevant aspects of the research topic. Furthermore, responses from the pilot test were used to clarify the questions and make it easier for the participants to understand. The instrument was deemed appropriate for data collection. Research questions one to four were analysed thematically.

Key Findings

The following findings emerged from the investigation:

1. Results on the types of underwear often used by male students in the College of Education revealed that the most frequently worn underwear that cover the torso was Singlet and the most frequently worn underwear that cover the waist and buttocks was boxer shorts. There is also a shift from using the traditional underwear to adoption of more fashionable underwear by males.
2. In relation to factors that influence respondents' choice of underwear, respondents revealed that they considered the comfort, durability, type of fabric, breathability, brand, colour, sport outer garment, before buying underwear.
3. Major challenges in use prevalent among the responses given were feeling uncomfortable, getting heat rashes and bruises while using tight underwear.
4. Before laundry, most respondents reported keeping their dirty underwear together with their dirty clothes in a laundry bag and wash their underwear weekly, on weekends. During laundry, participants

wash their underwear together with other clothes, stains are often removed from underwear using detergent. Also, most students use water of normal temperature to wash their underwear. When it comes to bleaching, most participants do not bleach their underwear. After drying, participants do not iron their underwear before use.

Conclusions

It can be concluded that students mostly use the traditional underwear that cover the torso and buttocks area such as singlet, undershirt and boxer shorts, etc. and have adopted the use of other underwear which are fashionable and rare such as G-string and jockstrap.

Factors that influenced their choice of underwear were personal factors and product factors. The personal factors were individual responsible for underwear selection, place of underwear purchase, reason for number of underwear owned, and preferred colour of underwear. Students also responded that they were the ones that selected their underwear for use. It was also concluded that, majority of the students do purchase from the second-hand clothing seller because they are affordable to buy others responded they purchase from the traditional stores. However, few others buy online and from the mobile vendors.

It can also be concluded that the students responded that it was as a result of theft as well as financial constraints which affected the number of underwear owned. With the preferred colour of underwear, most of the students responded that they preferred black and blue underwear.

Again, the product factors included brand, durability, sports activity, comfort and breathability, and outer garment used. With brand, most of the

students preferred to buy underwear based on brands. In relation to durability, most of the students responded that they considered durability before purchasing. With sports, only few who were involved in sports responded that they considered sports before purchasing in order to feel comfortable during sports.

It can also be concluded that challenges with underwear choice were discomfort, inflammation and bruises. In relation to discomfort some of the students responded that their underwear felt too tight and sometimes difficult to wear for a longer period, with bruises and inflammation.

With care methods, it can be concluded that most of the students kept their underwear for almost a week before washing them and some too as long as they got the free chance to wash their clothing. During laundry, the majority of them responded that they use normal temperature of running water for washing as they know nothing about water temperature for washing.

With how stains were removed, it can be concluded that stains were removed with the use of detergent and sometimes soaked for sometimes before washing. The type of detergent used were any affordable detergent they could purchase with their money available or any they come across with.

Recommendations

Following the findings of the study, the following recommendations are made:

1. The school authorities should provide adequate facilities for students at their halls to enable them observe proper hygienic laundry practices while on campus. They should also ensure that there is enough security that would minimise thievery at the halls of residence.

2. The hall staff should organize seminars for students in the Colleges of Education to be educated hygienic ways of managing underwear and the implications of neglecting the healthy practices not to be mixing their used underwear with other dirty clothes as the clothes worn outside may have come into contact with some bacteria that may be transferred to the underwear and hence become harmful to one's health.
3. There is the need to educate the College authorities to invite health personnel to educate the students on the dangers related to the usage of tight underwear and underwear that are not made of cotton.
4. Students need to be educated on the proper care methods for their underwear since they will be graduating as teachers to impart knowledge unto the younger generation, they can also educate them.
5. Students in the college of education can also be educated to avoid the constant purchase of underwear from thrift cloth sellers this is because this underwear have already been used so if is not well treated may contain some hidden bacteria that may be harmful to the reproductive organ.

Suggestions for Further Research

1. Further research should be conducted using a larger sample in Ghana to find out if these findings are applicable to all male college students in the country.
2. Further research could also be conducted among female students in the Colleges of Education.

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APPENDICES**APPENDIX A****UNIVERSITY OF CAPE COAST****INTERVIEW GUIDE FOR PARTICIPANTS**

Conducting a study on health implication of underwear choice and management for male students in colleges of education in the central region of Ghana as part of my academic work for MPhil studies. Therefore, seeking your consent to respond the question items as honestly as possible. Every information given will be kept confidential as the information is purely for academic purposes, you have the right to decline if you wish to do so.

SECTION A: BIO- DATA

Please tick as applicable.

1. Age

I. 18 – 20 []

II. 21 – 23 []

III. 24 – 26 []

IV. 27 – 29 []

V. 30 – 32 []

VI. 33 – 35 []

2. Level

I. 100 []




II. 200 []


III. 300 []

3. Hall of Residence.....

SECTION B: TYPE OF UNDERWEAR AND FREQUENCY OF USE BY STUDENTS

Following are different types of underwear used by males. Tick those types that you use and indicate the frequency of its use by checking the options that correspond with your choice.

	Underwear type used	Number owned	Most often	Often	Sometimes
4.	Singlet 				
5.	Undershirt 				
6.	Vest 				

7.	Boxer Brief					
8.	Brief					
9.	Boxer shorts					
10.	Thongs					
11.	Tanga					

12.	Mankini				
					
13.	Tights				
					
14.	Dual Pouch Underwear				
					
15.	Jockstrap				
					
16.	G-String				
					

SECTION C: FACTORS THAT INFLUENCE UNDERWEAR CHOICE

17. Who helps in your selection of underwear?

- I. Self ()
- II. Mum ()
- III. Dad ()
- IV. Others specify.....

18. Where do you normally purchase your underwear from?.....

19. Please give your reason for the number of underwear you have

20. How long do you use one underwear before changing?.....

Please give a reason for your answer.....

21. What is your preferred colour of underwear to be worn?.....

Please give reason for your response.....

Indicate how the following factors influence your choice of underwear and the reason for your response.

No	Factor	Frequency			Response
22.	Brand				
23.	Colour				
24.	Durability				
25.	Sports				
26.	Comfort				
27.	Type of fabric				
28.	Outer garment				
29.	Breathability				

30. What challenge do you have with your underwear choice?.....

SECTION D: CARE METHODS ADOPTED TO MAINTAIN UNDERWEAR

31. How easy is it for you remove stain off your underwear?.....

32. How often do you wash your underwear?.....

(You may talk about individual underwear if treated differently)

33. How do you keep your used or dirty underwear before laundry?.....

34. What temperature of water do you use in washing your underwear?.....

35. What type of detergent is used in washing your underwear?.....

36. Do you wash your underwear alone or with other clothing?.....

37. Do you bleach your underwear when necessary?.....

38. Where do you dry your underwear?.....

Please give a reason for your

response.....

39. Do you iron your underwear after washing and drying?.....

40. Where do you keep your underwear after laundry?.....

41. How long do you keep your underwear before washing?.....

Section E: Health implications related to underwear choice and care

42. Does the use of underwear result in any implication?

APPENDIX B
INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

Direct: 03320 - 91097
Telegrams & Cables: University, Cape Coast



University Post Office
Cape Coast, Ghana

Our Ref: VTE/IAP/V.3

16th May, 2022.

The Chairman
Institutional Review Board
UCC

Dear Sir,

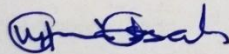
REQUEST FOR ETHICAL CLEARANCE

Ms. Ivy Comfort Crankson with registration number ET/HEP/20/0019 is an Mphil student of this Department. She is working on the research topic "Health Implications of Underwear Choice and Management for Male Students in Colleges of Education in the Central Region".

Currently, she is collecting data for her research work and we would be grateful if you could give her an ethical clearance to progress with the work.

Thank you.

Yours faithfully,



Dr. Augustina Araba Amissah
HEAD OF DEPARTMENT

Department of Vocational and Technical Education,
Faculty of Science and Tech. Education,
University of Cape Coast,
18th May, 2022.

The Chairperson
Institutional Review Board
University of Cape Coast

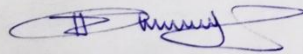
Dear Sir,

IRB CLEARANCE: IVY CRANKSON

I am the supervisor for the candidate above who is an MPhil student of the Department of VOTEC. She has successfully defended her proposal and wish to seek clearance to enable her proceed with the study which is on the topic "**Health implications of underwear choice and management for male students in Colleges of Education in the Central Region**" for her thesis. I have the pleasure of introducing her to your outfit for clearance. I would be grateful if you could give her the necessary assistance.

Thank you in advance.

Sincerely yours,



Irene Ampong (Ms)

(Senior Lecturer)

APPENDIX C

ETHICAL CLEARANCE

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309

E-MAIL: irb@ucc.edu.ghE-MAIL: irb@ucc.edu.gh

OUR REF: UCC/IRB/A/2016/164

YOUR REF: \

OMB NO: 0990-0279

IORG #: IORG0011497

14TH NOVEMBER, 2022

Ms. Ivy Comfort Crankson

Department of Vocational and Technical

Education University of Cape Coast

Dear Ms. Crankson,

ETHICAL CLEARANCE - ID (UCCIRB/CES/2022/87)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research Health Implications of Underwear Choice and Management for Students in the Colleges of Education in Central Region. This approval is valid from 14th November, 2022 to 13th November, 2023. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Kofi F. Amuquandoh

Ag. UCCIRB Administrator

APPENDIX D

TYPES OF UNDERWEAR



Figure 1: Briefs



Figure 2: Boxers



Figure 3:Boxer Briefs



Figure 4:Boys shorts



Figure 5:G-string for women



Figure 6: G-string for men



Figure 7: Bikini



Figure 8: Bikini cut



Figure 9: slim shorts



Figure 10: Brassiere



Figure 11: Trunks



Figure 12: Jockstrap



Figure 13: Long Underwear

Figure 14: Singlet



Figure 15: Undershirt

Figure 16: Vest

