MC 2007 Casablanca - Morocco
Intelligent Textiles & Mass Customisation

Thursday 15 November, 2007

8H00 – 9H00 Registration & Breakfast

9H00 – 9H15 Conference Opening, Mohamed Lahlou, ESITH, Casablanca, Morocco, Vladan Koncar, ENSAIT, Roubaix, France

9H15 – 10H00 Plenary Session 1, *Intelligent Textiles*, Professor Xiao Ming Tao, Hong Kong Polytechnic University, Hong Kong, China

10H00 – 10H45 Plenary Session 2, *3D Design and Virtual Prototyping in the Soft Material Business*, Jean-Louis Heyd, Lectra, Bordeaux, I

10H45 – 11H15 Coffee break

11H15 – 12H45 Parallel Session 1, Intelligent Textiles, Room A	11H15 – 12H45 Parallel Session 2, Intelligent Textiles, Room B	11H15 – 12H45 Parallel Session 3, Mass Customisation, Room C

12H45 – 14H00 Lunch break

14H00 – 15H00 Posters Session

15H00 – 16H00 Parallel Session 4, Intelligent Textiles, Room A	15H00 – 16H00 Parallel Session 5, Intelligent Textiles, Room B	15H00 – 16H00 Parallel Session 6, Mass Customisation, Room C

16H00 – 16H30 Coffee break

16H30 – 17H45 Parallel Session 7, Intelligent Textiles, Room A	16H30 – 17H45 Parallel Session 8, Mass Customisation, Room B	16H30 – 17H45 Parallel Session 9, Mass Customisation, Room C

Friday 16 November, 2007

8H30 – 9H15 Plenary Session 3 *Application of conductive Polymers to Smart Textiles and Actuators*, Professor Seong Hun Kim, Dept. of Fiber & Polymer Eng. Hanyang University, Seoul, South Korea

9H15 – 10H00 Plenary Session 4, *Intelligent (Communication) Clothing & Mass Customization*, Professor Sanjay Gupta, NIFT, Delhi, India

10H00 – 10H30 Coffee break

10H30 – 12H00 Parallel Session 10, Intelligent Textiles, Room A	10H30 – 12H00 Parallel Session 11, Intelligent Textiles, Room B	10H30 – 12H00 Parallel Session 12, Mass Customisation, Room C
12H00 – 13H30 Lunch break		
14H00 – 18H00 Visit of the Mosque Hassan 2 and Casablanca sightseeing		
21H00 – 24H00 Conference Dinner		

Saturday 17 November, 2007

9H00 – 9H45 Plenary Session 5, *Mass Customisation in Weaving*, Professor Krste Dimitrovski, University of Ljubljana, Ljubljana, Slovenia
9H45 – 10H30 Plenary Session 6, *Mass-Customization, an Automated Pattern Design Process*, Jean-Louis Heyd, Lectra, Bordeaux, France
10H30 – 11H00 Coffee break

11H00 – 12H00 Parallel Session 13, Intelligent Textiles, Room A	11H00 – 12H30 Parallel Session 14, Intelligent Textiles, Room B	11H00 – 12H30 Parallel Session 15, Mass Customisation, Room C
12H30 – 13H30 Lunch break		
13H30 – 14H30 Posters Session		
14H30 – 16H30 Workshop "Textile Research Networking", Room A		
ITMC Conference END		

Parallel Session 1 : Intelligent Textiles, Thursday 15 November 2007, Room A, 11H15 – 12H45

Chairman : Professor Lubos Hes, Technical University Liberec, Liberec, Czech Republic
A Micromechanical Analysis of Fracture Toughness in Z-Fiber Reinforced Laminar Composites, **Yong K. Kim,** University of Massachusetts Dartmouth, Department of Materials and Textiles, Dartmouth , USA
Activated Natural Zeolite on Textiles for Protection and Therapy, **Ana Marija Grancaric**, University of Zagreb, Croatia
Development of a Multilayer Monofilament with Possible Transistor Properties, **Jean Hakuzimana**, Ghent University, Ghent, Belgium

Parallel Session 2 : Intelligent Textiles, Thursday 15 November 2007, Room B, 11H15 – 12H45

Chairman : Professor Xiao Ming Tao, Hong Kong Polytechnic University, Hong Kong, China

An Overview and Development of Structural Health Monitoring (SHM), **Bohwon Kim**, NWCC (Northwest Composites Centre), The University of Manchester, Manchester, UK

Dynamic strain measurement of textile composites using Digital Image Correlation (DIC) system, **Bohwon Kim**, The University of Manchester, Manchester, UK

Electro-Conductive Heating Textile Elements Based on a Carbon Black Conductive Polymer Composite, **Cédric Cochrane**, ENSAIT – GEMTEX, Roubaix, France

General Clustering of Warp Interlock Structures, **François Boussu**, ENSAIT – GEMTEX, Roubaix, France

Gold Coated Yarns - a Material for Endurance, **Anne Schwarz**, Textile Department, Ghent University, Belgium

Parallel Session 3 : Mass Customisation, Thursday 15 November 2007, Room C, 11H15 – 12H45

Chairman : Professor Xavier Flambard, ENSAIT, Roubaix, France

A Comparison of Efficiencies Of Modular Production Systems Applied in Apparel Industry, **Canan Saricam**, Istanbul Technical University, Istanbul, Turkey

A Multiple Choice System for Designing Knitted Fashion Garments, **Jonas Larsson**, University College of Borås, Boras, Sweden

Knit on Demand – Simulation of an Agile Production and Shop Model for Fashion Products, **Joel Peterson**, University College of Borås, Boras, Sweden

A Study to Determine the Importance of Mass Customization Relative to Fit, Comfort and Design in Production, **Samuel M. Bradley**, Philadelphia University, Philadelphia, USA

Parallel Session 4 : Intelligent Textiles, Thursday 15 November 2007, Room A, 15H00 – 16H00

Chairman : Professor Lieva Van Langenhove, Ghent University, Ghent, Belgium

Geo Textile Sensors for Ground Pollution by Hydrocarbons, **Philippe Vroman**, BIDIM - TenCate, France, ENSAIT – GEMTEX, Roubaix, France

Grafted Polyamide6-6 Microfibers: Effect on Dyeing Properties and Antibacterial Activity, **Neji Ladhari**, Textile Research Unit of ISET, Ksar Hellal, Tunisia

Influence of Reactive Gas in Surface Modification of Textile Fibers Using RF Plasma Treatment, **José Heriberto Oliveira do Nascimentro**, University of Minho, Guimarães, Portugal

Parallel Session 5 : Intelligent Textiles, Thursday 15 November 2007, Room B,

15H00 – 16H00

Chairman : Professor Ana Marija Grancaric, University of Zagreb, Zagreb, Croatia

Leg Arterial and Venous Hemodynamic and Tissue Response to Induced Fluidshift with and Without Elastic Compression Stockings "ECS", **Philippe Arbeille**, Unite Medecine-Physiologie Spatiales CHU Trousseau, Tours, France

Textile Electrodes for the Measurement of Bio Impedance Spectroscopy Signals, **Nadine Zimmermann**, Textile Institute, RWTH Aachen, Germany

Mechanical and Thermal Properties of Polypropylene Fibres with Incorporated Microcapsules by Melt-Spinning, **Fabien Salaun**, ENSAIT – GEMTEX, Roubaix, France

Parallel Session 6 : Mass Customisation, Thursday 15 November 2007, Room C, 15H00 – 16H00

Chairman : Professor Mario de Araújo, University of Minho, Guimarães, Portugal

An Evaluation of Turkish Clothing Industry in the Globalization Process, **Selin Hanife Eryuruk**, Istanbul Technical University , Textile Engineering Department, Istanbul, Turkey

Virtual Processing of The Textile Products Design Activity, **Mihai Stan**, The Research-Development National Institut for Textile and Leather Bucharest, Romania

Fashion: Support to Sector SMEs from F2F Project, **Gabriela Dziworska**, Institute of Textile Architecture, Lodz, Poland

Parallel Session 7 : Intelligent Textiles, Thursday 15 November 2007, Room A, 16H30 – 18H00

Chairman : Professor Yong K. Kim, University of Massachusetts Dartmouth, Department of Materials and Textiles, Dartmouth , USA

Multifunctional Resilient Highloft Nonwovens as a Substitute to Polyurethane Foam, **Emilie Pleyber**, ENSAIT, Roubaix, France

Neural Network for Predicting Thermal Conductivity of Jersey, **Sofien Benltoufa**, ENIM, Monastir, Tunisia

Optimization of Conductive Fibres Share in Compound Technical Fabrics, **Polona Dobnik Dubrovski**, University of Maribor, Slovenia

Optimization of Cotton Blends by Using the Response Surface Method and the Desirability Functions, **Bechir Azzouz Mohamed**, Textile Research Unit of ISET, Ksar Hellal, Tunisia

Thermal Properties of Polyurethane/Clay Nanocomposites, **Budimir Mijovic'**, Faculty of Textile Technology, Faculty of Chemical Engineering and Technology, University of Zagreb, Zagreb, Croatia

Parallel Session 8 : Mass Customisation, Thursday 15 November 2007, Room B, 16H30 – 17H45

Chairman : Professor Kenneth Tingsvik, Högskolan I Borås - University College Of Boras - School Of Textiles, Sweden

Adolescents Girls Underwear Purchase Behaviors, **Basak Bogday Saygılı**, Gazi University, Ankara, Turkey

Garment Pattern Development with the Ease in 3D, **Dhruv Saxena**, NIFT, Delhi, India

Generation of Standard Morphological Measurements of Human Body for Apparel Production Applications, **Deepti Gupta**, Indian Institute of Technology Delhi, India

Vision and Strategy of I-Fashion, **Chang Kyu Park**, i-Fashion Technology Center, Dept. of Textile Eng., Konkuk Univ., Seoul, Korea

Parallel Session 9 : Mass Customisation, Thursday 15 November 2007, Room C, 16H30 – 17H45

Chairman : Professor Sundaresan Jayaraman, GeorgiaTech, Atlanta, USA

State of The Art of Garment Creation Until the Concept Of Mass Customisation, **Pascal Bruniaux**, ENSAIT, France

A New Method of Ease Allowance Generation for Personalization of Garment Design, **Xianyi Zeng**, ENSAIT, Roubaix, France

City Logistics and Freight Village Development For Textile and Clothing Industry in Istanbul, **Nazan Erdumlu**, Istanbul Technical University, Faculty of Textile Technology and Design, Istanbul, *Turkey*

Modeling the Bending Behavior of Fused Interlining Fabric, **Saeed Shaikhzadeh Najar**, Amirkabir University of Technology, Teheran, Iran

Parallel Session 10 : Intelligent Textiles, Friday 16 November 2007, Room A, 10H30 – 12H00

Chairman : Professor Seong Hun Kim, Dept. of Fiber & Polymer Eng. Hanyang University, Seoul, South Korea

Performance Evaluation of Multifunctional Underwear for Sport Applications, **Jefferson Mendes de Souza**, University of Minho, Guimarães, Portugal

Polypropylene/CNT Composites and Fibres, their Structure and Electrical Properties, **Anton Marcincin**, Slovak University of Technology in Bratislava, Bratislava, Slovak Republic

Possibilities of Inorganic Phase Change Materials to Regulate Body Temperatures in Hot and Cold Environment, **Päivi Talvenmaa**, Tampere University of Technology, Tampere, Finland

Pulp Extraction From Agave Americana L. for Technical Applications, **Mounir Jaouadi**, Textile Research Unit of ISET, Ksar Hellal, Tunisia

Parallel Session 11 : Intelligent Textiles, Friday 16 November 2007, Room B, 10H30 – 12H00

Chairman : Professor Sâad Choukri, Ecole Mohammadia des Ingénieurs, Rabat, Morocco

Researches on Weaving Panels with Conductive Yarns, **Adrian Buhu**, Faculty of Textiles and Leather Engineering, Iasi, Romania

Smart Textiles for Communicating Clothes, **Liliana Rozemarie Manea**, Faculty of Textiles and Leather Engineering, Iasi, Romania

Characterization of PAN Nanofiber Mats, **Jiøí Militký,** Technical University of Liberec, Liberec, Cheque Republic

Study of Water Sorption Properties of Ultimate Fiber of Esparto Grass (Alfa Fiber), **Sayeb Soumaya,** Textile Research Unit of ISET, Ksar Hellal, Tunisia

Parallel Session 12 : Mass Customisation, Friday 16 November 2007, Room C, 10H30 – 12H00

Chairman : Professor Giorgio Rovero, Polytechnic of Torino, Italy

Modelling and Simulation of the Mechanical Behaviour of Weft Knitted Fabrics Using FEA, **Mario de Araújo,** University of Minho, Guimarães, Portugal

On the Effects of the Boundary Conditions In the Computational Textile Modelling, **Argyro Kallivretaki,** National Technical University of Athens, Athens, Greece

Reconstructing Global Fashion System: Understanding the Evaluation of Fashion Capitals, **Gozde Goncu,** Istanbul Technical University, Istanbul, Turkey

Reverse Engineering of Garment with Ease in 3D Using Image Processing, **Dhruv Saxena,** NIFT, Delhi, India

Textile Design and Environment, **Amine Hadj Taieb,** Textile Research Unit of ISET, Ksar Hellal, Tunisia

Parallel Session 13 : Intelligent Textiles, Saturday 17 November 2007, Room A, 11H00 – 12H00

Chairman : Professor Faouzi Sakli, I.S.E.T. Ksar-Hellal, Tunisia

Surface Treatments on Cellulose Fiber: Grafting With Beta-Cyclodextrin and Acrylic Monomers, **Aliouche Djamel,** University M'hamed Bougara, Boumerdes, Algeria

The Properties of Conductive Yarns Obtained Through Nanocoated Film, **Liliana Rozemarie Manea,** Faculty of Textiles and Leather Engineering, Iasi, Romania

Parallel Session 14 : Intelligent Textiles, Saturday 17 November 2007, Room B, 11H00 – 12H30

Chairman : Professor Seong Hun Kim, Dept. of Fiber & Polymer Eng. Hanyang University, Seoul, South Korea

Thermoregulating Properties of TENCEL® Fibres: AaCalorimetric and Morphological Approach, **Mohammad Abu-Rous,** Textile Innovation, Lenzing Lenzing, Austria

Ultraviolet Radiation Protection Provided by Biodegradable Fabrics. **Jorge Neves,** University of Minho, Guimarães, Portugal

Use of Carbon Nanotube/Polycarbonate Blends for the Processing of Multifunctional Textile Structures, **Carole Aubry,** ENSAIT, Roubaix, France

Parallel Session 15 : Mass Customisation, Saturday 17 November 2007, Room C, 11H00 – 12H30

Chairman : Professor Ian Hardin, University of Georgia, Georgia, USA

The Effects of Advertisements on the preference of Branded Clothing Choosing of Consumers, **Sule Civitci,** Gazi University, Ankara, Turkey

The Ergonomic Garment Design Development for Handicapped Individual: A Sample Model For Spinal Cord Injured Patients, **Bülent Çivitci**, Gümüs,ig(ne Physical Therapy and Rehabilitation Center, Turkey

The Use of Comfort Parameters in Marketing of Functional Garments and Clothing, **Lubos Hes,** Technical University Liberec, Liberec, Czeck Republic

Total Design of Multifunctional Knitted Fabrics for Football Players, **Araguacy P. A. Filgueiras,** Ceará Federal University - Brazil

Workshop, Textile Research Networking, Saturday 17 November 2007, Room A, 14H30 – 16H30

Chairman : Professor Savvas Vassiliadis, National Technical University of Athens, Athens, Greece

Opportunities and Challenges in Intra- and Inter-UniversityCollaborative Research, Ian R. Hardin, University of Georgia, Georgia, USA

Trends in Textile Research for the 21st Century, **Mario de Araujo,** University of Minho, Guimarães, Portugal

Interface Phenomena of Textiles, **Ana Marija Grancaric',** , University of Zagreb, Croatia

Advanced Functionality of Textiles by Biopolymer Surface Modification, **Dragan Jocic,** Textile Technology Group, University of Twente, Enschede, The Netherlands

Computational Mechanical Modelling of Textile Structures, **Savvas Vassiliadis,** Technological Education Institute of Piraeus

Posters Session, Thursday 15 November 14H00 – 15H00 and Friday 17 November 13H30 – 14H30, Poster Hall

Application Specific Evolutionary Algorithm Parameters for Textile Design, D. Grundler, Tomislav Rolich, Faculty of Textile Technology, University of Zagreb, Croatia

Deposition of Nanocoating by Atmospheric Plasma Treatment, Christine Campagne Frédéric Leroux Villas Takke Anne Perwuelz Usha Massika, ENSAIT, Roubaix, France

Design of Conductive Knit Stitch for Smart Medical Clothing, Li Li, Lily, Au Wai Man, Raymond, Li Yi, Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, China

Developing \"Smart\" Cotton Fabric by Coating with Bipolymer-Based Hydrogel, Dragan Jocic[1], Pelagia Glampedaki[1], Antonion Navaro[2], Marijin M. C. G. Warmoeskerken[1], [1]Textile Technology Group, University of Twente, Enschede, The Netherlands, [2]Department of Chemical Engineering, UPC, Terassa, Spain

Development of Body Size Measuring Process Utilizing the 2D Images, Jae Hoon Jeong, Ji Hyun, Ryu, Hee Jung, Lee, Korea Sewing Technology Institute, Korea

Development of Upper Bodice Pattern For Men From 3D Body Scan Data, Soonjee Park, Chuyeon Suh*, Jung Whan Park**, Jae Hyun Kim**,

The Behaviour of a Droplet on a Single Filament: Modelling and Experimental. Milda Adomaviciene, Kaunas University of Technology, Kaunas, Lithuania

The Bleaching Process of Dromedary Hair, T. Harizi, S. Msahli, S. Dhouib Et F. Sakli. Textile Researches Unit Of Iset-Kh, Ksar Hellal, Tunisia

Understanding the Consumer Approach to Apparel Mass Customization: the Case of Turkey, Ender Yazgan Bulgun, Arzu Vuruskan, Izmir University of Economics, Izmir, Turkey

Using Cotton Wastes in Rotor Yarn, Halimi Mohamed Taher Azzouz Bechir Ben Hassen Mohamed Sakli Faouzi, Textile Research Unit of ISET, Ksar Hellal, Tunisia

Intelligent Textiles & Mass Customisation

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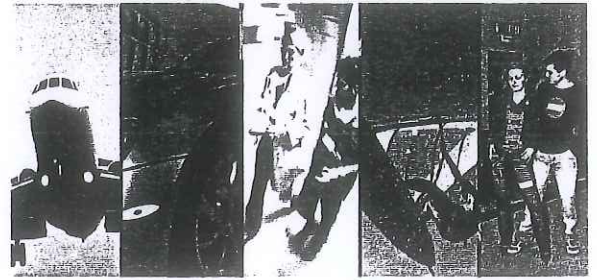
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CONFERENCE PROCEEDINGS

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Mohamed Lahlou and Vladan Koncar

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ADOLESCENT GIRLS' UNDERWEAR PURCHASE BEHAVIORS

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ABSTRACT

Clothing that protects the human body from the effects of nature, that shows changes in process with the features of looking beautiful, aiming to create sexual attraction, expressing personality and social status keeps developing. Parallel to this development, to conserve health, to complement clothing and to satisfy looking beautiful, underwear which is an indispensable part of the clothing has been emerged. The features of the human bodies change from person to person. This affects peoples' preference of underwear which fits to their body. However many factors such as quality, fashion, brand, economic standards and environment affect underwear preferences.

The aim of this research is to identify the factors that affect adolescents' preferences of clothing and preferences of underwear and to put forward the problems they have encountered with in purchasing and using the underwear. The survey is designed A survey was designed in accordance with this purpose applied 125 adolescents. At the end of the research, it is found out that in purchase of underwear, quality is the most effective factor, and adolescent girls have difficulty in finding underwear in their size. Finally, several proposals are offered to the producers and consumers of underwear.

Key words : Underwear, Adolescent Girls, Clothing, Underwear Preferences

1. INTRODUCTION

In ancient civilizations, clothing was primarily used to cover and protect human bodies. Today, most consumers see clothing as more than just a basic necessity. Research conducted in clothing behavior has shown that consumers differ in attitudes, values and expectations of clothing. People use clothing to identify themselves with a social class, project a positive image and as a means to improve their overall appearance (Alexander, Connell and Presley, 2005).
In parallel with clothing, underwear conception is constituted as an indispensable part of wearing in order to conserve health, avoid from mental anxieties and fears, complement clothing and assure the form intended to satisfy required view of the body. Underwear costumes are shaped in accordance with fashion as all other wearing products. In developed and developing countries, fashion, which is important at every stage of daily life, affects underwear products in terms of their shape, color and fabric types. In addition, one chooses

appropriate models, colors and fabric in accordance with body type, cultural and economic aspects. (Çileroğlu, 2006).

History of underwear is as old as 2000s B.C. Up to last a few centuries, women used to wear underwear just for creating sexual attraction. Today, however, people use underwear for the purposes of maintaining health and complementing clothing. (Tekel, 1990).

In history, clothing and fashion are regarded as woman-centered. Throughout the eras women have been interested in the lines of their bodies. Concerns about expressing their beauty and their aesthetic concerns have been existing with a trend of increasing. For this reason, due to the effect made by underwear to the elegance of clothing, it is directly correlated with self-esteem of the women. (Ayral, 1999). This correlation leads women of all ages to the behavior of purchasing underwear. Purchasing underwear is also important for adolescent girl consumers.

In every field of clothing, in the environment of rapid changes and competition, the producers should take consumers' product preferences into consideration. In designing and production activities, fashion should be followed and quality standards should be taken into consideration. Products should be put into the markets shaping in parallel with the demands. (Çivitçi, 1996). This necessity is also valid for underwear producers.

Age is a key factor for cloth purchasing behaviors of the individuals. Main segmentation of clothing markets is based on age. Purchasing clothes satisfying appreciation, gaining acceptance from his/her friends and expressing personality become important in adolescence. Today, adolescents live in a culture of high consumption. For this reason, they rapidly become attracted to fashion, new products and brands. Adolescents spend more time on shopping for themselves. (Chen-Yu and Seock, 2002).

Body features have dissimilarities between the individuals. This situation is also valid for adolescent girls. Due to different body features of the individuals, their underwear preferences in accordance with their body features are variable. In addition, factors such as quality, fashion, brand, economic situation and environment are effective in underwear preferences. (Tekel, 1990).

In this research, factors affecting underwear preferences of adolescent girls and their underwear preferences, problems encountered while purchasing and using underwear are going to be stated.

2. EXPERIMENTAL PROCEDURES

Sources of the research are the data and related sources gained from the survey conducted with arbitrarily (randomly) elected 125 adolescent girls out of adolescent girls of 14 -18 ages and living in the boundaries of the city of Ankara, the capital city of Turkey.

In this research the method of *survey* is used. Method of interviewing is used for collecting data. Method of interviewing is used in order to collect required data sufficiently related to underwear preferences of adolescent girls, problems encountered while purchasing and using underwear, that satisfy requirements of preparation of the data for statistical analyze. The survey is multiple choice and the participants are asked to choose the option that is most suitable for them.

In the research, in order to collect data, survey questions are preferred to be simple and plain. The language used in the survey is cared to be comprehensible and during the survey necessary explanations are made for the participants.

The survey is conducted between 20 November 2005 and 10 December 2005 and between adolescent girls shopping in the shopping mall. The adolescents are asked to be voluntary for

the survey. The data collected from interviewing with 125 adolescent girls are evaluated within the context of the research. The research is planned as a pilot study and for this reason the number of participants is set limited.

Underwear preferences of adolescent girls and their underwear preferences, problems encountered while purchasing and using underwear are evaluated throughout the survey conducted in this study. In the research, all statistical analyses are executed by using SPSS 11.5 software. Frequency given and percentages are outputted to traverse tables. Findings gained are discussed both in themselves and by correlating with each other. Reliability analysis of the survey (Reliability Analysis Alpha) is executed. In the result of this analyze, in order to increase reliability of the test, options decreasing reliability of the test are omitted in the test for evaluation.

3. RESULTS AND DISCUSSION

The adolescent girls within the survey are aged 14 with the percentage of 11,2 % (12), 15 with 16, 8 % (28), 16 with 32,8 % (41), 17 with 16,8 % (21) and 18 with 16,8 %. The reasons why the adolescent girls regard underwear important are tried to be found out. It is reported that between the adolescent girls, 21, 6 % (27) for maintaining health, 18,4 (23) for protecting clothing, 33,6 (42) for complementing clothing, 8,8 % (11) for attracting the opposite sex and 17, 6 % (22) since they get pleasure out of purchasing underwear.

With whom the adolescent girls go shopping of their underwear is tried to be found out. 22, 4 % (28) go shopping for underwear with her mother, 20, 8 % (26) with her sister or brother, 13,6 % (17) with her girl friend, 7,2 % (9) with her boyfriend. Except from this, 18,4 % (23) of the participants go shopping for underwear on her own and 17, 6 % (22) report that her underwear shopping is made by her mother. In addition, underwear shopping frequencies are analyzed. Between the adolescent girls participating in the survey, 26,4 % (33) go shopping for underwear once in three months, 36,8 % (46) once in six months, 22,4 % (28) once a year and 14, 4 % (18) report that she goes less frequent that once a year.

Table 1. Factors Affecting Adolescents in Purchasing Underwear

Factors	f	%
Commercials	8	6,4
Fashion	15	12
Friend	22	17,6
Brand	21	16,8
Quality	36	28,8
Discounted sales	24	19,2

In Table 1, Factors Affecting Adolescents Girls in Purchasing Underwear are shown. Between the adolescent girls participating in the survey, 6,4 % (8) are affected by the commercials, 12 % (15) by fashion, 17,6 % (22) by her friends, 16,8 % (21) by brand, 28,8 % (36) by quality, 19,2 % (24) by discounted sales while making their underwear shopping. The consumers regard quality as the most important factor while making their underwear shopping. The reason is considered to be a high-quality product's being long wearing in long-term, functional and modifiable.

Fabric types and colors affecting underwear preferences of adolescent girls are tried to be found out. Between the adolescent girls participating in the survey, 43,2 % (54) prefer cotton, 14,4 % (18) woolen, 19,2 % (24) sateen, 14,4 % (18) synthetic or silk and 5,6 % (7) prefer crep or chiffon underwear. Between the adolescent girls participating in the survey, 10, 4 % (13) prefer red, 41,6 % (52) white, 21,6 (27) black, 9,6 % (12) blue and 16,8 % (21) hue in their underwear shopping. When these results are analyzed, it is observed that underwear preference of adolescent girls is cotton and white underwear. The reason why cotton fabric is preferred is considered to be as it absorbs perspiration, washable at a high degree and does not irritate skin due to its softness. The reason why white color is preferred is considered to be as it shows dirt for hygiene and it enables using with various clothing materials in different colors.

Table 2. Problems related to purchase of Underwear

Problems	No		Sometimes		Yes	
	f	%	f	%	f	%
I have difficulties in finding underwear in my body size.	26	20,8	26	20,8	73	58,4
I have difficulties in finding the color and tone I want.	41	32,8	40	32	44	35,2
I have difficulties in deciding due to lack of model varieties.	38	30,4	40	32	47	37,6
I encounter with problems as they deform in a short time.	36	28,8	37	29,6	52	41,6
I encounter with problems as their ribbing fray in a short time.	32	25,6	37	29,6	56	44,8
I encounter with problems as they pale in a short time.	42	33,6	31	24,8	52	41,6
I encounter with problems due to misleading of the sales person.	37	29,6	40	32	48	38,4
I encounter with problems due sales person's being male.	30	24	40	32	55	44
I encounter with problems due to high prices	33	26,4	29	23,3	63	50,4

In Table 2, the problems adolescent girls encounter with while purchasing underwear are shown. Between the adolescent girls participated in the survey, 58,4 % (73) have problems due finding underwear in her body size, 35,2 % (44) in finding the color and tone she wants, 37,6 % (47) in deciding due to lack of model varieties model, 41,6 % (52) problems as they deform in a short time, 44,8 % (56) as their ribbing fray in a short time, 41,6 % (52) problems as they pale in a short time, 38,4 % (48) due to misleading of the sales person, 44 % (55) due sales person's being male and 50,4 % (63) due to high prices. When these results are analyzed, it is observed that adolescent girls have difficulties in finding underwear in their body sizes. The reason underlying is considered to be as the change of body features in adolescence and incompatibility of body sizes of the adolescent girls and sizes of underwears in the markets. Reliability analysis (Reliability Analysis Alpha) related to the problems adolescent girls encounter with while purchasing underwear is executed. As a result of this analysis, it can be concluded that reliability is high. Alpha=0, 7322).

Whether there is a correlation between the ages of adolescent girls and their frequencies of shopping is examined and it is concluded that there is not a reasonable correlation at a degree of P<0,05. (x^2=15,564 df=12 P=0,212). In addition, whether there is a correlation between the questions "who do you go shopping with" and "what affects you most" and it is concluded that there is a reasonable correlation at a degree of P<0,05. (x^2=78,617 df= 36 P=0,000).

4. CONCLUSIONS

In this research, findings related to the factors affecting underwear preferences of adolescent girls and the problems they encounter with while purchasing and using underwear are stated. Adolescent girls regard underwear important since it complements clothing. They do their shopping with their mothers and once in six months. The factor that affects adolescent girls most in underwear purchasing is quality and their fabric type preference is cotton and color preference is white.

When the problems adolescent girls encounter with while shopping for underwear are examined, it is observed that they have difficulties in finding underwear in her body size, color and tone they want, due to lack of model variety, misleading of the sales person, sales person's being male and high prices.

When the problems adolescent girls encounter with while using underwear are examined, it is observed that they have problems in underwear's deforming in a short time, as their ribbings fray in a short time and as they pale in a short time.

When all the results are examined, necessity of taking preferences of adolescent girls and the problems they encounter with while using underwear into consideration and shaping design and production activities in accordance with solutions of these problems is observed. This result is also significant for sales. In addition, quality is observed as the most important factor affecting underwear purchasing behavior of the consumer. For this reason, producers should execute high-quality works related to underwear reflecting the fashion and improving their production and designing activities, they should be followers of renovations. In addition, in production and sales of underwear, body features, sizes and health issues should be considered and both producers and sales stores should execute works of research and consumer awareness-rising.

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