

THE KOREAN SOCIETY OF FASHION BUSINESS
2014 International Conference
-International Conference on Digital Fashion-

Registration 09:30-10:00

Opening Ceremony 10:00-10:20

Moderator **Shin Sangmoo**
Professor, Soongsil University

Oral Presentation I 10:20-11:50

Moderator **Poonpong Boonbrahm**
Professor, Walailak University, Thailand

- A Study on Characteristics Expressed in Fashion of Ethical Naturalism
in Digital Era

Lee Kyungjin* · Kan Hosup Hong-ik University

- Digitalization of the Costumes of the Yuanyang Yi and
the Shilin Yi Minorities in Yunnan China

Kim Misun* · Yu Sunyoung · Sohn Heesoon Sookmyung Women's University
Jang Heekyung · Zhang Shun'ai Donghua University, China

- A Study on comparing evaluation of external appearance between real and
3D simulation of flare skirt

Cha Sujoung Woosong University

The 2nd Korea Textile Design Award Ceremony 11:50-12:20

Moderator **Lee Kyujin**
Professor, Hansei University

Lunch 12:20-13:20

Poster Presentations

13:20-14:00

Moderator **Lee Kwuyyoung**
Professor, Shinansan University

Oral Presentation II

14:00-16:30

Moderator **Ko Hyeongseok**
Professor, Seoul National University

- Makeup Design and the Application of Facial Avatar Makeup Simulation
Barng Keejung Daejeon University
- A study on real-time 3D rendering of various leathers in DC Suite 5.0
Ryu Hanna · Park Sohyun* · Kim Jongjun Ewha Womans University
Wu Sehee · Kang Yeonkeung · Ko Hyeongseok Seoul National University
- Rapid Pattern Making in Digital Fashion Design
Maggie LiuYM* · Jang HK · ZhangS · HuangYY · ZhangXX
Donghua University, China
- Study on the methods for reproduction of Supplementary Components
Wu Sehee* · Ko Hyeongseok · Kang Yeonkyung Seoul National University
- Simulation of Historical Costume
Kang, ZY* · Cassidy, T · Li, D University of Leeds
Cassidy, TD University of Huddersfield

Digital Fashion Award Ceremony

The Best Presentation Award ceremony & Closing Ceremony

16:30-17:30

Moderator **Chang Misook**
Professor, Sookmyung Women's University

Moderator **An Hyeonkyeng**
Professor, Dongnam Health College

Reception

17:30-

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Greetings



Bae Soojeong

President

The Korean Society
of Fashion Business

Professor

Chonnam National
University

It is great pleasure to invite you to "The Korean Society of Fashion Business 2014 International Conference" at Seoul. This conference is promising to offer a great experience to attendees from all around the world. The main theme of 2014 international conference is "Digital Fashion".

The Korean Society of Fashion Business founded in 1996 is one of the leading professional organization, for company, practitioners, professors and students involved in textile, beauty and fashion areas. Our association promotes research, education and business in the field of textile, beauty and fashion industry through various workshops and activities.

I am sure that 2014 International Conference on Digital Fashion would provide a great chance to interchange ideas and to have fabulous experience of digital world. You can enjoy many wonderful social events, and beautiful Korean culture. These will give you to have an idea how to get through understanding digital fashion and how to approach globally in fashion, beauty and textile fields.

We happily invite all of you to our international conference. Your participation will make this conference more valuable and successful. I would like to say thank you to vice president Ko Hyeongseok, Seoul National University, Korea Fashion and Textile News and the all staffs that make this conference possible.

Thank you.

A Study on Characteristics Expressed in Fashion of Ethical Naturalism in Digital Era

Lee Kyungjin* · Kan Hosup

Lecturer, Dept. of Fashion Design Major, Hong-ik University Graduate School* ·

Professor, Dept. of Fashion Design, Hong-ik University

1. Purpose of Study

Fashion contains the ever changing critical mind of society as well as the aesthetic value of popular culture, speaking the spirit of the times. The current society moves the attention from human centric ideas that have been uniformed and focusing on complex technologies by joining the digital to the nature, and it emphasizes ecologically the relation between the nature and humans. With such social movement the 'Ethical Naturalism' attempts expressions to the new nature, carrying the original appearance of the nature and humans.

This study aims to propose the direction for the fashion by researching on characteristics that reflect the Ethical Naturalism through fashion activities developed from the concept of the naturalism in the past, focusing on the ethical concept with constant interests in the environment from different areas of the society in 21st century, in Digital Era.

By investigating the theoretical background and phenomenon of each era, the concept and the view point of the naturalism are highlighted. Also, the concept of Ethical Naturalism is researched through the concept change on the naturalism through history of the fashion influenced from the naturalism as political, economic, social, and cultural factors change by complex interactions.

Previous studies have limitations on defining naturalism generally used nowadays, since they were conducted both analysis of the design, such as 'imitation of the natural and representation of nature', and characteristics of 'concepts of protection of the environment'. Therefore, this study aims to deduce the concept of 'Ethical Naturalism' as the concept reflected 'ethical' spirit, concentrating on the concept of 'protection'. So, the purpose of this study is to analyze characteristics of the 'Ethical Naturalism' meaning 'protect all the

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environment that human affect on' in fashion in digital era, not limiting to protect the environment.

Therefor, the importance of this study is to reflect on the problems of today's fashion via Ethical Naturalism that is expressed with changed perspective toward it chronologically. Also its importance is of utilizing it for design development and values as effective information for the Ethical Design in the future by examining designers and companies that practice things to resolve the problems.

2. Methodology

We understand the concept of Naturalism through the occurrence and process of the development of Naturalism. With this background, the study focuses on Ethical Naturalism emerged in 2000-2010. In accordance with this, types of the Ethical Naturalism Design developed from the Naturalism are classified as the environment friendly design, the redesign, and the participatory design. Also, based on the characteristics drawn from preceding studies analysis related with the Ethical Naturalism, we classify the characteristics of the Ethical Naturalism Design: eco-friendly by eco-friendly materials and techniques, circularity followed by recycle and multi-function, social participation by raising problems and leading participation, moderation for minimizing of dissipation. Case study is done by classifying similar cases contacting inherent meanings or same characteristics first, and then we looked through each case more specifically via articles and its web site.

The possibility to apply the characteristics from the Ethical Naturalism Design to the Ethical Naturalism Fashion is verified through four characteristics: 'the environment friendliness for minimizing pollution sources is used.', 'the cycle based on reformation and reuse of materials is applied.', 'the social participation with suggestions and donation activities is considered.' and 'the moderation based on the simplified process and designs is applied.'

We studied the examples corresponding to the characteristics in order to analyze them, by analyzing the data, such as collection of fashion and articles, ads, campaigns.

3. Results and Discussion

Naturalism before the 20th century are considered as a means of Imitation and expression. Through the 1960s hippie culture and the advent of ecology in the 1980s, after that, Naturalism was including the meaning of 'protection'. Also, Naturalism was influenced 'the ethical consumer trends emerged in the 2000s'.

For such a reason, the concept of Naturalism beyond the means of protection is considered to social responsibility.

Ethical Naturalism is considered ecology which the most of fundamental field of environment friendly in environment is. Further Ethical Naturalism has to be regarded the concept of 'social responsibility', ranging from the production, sale, use and disposal. In this 'social responsibility' is including environment as well as social issues such as human rights, labor. We can see 'the reason that the trend is appeared Ethical consumption trends' as Ecological Naturalism. By adding this concepts, the concept of 'Ethical Naturalism' is defined as 'principle which is to practice ethical behavior, in terms of Ecology in Naturalism', as meaning of protection included the obligation of social responsibility.

Through previous studies, types of the Ethical Naturalism Design, developed from the naturalism, are classified as the environment friendly design, the redesign, and the participatory design. Also, the characteristics are drawn as four types by abstract of empirical cases of the Ethical Naturalism Design.

First, the environment friendliness, a representative characteristic of the Ethical Naturalism Design, is introduced by eco-friendly materials and technologies. In the design field construction, household and furniture so on, this characteristic is to minimize contamination arising from used by combining environmentally friendly material and technology, the design and used process.

Second, the circulation based on the regeneration and the multi-function is drawn.

We can consider 'regenerative circularity' as being opposed to being remained after we use waste materials. And 'functional circularity' is based on the practicality, the rationality and the efficiency. This means that we can minimize the number of the product by having the ability to enhance the functionality is one the product is. The former appeared new materials made from recycled waste or design by the reuse of the product itself. Also the latter appeared to be functional product without losing the original function, through a design that can be continuously deformed.

Third, the social participation to raise issues and induce participations is appeared. Social participation is activities implied in the spirit of social responsibility presented by the designer and company. Consumers will practise protect, By purchasing products that contain the spirit. The behavior led to naturally the outbreak of donations. It is able to fulfil ethical behavior. Thus, in Design of Ethical Naturalism, we can understand considered the human rights issues between human and human, and the ecology ethics problems between

human and animal through this characteristic. It appears as such as consumer and corporate donations and the campaign slogan practices.

Fourth, the moderation for minimizing of dissipation is observed. We can see the value of moderation: Using Eco-friendly and sustainable materials, reducing the use of chemical materials such as ingredients harmful to human and minimizing the use of raw materials such as water as well as plants, animals etc. Since it is possible to minimize an adverse effect on the natural environment is value.

For the 21st century, the concept of ecology fashion has become more ethical concept. And whole life has been a leading environmental issues fashion. Natural materials as well as in an eco-friendly materials that came in beyond as a up-cycling even in manufacturing process and the environment. Environmentally friendly new materials, and use of techniques is shown for ethical practice. That can be explained by the moral consciousness reflected in the eco-friendly fashion naturalism.

Based on the above information, the possibility to apply the characteristics from the Ethical Naturalism Design to the Ethical Naturalism Fashion is verified through four characteristics.

First, the environment friendliness for minimizing pollution sources is used. The environment friendliness is shown based on eco-friendly materials and technologies that enable the minimization of pollution sources from production phases to disposal phases of the fashion. Eco-friendly materials raised purity, processes minimized dissipation of wastes, and resources saving attest this characteristic. Fashion in the collection line is by using organic and natural materials to minimize pollution and to have. Through this, everyone can lead the easy way to practice. Also, the fashion brands mainly try popularizing the use of natural materials, organic cotton and the reduced material chemical composition. When they use the water, the water is occurred pollution. So they try to reduce the pollution, through a processing method to conserve water. In processing method in other way was to minimize pollution by reducing the use of raw materials.

Second, the cycle based on reformation and reuse of materials is applied. The cycle is shown in the regeneration and the multi-function, enables to reuse materials in the disposal phase, and appears as disassembling and reconstructions of cloths. Also it shows new fashion items by conducting the up-cycling through the reuse of materials in the disposal phase. Collections in fashion are mainly using reorganization of the form through the upcycling fashion. Art and brand fashion reused the materials of the various fields. It appeared the creative fashion. Both are considered circularity.

Third, the social participation with suggestions and donation activities is considered. The social participation can be described as the activities that raise issues in societies and provide solutions, expressing the issues by fashion activities. These behavior are shown by the suggested orientation and donation for 'campaign for the protection of the environment and social dimensions', 'protection of animal rights' and 'protection of human rights'. Also donation activities are made under companies which propose suggestions and consumers who choose designers, which are done by interactions among participants related with the fashion.

Fourth, the moderation based on the simplified process and designs is applied. Unlike the environment friendliness aims at minimizing pollution causes in the process of production, the moderation was found from minimizing process of production. By designing items that can be converted to multiple uses, moderation refers to not only minimal design but also mental satisfaction from it. Therefore, moderation can be considered as an important attribute and mental value, which fashion overlooked, in the Ethical Naturalism. Simplification of the design process in moderation usually appeared cutting and sewing in step. Simplified of design is considered as timeless design, faithful to the basic design and excluded decor. Then transformable design is possible to reduce waste of materials, by the functional design and modular structure of materials. This can be called moderation.

As such it can be seen that affect the whole process of design, production, use and disposal of fashion Ethical Naturalism.

4. Conclusion

As studied in the content of the previous, Ethical naturalism design and Ethical naturalism fashion are similar. Because they have a concept of environmental protection based on ethical values. But Fashion differs from fields of design in distinct characteristics of direct relationship between the human and clothes. Ethical naturalism fashion trends have not disappeared. The people who live in this era and future must practice properly recognized and resolved constantly.

Therefore, this study has significance in revealing the characteristics and the trend of the Ethical Naturalism appearing in the fashion digital era, is expected to be used as effective information, providing great influences in establishing positive images on current fashion industry which hold consumption-driven image through the analysis on the Ethical Naturalism. Also this study will contribute to the development of future-oriented Ethical Design through the Ethical Design carrying a sense of social responsibility.

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Digitalization of the Costumes of the Yuanyang Yi and the Shilin Yi Minorities in Yunnan China

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1. Introduction

Mainland China is home to 56 different ethnic groups today. Among them, 55 ethnic groups except the Han are referred as ethnic minorities. The Hans account for 91.59% and the ethnic minorities 8.41% of the Chinese population.

Yunnan(云南省), the southwestern outskirts of China, houses the greatest variety of ethnic minorities in China. Thanks to their well-preserved cultural diversity, it is considered as home for ethnic minorities as well as a treasury of humanity and culture. Even today, a total of 26 different minority groups are living in this area with their unique traditional culture, displaying the culture and lifestyle of various ethnic minorities in China. Therefore, Yunnan is a well-preserved region of traditional culture and environment with great value in terms of humanity and cultural heritage.

Among the various ethnic minorities in Yunnan, there are approximately 100 branches of the Yi minority. The natural environment, lifestyle, culture, custom and economic system of each branch differ depending on the region, and these differences are also reflected in their costumes. Thus, the Yi costumes of each branch have distinctive features.

Regional differences are particularly prominent in the embroidery ornaments in women's garment. The handcrafts of minority groups, including ornaments, express the unique style of the habitation and these formative arts display the mental activities of the Yi. In particular, a variety of fancy flower-patterned embroidery ornaments are often found in their garments and accessories, and the delicacy of

their embroidery method is simply a masterpiece.

As much as the 100-plus Yi branches differ ethnically, they also show noticeable differences when it comes to costume style. The researchers aim to investigate the difference between the costume style of 2 different Yi branches, with women living in Yuanyang(元陽) and Shilin(石林); and to carry out a 3D simulation of the costumes.

2. Theoretical Background

1. Geographical Features of Yunnan

Located on the edges of southwest China, Yunnan shares borders with Tibet, Myanmar, Laos, Vietnam, and is also geographically close to Chiang Mai, Thailand. As a result, Yunnan functions as a hub for transportation and culture with frequent exchange with Southeast Asia. The frequent human and resource exchange due to geographical features have significant strategic value and influence the economy, trade, culture, and military of Southeast Asia.

Among China's 33 administrative provinces, Yunnan is the 8th largest-its size is four times larger than of South Korea and is even bigger than Japan-with a population of approximately 46million.

South west China, where Yunnan is located, is a subtropical region at the Tropic of Capricorn. With low latitude but high altitude, Yunnan has a very complex topography and unique climate. It has a geographical feature of a high plateau surrounded by valleys and mountains.

2. Characteristics of the Yunnan Yi Costume

The Yi(彝族) are a Chinese ethnic minority mainly spread across the provinces of Yunnan, Sichuan, Guizhou, and Guangxi. Among the 6.57million Yi people alive to this day, 4.05million of them currently reside in most of the cities and counties in Yunnan with a dense population in the areas of Ailao Mountain(哀勞山), Wumeng Mountain(烏蒙山), and Xiaoliang Mountain(小涼山).

Among the 26 ethnic minorities in Yunnan, the Yi are most widely spread across the region with various branches. As of today, there are more than 100 different types of costumes for women that differ depending on gender and age. The costumes are categorized by various purposes such as daily wear, weddings, funerals, ancestral rites, and festivals, and the expressional techniques are very unique.

The decorations on the garment use various handicraft techniques such as cross-stitch embroidery and dyeing so their dresses are extremely colorful. The four elements of the Yunnan ethnic minority costume are material, design, color, and pattern. Among these elements, patterns are widely used to decorate women's

dress in various ethnic groups in Yunnan. They are often found on hats, collars, shoulder pods, the lapel, sleeve rims, the edges, the crotches on trousers, and shoes where easily visible.

The Yi people praise the color black, so they often use fabric in colors of black, blue, and navy - this indicates the solemnity and courteousness of the Yi. These features imply its rich history, spirit, and art, and the traditional cultural feature of the Yi minorities can also be found in the black tigers, fire, and power that they praise.

There are great differences in the Yi costumes by region, but according to scholars studying the costume of the Chinese Yi, their traditional costumes can be classified into six different types: Daxiaoliang Mountain Style, Western Yunnan Style, Central Yunnan Style, South Eastern Yunnan Style, Eastern Yunnan Style, and North Western Yunnan Style.



Figure 1.
Central Yunnan
style



Figure2.



Figure 3.

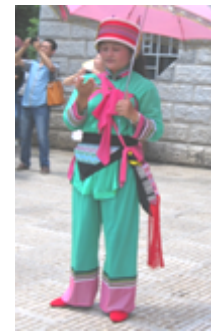


Figure 4.

Figures 1~4. The Shilin Yi Costume falls into the category of Central Yunnan Style, a fancy and colorful Sani Style. -Photo taken at the Shilin Global Geopark, Aug., 28, 2013.

3. Result

The researchers have conducted an actual study on the costumes of the ethnic minorities in the three provinces, Guangxi, Guizhou, and Yunnan in China, and the Yi women of Yuanyang and Shilin in Yunnan have been subjected for an in-depth study. Gathering information on the actual conditions of their costumes, the researchers conducted a comparison analysis. The following are the results of the study and analysis on how the Yi women wear their costume based on a field investigation in the two regions Yuanyang and Shilin of Yunnan in August 2013.

1. Analysis Results of Research Data on the Yi Costume in Yuanyang and Shilin

1) The Yuanyang Costume Style

Yuanyang is an administrative area at a similar level of the autonomous prefecture of Honghe Hani and Yi Autonomous Prefecture in Yunnan. Located in the northern region of the Honghe Hani and Yi Autonomous Prefecture(红河哈尼族彝族自治州), women's costumes of Yuanyang(元陽) are comprised of a long outer, short outer, sleeveless vest, trousers, hat, headscarf, waist belt, skirt with waist decoration, and ornaments. The shoulders, hems of the front side, sleeves and the edges of the coat are decorated with lace, band decorations, embroidery, and inlaid methods but relatively less decoration are found on trousers. The embroidery decorations are in patterns of geometrics as well as plants and animals such as flowers, birds, insects, and butterflies. The fascinating craftsmanship of these people can be witnessed in the artistic composition of the embroidery and applique decorations.

Outer Coat

There are two types of outers - a knee-length long outer with short sleeves and a short outer. The long outer with wide collars has large button decorations on the right side openings and the half sleeved outer is an A-line side vent style that comes to the knee or calves. While the front part does not have decorations at the rims of the lower edges, the backside is decorated with fancy embroidery on the edges of the rectangular fabric from under the arms. A long-sleeved-blouse with buttons on the right side is worn together. A knee-length half sleeved coat is worn as an outer on the blouse.

Trousers

Trousers are a semi-fitted straight-leg style all in the color blue with two wide horizontal stripes.

Broad Waist Belt with two wide diamond-shaped long-tailed decorations

When wearing long outers, these people put a belt around the back of their waist. The belt is either an exquisite silver ornament or a belt with wide diamond-shaped decorations delicately embroidered in white cashmere. This is a creative detail decoration of the dress for Yuanyang women(Figure 5, 6). Some older women the researchers met in the markets of Yuanyang wore waist-length sleeveless vests inlaid with silver beads (Figure 7). The decorations on the back differ when they wear shorter outers: they put a wide rectangular lace decorated skirt on their waist(Figure 8).



Figure 5.
Front side of a
Long Coat of
the Yuanyang
Yi

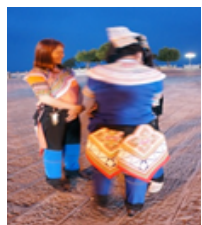


Figure 6.
Back side of a
Long Coat of
the Yuanyang
Yi



Figure 7.
A Vest of the
Yuanyang Yi



Figure 8.
Back side of
a Short Coat
of the
Yuanyang Yi



Figure 9.
Headdress of
the Yuanyang
Yi

The pictures in Figure 5~9 were taken in Yuanyang from August 23rd to 24th 2013.

2) The Shilin Yi Costume Style

Shilin Yi Autonomous County of Yunnan is located 80km from Kunming(昆明), the provincial capital. The population of Yi people residing in Shilin County is 78,835 as of 2009. Originally, Lunan refers to Yi Autonomous County and it was renamed to Shilin Yi Autonomous County in October 1998. However, Lunan still refers to the local residents in the area, being distinguished from Stone Forest. The main residents are the Sani people who are a branch of the Yi. As one of the most karstic areas in the world, Shilin was designated as a UNESCO world natural heritage in 2007. Since then, Shilin has become a well-known destination for world travelers so the Sani are the most widely known ethnic minorities in Yunnan. They used to engage in agriculture in the past but the development of tourism in the area lead the residents engage mostly in tourism today. Visitors can easily find the fancy Shaoshu Minzu style traditional costumes worn by the guides or merchants selling craftwork.

This style is mostly worn in Lunan, Qiubei, and Kunming area in Yunnan. Women's costume is complex with an outer coat, trousers, cape, waist belt, apron, and hat. Decorations are extremely fancy and diverse with white, blue, black, violet colored geometric patterns delicately embroidered in cross-stitch method. Young women prefer bright pastel colors while older women prefer black and blue.

Outer Coat

Women's coat for the Sani Yi is China-collar style with button decorations on the right side of the opening at a length that comes to the knee. The front cover part of the coat is lined with black fabric and it is decorated with plant patterns

and fancy colored band decorations around it. It has wide sleeves that put plant and geometric pattern embroidery and lace decorations over on the sleeve rims. Black and sky blue color fabric is used for decoration because these colors contrast to the base color of the coat(Figure 10)

Trousers

Trousers for female adults have wide legs and the hems are decorated with geometric patterns embroidered in cross-stitch method(Figure 11).

Cape

The triangular-shaped cape is put over the coat on the right shoulder and tied with a belt embroidered at the end(Figure 12). For keeping warm, women also wear a sheep-fur coat on the shoulder(Figure 13).

Apron

The apron is folded at the right side of the waistband and the strap decorations are very colorful with geometric pattern cross-stitches(Figure 14) Aprons for women come in various types and colors. They wear long coats and broad-legged long trousers, and put the apron around the waist, folding up the right side of the waist band. The triangular cape is placed on the right shoulder. The Sani Yi women utilize their first-class cross-stitch embroidery skills on bags, baby blankets and belt edges to add decorations with geometric patterns and images.



Figure 10.
A coat of
the Shilin Yi



Figure 11.
Trousers of
the Shilin Yi



Figure 12.
A Cape of the
Shilin Yi



Figure 13.
A Sheep-fur
Cape of the
Shilin Yi



Figure 14.
An Apron of
the Shilin Yi

The pictures in Figure 10~14 were taken in Shilin from August 28th2013.

2. 3D Clothing Virtual Simulation Results



For the 3D digitization of the costumes of the Yunnan ethnic minorities in China, the researchers conducted an actual study on the costumes worn by the Yi

minorities living in the Yuanyang and Shilin region.

Based on the analysis of how the Chinese Yi dress in Yuanyang and Shilin in the Yunnan province, the researchers selected the main costumes from each region and completed a pattern through the processes of using 2D pattern CAD to produce patterns for each items and fitting. The long outer coat, trousers, waist belt with two long tailed decorations of the Yuanyang Yi dressing and the long outer coat, trousers, cape, and apron of the Shilin Yi dressing were subject to this procedure.

Using the DC Suite 5.0, a 3D clothing simulation program developed by the Seoul National University Digital Clothing Center, the researchers then arranged the patterns of both the outer and bottoms, positioned the garment on the avatar, and ran the 3D fitting and draping simulation. After layering the decorations and appendages on top of the simulation, the researchers digitally reproduced the clothing production by expressing the embroidery and lace decorations and mapping the 3D effect and texture. The simulation results are shown in Table 1.

Table 1. DC Suite 5.0 Simulation Results of the Yi Costume of Yuanyang and Shilin

	YUANYANG	SHILIN
Outer + Bottom + Ornament + Waistband		

1) The Costume of Yuanyang Yi Minority

Items of the Yuanyang Yi minority costume are trousers, coat or gown, waist belt with diamond-shaped long-tailed decorations, hat, and shoes. Using the DC Suite program, the researchers digitized the Yuanyang Yi costume by running a simulation of the traditional patterns, embroidery decorations, and layered clothings.

The actual pattern for shoulder decorations was a single layer but the researchers separated the pattern into two, the back and front, for sewing because it did not

have a good simulation effect, The waist band and tail decorations on the buttocks were also a single connected pattern where the wide and long - tailed decorations are put together and draped over the buttocks. However, this also did not have good simulation effect. so the researchers attached the tail decorations to the waist band.

Since the width of the outer is wide, the inner layer would continuously fallout from the waist band even though the researchers gave a collision to each layer. This was the biggest technical challenge.

2) The Costume of Shilin Yi Minority

Items of the Shilin Yi minority costumes are trousers, coat or gown, apron, cape or shawl, hat, and shoes. Using the DC Suite program, the researchers digitized the Shilin Yi costume by running a simulation of the traditional patterns, embroidery decorations, and layered clothings.

On top of the basic costume of top and bottom, the researchers could add layered decoration that runs diagonally from the shoulders to the waist as well as the apron decoration which also functions as a waist belt. The costume was simulated in the actual way a Shilin Yi minority would wear them.

The researchers had some difficulty when simulating a hat on the head of the avatar. This was because there was a sphere-type collision around the head of the avatar. So when the hat was sewed to the head, it created friction with the collision, and sprang out instead of sitting on the head. Therefore, the simulation results were made by fixing the hat on one point.

4. Conclusion

The Yi women of Yuanyang and Shilin in the Yunnan Province have been subjected for an in-depth study. Gathering information on the actual conditions of their costumes, the researchers conducted a comparison analysis. With the results, the researchers ran a 3D digitization simulation using a DC Suite program, and concluded the following.

1. The Yi costumes of the two regions had differences in the type, color, design, composition of costumes and how the Yi people wore them. The images were also different accordingly. Basically, the Yi people of both regions wore simple trousers and a coat or gown as an outer, but the inner top and decorations used to decorate garments differed both in terms of type and design. For example, both branches had a basis of black trousers. However, there were differences in the type and decoration details on the trousers: the Yuanyang Yi wore semi-fitted trousers that had two horizontal stripes in blue patches, while the Shilin Yi wore wide-legged trousers with embroidery decorations.

2. However, the most distinctive feature that distinguished the appearance of the two Yi branches was the decoration on the very outer. The Yuanyang Yi people wore coats or gowns with front openings that have collars with wide embroidery decorations. The two diamond-shaped ornaments on the back of the waist belt that drape over the buttocks are the distinctive feature of the Yuanyang costume. On the other hand, the Shilin Yi people wore coats or gowns as outers that have wide embroidery decorations on the sleeves. Aprons with relatively complex and fancy embroidery and strip-type capes with colorful embroidery that fall short in the front and long in the back, are the key elements of the Shilin Yi costume. They are the key points that illustrate the unique costumes of each Yi branch. Moreover, the Yuanyang Yi pulls the front part of their outer to the left so that the inner wear shows. This is another distinctive element of the Yuanyang Yi costume.

3. Fancy and delicate embroidery are the common features of the costumes of the Yi women in both regions. The women embroider fancy decorations on the edges of the garment, such as collars by the neck, hems on sleeves, and the lower ends of the garment. The sophisticated embroidery techniques or handicraft skills such as silver and bead decorations used in shoes, hats, and head scarfs worn with costumes embroidered in colorful and fancy patterns are a method of expressing their unique custom of their habitation. These formative arts show the unique spirit and culture of the Yi people. In particular, the diamond-shaped detail embroidery decoration that drapes over the buttocks of the Yuanyang Yi people, and the colorful embroidery decorations on the aprons and capes of the Shilin Yi people further adds on to the formative features of the their costumes.

4. The costume styles of the two regions are the results of the sense of community in each region, adapting to various environments and handing down the traditional culture of diversification. In other words, it represents the rich and diverse costumes of the Yunnan ethnic minorities.

The Yi costumes of the two regions are a sum of natural materials from nature, the humbleness of fabric craft weaving, brilliant colors and sophisticated patterns, handicraft decoration methods such as delicate and fancy embroidery and silver and bead decorations, simple costume style or unique traditional design for ornaments. In other words, they are a smaller living edition of not only the ethnic minorities in Yunnan but the history of the costume of humanity.

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A Study on comparing evaluation of external appearance between real and 3D simulation of flare skirt

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1. Purpose of study

Cases of buying clothing on internet shopping malls increased recently, and the importance of 3D simulation that can design clothes to fit an individual's body shape and sentiments in the virtual realm has grown larger.

Therefore this study can, by comparing the 3D simulation clothing with real clothing centered on flared skirts of women's clothing which shows diverse form depending on the body's gait and motion, find its problems and by suggesting methods of its use, suggest the possibility of utilizing the 3D simulation in the clothing industry.

2. Method of Study

1. Size: The measurements used in this study are based on 'the 6th Korean body measurements survey' targeting women in their 20s with the most ideal body types.

2. Design: The design selected for this study is the flare skirt, using four types (90°, 180°, 270°, 360°) of flare volume for visual assessment, and the skirt lengths were produced in 3 types 46cm, 56cm, 66cm, which are plus and minus 10cm of 56cm that comes from the waist length(97.4cm) of women in their 20s from 'the 6th Korean body measurements survey' minus the knee height(41.4cm).

3. Material: The material used in this study is 100% cotton muslin.

4. Method of Patternmaking: Methods of drafting flare skirts include, method of cutting and drafting the width of semi-tight skirts, method of using planar figures of a truncated cone, or using circular arcs. This study drafted patterns by method of using circular arcs. Grain line was placed on a bias that shows the most beautiful appearance of the flare skirt.

5. Program: For this study, DC Suite 5.0 program from the Seoul National

University Digital clothing center was used.

6. Evaluation scales: The items for the evaluation to compare real garments with 3D simulation garments on the flared skirt's external appearance, which is dependent on flare volume and skirt length, were chosen based on previous studies. Two categories, External appearance evaluation and evaluation of comparison of the real and virtual, each with 10 questions to make a total of 20 questions were selected on a scale to 5 for the evaluators to assess. 1 point is given on the left end side, and 5 points for the right end.

7. Data Analysis: In this study, data analysis was statistically analyzed through the SPSS 18.0 program.

3. Results

Therefore the results to the study which, by comparing the 3D simulation clothing with real clothing centered on flared skirts of women's clothing which shows diverse form depending on the body's gait and motion, find its problems and by suggesting methods of its use, suggest the possibility of utilizing the 3D simulation in the clothing industry, are as follows.

First, the 3D simulation of flare skirts according to flare length and real fitting showed similar forms of appearance but whereas virtually the drape shape formed in even size and spacing, it was not even in reality.

Second, according to the results of appearance test on the angle of the skirt and length, at 90° and 180° both real and 3D simulation skirts were evaluated to have outstanding appearances without relations to skirt length. However as the angle increased, in other words as the flares in the skirt increased, it was evaluated that skirts with longer length had superior appearances than short length skirts. Especially in case of real skirts, those with a 66cm length in 360° had the most superior appearance. That is, as the angle grew smaller in skirts of 46cm, 56cm length and larger in the 66cm length skirts the better the appearance was, showing difference.

Third, according to the results of comparison between real and virtual skirts, in 90° flare skirts 46cm and 56cm, in 180° skirts 46cm, and 66cm in 270° and 360° skirts showed similar appearances, 66cm in 90°, 56cm and 66cm in 180°, and 46cm, 56cm in 270° and 360° lacked similarity. That is, with less flare on skirts the skirts showed resemblance in reality and the virtual as the skirt length shortened but showed difference in the fact that as the skirt angle increased and skirt length grew longer, reality resembled the virtual.

4. Conclusion

Length and angle and the physical properties of material is predicted to show change but usually shows similar forms virtually so it is believed not to be impossible to predict the design's silhouette or the feel when it is worn, and with the application of the those such as internet shopping malls we can possibly reduce unnecessary time spent and save cost. As for limitations on this study, is that the experimental materials are limited to 100% woven cotton 1grade so there is restriction in generalizing the test results, also I reveal the fact that while using the DC suite program there was a problem where the clothes came off the body in simulation as the skirt width and length increased and showed some difference to automatic simulation where the user randomly fixes the clothes. Therefore, we will be able to increase application of the 3D virtual system by comparing real fitting to virtual fitting in a variety of groups and fibers in follow-up studies.

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Makeup Design and the Application of Facial Avatar Makeup Simulation

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1. Introduction

Fusion is an important principle to explain the development of culture. Many methods have been developed to take advantage of technology, discovering its potential value. The application of makeup is not simply a means to express beauty; it is a way of representing various aesthetic values. Visual media have evolved to increasingly integrate computer graphics (CG), incorporating a variety of fields. The purpose of this study is to design appropriate digital tools for the production of makeup designs. The aim is to deliver more effective visual representations of the contents of the elements such as balance, proportion, rhythm, repetition, emphasis, contrast, harmony, and unity, using art makeup design. In this study, I was study use program the Electronics and Telecommunications Research Institute developed this is a three-dimensional facial avatar simulation program, which is available should you wish to use this tool.

2. Research Methods

This study is based on the creation of three-dimensional CG digital facial avatar makeup art, produced using simulation technology. Art makeup, such as face painting, body painting, and fantasy makeup, is a combination of the practical and artistic aspects of fine art makeup. Digital: step through the production process on the study; use the 3D CG Software deliverables.

The Electronics and Telecommunications Research Institute(ETRI) developed a three-dimensional facial avatar makeup simulation program Software that generates

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a high-definition three-dimensional model using DSLR restoration technology. The camera identifies three lighting aspects: UV rays, polarization, and general lighting. An Internet-based literature search of research methods was conducted in order to establish a work plan. First, the actual application and the tools for digital-optimization and media features were created, leading the research and cleanup. Second, the theoretical background was applied to the formative elements of Oriental colors in the design process.

3. Results and Discussion

Makeup design elements include point, line, surface, color, and texture. In this study, effective makeup design was interpreted as being based on the representation of particular elements, notably the design principles of balance, proportion, rhythm, repetition, emphasis, contrast, harmony, and unity. In Asia, design is based on the visibility of red, blue, black, yellow, and white—the colors of the five elements—and the use of points, lines, and shapes.

4. Conclusion and Suggestions

CG three-dimensional simulations that use avatar character facial makeup to take advantage of media-based art makeup design is very new. I believe that evaluations and demonstrations the appropriateness of such a novelty approach for the medium is well worth researching, in order to increase the appeal of the medium. This study was recently under scrutiny in relations to digital simulation and various three-dimensional designs, in terms of how to take advantage of a wide range of applications, and how to apply the findings through media and the dissemination of basic research. This study applies the characteristics of the limited existing stereoscopic three-dimensional and digital simulation programs in order to take advantage of the empirical research, providing a basis to implement this research in a meaningful way. A follow-up study is needed to extend these findings and theoretical foundation through continuous observation and in-depth technical development and research. In addition, a variety of digital content creation applications and proposals for specific studies will need to be developed.

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A study on real-time 3D rendering of various leathers in DC Suite 5.0

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1. Purpose of Study

Today, a new system called digital clothing is widely used by the clothing industry. Various factors need to be taken into consideration in order to produce more realistic results, the most important of which is the realistic representation of the quality of the material.

In the past, 3D animation rendering programs like V-Ray and Maxwell were used to create realistic looking images of clothing items. But using these programs to produce 3D digital clothing was inconvenient, as it was complicated and took much time. In comparison, DC Suite 5.0, a 3D apparel CAD program released recently, allows the user to apply textiles and textures and adjust shaders in a convenient way, with real-time 3D rendering running.

Among various studies on 3D digital clothing today, studies on materials are centered on representation of physical property and weave structure in 3D digital clothing CAD programs (Kim, 2009¹⁾; Lee, 2013²⁾; Roh, 2010³⁾). The great diversity of fashion materials requires 3D digital clothing programs to produce representations of varying fabrics, from textile fabrics composed of yarns or fibers to natural materials like leather. Leather is the first clothing material of the humankind, now a highly important material that meets the aesthetic desires for strong self-expression among consumers.(Kim, 2011⁴⁾) There are various types of leather from the most popular cowhide to skin from birds and shellfish, and they have different textures and varying degrees of gloss. This study seeks to analyze the different characteristics of surface structures of varying leather types. At the same time, it explores the possibilities of producing realistic representations of leather material by using real-time 3D rendering technology of DC Suite 5.0.

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2. Methodology

This study deals with five types of real leather with different structures as test materials. Patent cow leather, ostrich leather, crocodile leather, salmon leather and wild pig leather were selected.

1. First, researchers analyze the surface structure of each leather sample by taking 3D photographs.

2. Next, researchers attempt to see how the degree of gloss varies according to the angle of light through a macro lens of image acquisition/analysis system. Researchers take pictures of the surface of each leather sample using the lens, as the incident light beam is directed onto the test surface at angles of 0°, 15°, 30°, 45° respectively in a darkroom. Using image J, an image analysis program, researchers measure the brightness of the 1 cm square at the center of each photograph. Based on the results, they analyze how much the brightness of each leather sample varies according to the angle of incidence.

3. Based on the analysis, researchers produce virtual fabrics of each leather type. By utilizing the real-time 3D rendering function DC Suite 5.0 offers, representations of each leather type are produced.

3. Results and Discussion

1. 3D photographs of the five leather types (patent cow leather, ostrich leather, crocodile leather, salmon leather and wild pig leather) revealed differences in surface structures. While the surfaces of patent cow leather and wild pig leather looked smooth to the naked eye, 3D photographs showed the shadows cast by the fine wrinkles. Such quality should be taken into account in producing 3D representations.

2. Pictures were taken with the help of a goniometric optical system, as the incident light beam was directed onto the surface of each leather type at angles of 0°, 15°, 30°, 45° respectively in a darkroom. The brightness of the square centimeter at the center of each photograph was analyzed using image J. The results revealed that the average brightness of all five test materials was the highest when the angle of incidence was 0°, and the lowest when it was 45°. The degree of brightness varied according to test material.

3. Virtual representations of the five leather types were produced by real-time 3D rendering technology of DC Suite 5.0. Salmon leather yielded the most realistic representation.

4. Conclusion

Observations of the surface of five different types of leather using 3D scanning

technology, goniometric system with an image analysis system, and attempts to produce reality-like representations using improved DC Suite 5.0 led to the following conclusion.

First, we found that DC Suite 5.0 allowed a very quick simulation of virtual fabrics sized 50 cm x 50 cm and convenient rendering by editing textiles and adjusting shaders real-time. Users can easily customize and produce diverse materials including leather, using the basic shader sources provided in DC Suite 5.0. Since the current research achievement is rather limited within the real-time 3D rendering method based on bump mapping in order to meet the needs to balance visual quality improvement and execution speed, due to the inherent limitations of 2D images, further in-depth study based on the perfect three-dimensional representation of the actual material would be necessary.

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Rapid Pattern Making in Digital Fashion Design

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Abstract: *Pattern making is an important step in fashion design, is indispensable in digital fashion design. Exact patterns form the basis for apparel sewing, and even virtual fitting. This study focuses on efficient and accurate pattern making using CAD technology. With the parameterized design method, a series of flexible pattern CAD models are set up, such as models for pants, one piece, suits and coats, which further include bodice models, collar models, sleeve models and details models. Based on our experiments of parametric variation and the style change in 2D and 3D CAD systems, we conclude that the models greatly improve the efficiency of the pattern making process.*

Key words : Rapid Pattern Making, Pattern Making CAD, Virtual Fitting, Digital Fashion Design

1. Background

1.1 Pattern Making

The fashion design process involves a series of steps including designing, planning, production, and distribution of the finished product. The general fashion design process is shown in Figure 1-1:

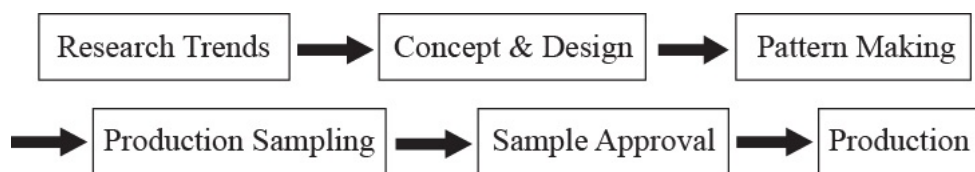


Figure 1-1 General Fashion Design Process

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Pattern making is a bridge step between design and production. A design sketch can be realized on a garment via patterns. These patterns are reflected on the garment in the form of garment components. Pattern making involves the flat pattern making method and the draping method. In the flat pattern making method, patterns are made using altered pattern pieces; the pattern pieces are altered using geometric rules. The flat pattern making method is widely used in the ready-to-wear market because it is fast and accurate. However, the advantage of draping over flat pattern making, is that the designer can see the overall design effect of the finished garment on a body form before the garment piece is cut and sewn.

1.2 CAD in Digital Fashion Design

The development of computer technology has promoted the extensive use of CAD (Computer Aided Design) systems in the apparel industry. For fast and accurate production in the fashion design process, 2D pattern CAD, 3D body scan technology, and 3D virtual fitting systems are being proving to be particularly useful.

Using 2D pattern CAD, the pattern maker can design patterns on a computer. Real flat patterns or draping patterns can be imported into the system and be generated. In addition, the pattern maker can create and modify patterns with its featured tools. Through grading and alteration rules, 2D pattern CAD can assist with grading patterns for different sizes.

In recent years, 3D body scanning is a technology that has become an interesting area for research and development in the apparel industry, and a few systems based on it are already commercially available. The 3D body scanning system utilizes high-sensitivity optical devices and technologies to rapidly acquire the surface data of a body and provide accurate body measurements. Moreover, from the scanned data, a body form can be constructed and used as a fitting avatar for a 3D Virtual fitting system. 3D body scanning systems are expected to set new standards and to assist in realizing size based pattern design and pattern grading in apparel industry.

3D virtual fitting technology has rapidly advanced in recent years, enabling its use in computer graphics applications. For instance, in the case of computer games, online virtual environments, and online shopping applications, this technology seeks to create a visually realistic rendering of a garment on a 3D body avatar. In the apparel industry, 3D virtual fitting technology uses the actual 2D garment pattern to generate the 3D shape and applies physics models to simulate the drape of the garment on a specific body. The key techniques of the

3D virtual CAD system include 3D human body measurement and modeling, 3D garment design on digital human models, 3D draping simulation, and 2D pattern generation from a 3D space. The primary advantage of 3D virtual fitting technology with regard to the apparel industry is that, it is expected to reduce production costs and time-to-market of apparels.

1.3 General Pattern Making in CAD

Patterns are essential in the product development and prototype process. CAD systems are mainly used in various processes such as pattern making, grading of pattern, and marker making. The general pattern making process in CAD systems involve the following steps:

1. A computerized pattern design is created based on the traditional patterner's principles to allow automatic pattern generation.
2. Basic blocks can be "digitized" or "scanned" into a patternmaking CAD system, which can be the basis of all other styles to be created.
3. Pattern Grading, which involves the increase or decrease of the dimensions and proportions of a pattern at specific points according to grade rules and garment specifications, is carried out.
4. Graded patterns are used to create markers, which are guides for cutting.

In market plotting, all the pattern pieces needed to create the garments designated for production are laid out in a way that conserves the most amount of fabric.

1.4 Rapid Pattern Making in CAD

1.4.1 Method

For efficient and accurate pattern making using CAD technology, this study proposes a rapid pattern making system. With a parameterized design method, flexible pattern CAD models are set up. The rapid pattern making process in the CAD system is shown in Figure 1-2.

1.4.2 Definition of Garment CAD Flexible Model and Parametric Design

A flexible model is a model that is capable of accommodating changes and variations in requirements and conditions, while ensuring an objective simulation that can serve as a representation of real world subjects, processes, and systems. The most distinct characteristic of a flexible model is its capacity to remain flexible and adjustable for various situations.

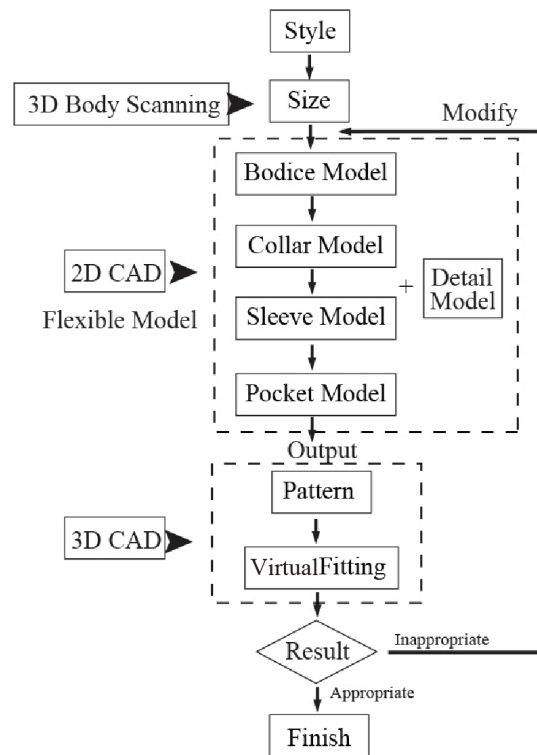


Figure 1-2 Rapid Pattern Making Process in CAD

Garment CAD Flexible model is built for garment CAD systems, with the aim of automatic realization of integrated garment structure model through parameter adjustments, such as collar model, sleeve model, and bodice model. The parameter adjustments are not only compatible with single model application variations but also for those of a combined model.

To build the garment CAD flexible model, a parametric design is crucial. The parametric design of the garment pattern is constrained by a set of parameters and a set of sequence size structure of garment patterns, because there exists some correlation between the parameters and the pattern's size control. When the parameters are given different values, the original pattern can be to generate a new pattern. Parameter modification will lead to a comprehensive update of other relevant data.

1.4.3 The Flexible Model Classification and Statistics Table

Through parametric design of each part of the female garment, rapid changes to the flexible model for different sizes can be achieved by changing parameter values. The complete flexible model classification is shown in Table 1-1.

Table 1-1 The Flexible Model Classification and Statistics Table

Item Style Categories	Garment Module	Flexible Model				
Pants	Pants Body	Body A	Body B			
	Waistband	Low Waist-Pants Body A	Low Waist-Pants Body B	High Waist-Pants Body A	High Waist-Pants Body B	Middle Waist
	Extra Parts	Yoke-Pants Body A	Yoke-Pants Body B	Fly		
	Pocket	Insert Pocket-Straight Pocket	Insert Pocket-Slant Pocket	Welt Pocket-Single	Welt Pocket-Double	
		Patch Pocket-Sharp Symmetry	Patch Pocket-Sharp Asymmetry	Patch Pocket-Rounded Symmetry	J shaped Pocket	Extra Parts-Flap
Qipao	Bodice	Bodice				
	Collar	Round Stand Collar	Square Stand Collar	Vertical Symmetry Water Drops Collar	Vertical Asymmetry Water Drops Collar	
		V shaped Convertible Collar	U shaped Convertible Collar			
	Sleeve	Normal-Straight-One piece Half Sleeve	Normal-Straight-One piece Long Sleeve	Normal-Curved-One piece Half Sleeve-Elbow Dart	Normal-Curved-One piece Long Sleeve-Elbow Dart	Normal-Curved-One piece Long Sleeve-Wrist Dart
		Cap Sleeve	Cut out Shoulder Sleeve			
	Placket	Slant Rounded Placket	Slant Double Rounded Placket	Slant Rounded Placket - Side-mounted button	Slant Rounded Placket - Side-mounted button Zipper	
		Slant Over Wrapping Placket	Slant Rhombic Placket			
Coat	Bodice	A Shaped Bodice	H&O Shaped Bodice	X Shaped - Single Dart	Big X Shaped-Armhole split	
		Small X Shaped-Armhole split	Big X Shaped-Shoulder Split	Small X Shaped-Shoulder Split		
	Collar	Regular Notch Collar	Peaked Notch Collar	Back Neck Facing		
	Sleeve	Normal-One piece Straight Sleeve	Normal-Two Piece Curved Sleeve	Normal-One piece Curved Sleeve-Wrist Dart	Normal-One piece Curved Sleeve-Elbow Dart	

Table 1-1 continued

Style Categories	Item	Garment Module	Flexible Model			
Suite	Bodice	H Shaped - Two Parts Bodice	X Shaped -Three Parts Bodice-Armhole Split	X Shaped -Three Parts Bodice-Armhole Split +L Type	X Shaped -Four Parts Bodice-Shoulder Split	
		X Shaped-Four Parts Bodice-Armhole Split +L Type	X Shaped-Four Parts Bodice-Armhole Split	X Shaped-Four Parts Bodice-Armhole Split +Dart		
	Collar	Regular Notch Collar	Shawl Collar	Peaked Notch Collar Modeling	Peaked Notch Collar	
		Single Stand Collar	Back Neck Facing			
	Sleeve	Normal-One piece Curved Sleeve -Elbow Dart	Normal-One piece Curved Sleeve -Wrist Dart	Raglan sleeve, Kimono Sleeve Type	Normal-Two Piece Curved Sleeve	Extra Parts-Sleeve Placket
	Pocket	Single Welt Pocket-No Flap	Single Welt Pocket-Flap	Double Welt Pocket-No Flap	Double Welt Pocket-Flap	
Dress	Bodice	Small X type-One piece-Armhole Split	Small X Type-One piece-Shoulder Split	Large X type-One piece-Armhole Split	Large X Type-One piece-Shoulder Split	
		X Type-One piece-Dart	A Type-One piece-Dart	H&O Type-One piece-Dart	X Type-Top of Two Piece-Dart	
		X Type-Top of Two Piece-Dart-Armhole Split	X Type-Top of Two Piece-Dart-Shoulder Split	H Type-Bottom Skirt of Two Piece-Dart	A Type-Bottom Skirt of Two Piece-Flare	
	Collar	Stand Collar	Turn Stand Collar	Turn Down Collar		
	Sleeve	Normal-Double Curved Sleeve	Normal-One piece Straight Sleeve	Sleeveless-Shoulder Cut out		
	Extra parts	Collar Facing	Placket	Off shoulder Collar Facing	Wrist Cuff	
Raglan	Sleeve	Raglan Sleeve				

2. Experiment

2.1 Experiment Design

The bodice flexible model acts as a base, on which the collar flexible model, the sleeve and the pocket flexible model, and all other parts of the flexible model are selected and combined together to make a pattern for a female coat. Pattern making for a female coat was conducted considering an experimental body sample. Through 3D virtual fitting, the rationality of patterns was verified. The test sample of the human body is selected and the sample test of the flexible model combination is conducted. Using a manual measuring method, the subject is measured. The body sample information is shown in Table 2-1. All measured data are imported to the avatar of the DC-Suite 5.0 software. Using the style and the selected sample body size, the crossover experiment is performed. The experimental design is shown in Table 2-2 below.

Table 2-1 The Body Measurement (unit:cm)

Sample NO.	Height/Bust	Weight	Bust Width	Back Width	Bust Girth	Waist Girth	Hip Girth	Thigh Girth
		58	32	37	93	75	96	55
Y11	172/93	Knee Girth	Calf Girth	Shoulder Width	Arm Length	Elbow Length	Bicep	Waist to Hip
		35.5	33	40.5	57	31	27	19

Table 2-2 Experimental Design of The Flexible Model

Body NO.	Flexible Model			
	Bodice	Collar	Sleeve	Pocket
Y11	X Shaped -Single Dart	Regular Notched Collar	Normal curved Sleeve -Two Piece sleeve	Double Welt - Pocket Flap

2.2 Flexible Model Combination

The female coat flexible model contains the bodice flexible model, the collar, the sleeve, and the pocket flexible models. The female coat design, according to the rules of the flexible model invocation, is described in detail, as shown in Tables 2-3 and 2-4.

Table 2-3 Details of the Female Coat

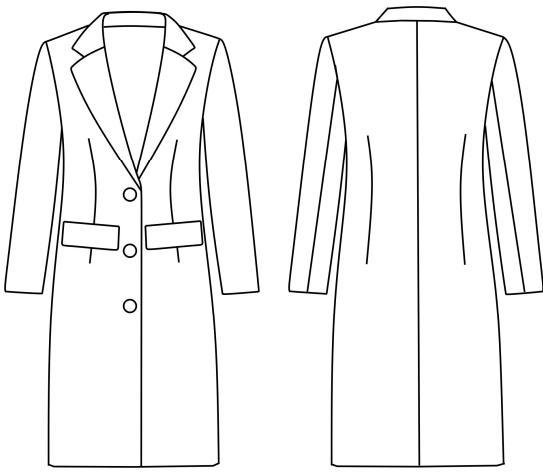
Style Diagram	Size(cm)	
	Bust	88
	Height	165
	Length	98
	Clothing Bust	100
	Clothing Waist	88
	Clothing Hip	104
	Waist and Hip Height	18
	Shoulder Width Variation	-1
	Position of Waist line	-1
	Armhole Depth Variation	+1
	Placket Width	3.5
	Back Collar Straight Opening	0.2
	Front Collar Straight Opening	1.5
	Horizontal Opening	1
	Back Collar Height	4.5
	Back Panel Width	6
	Clothing Sleeve Length	58
	Bicep 1/2	17
	Cuff 1/2	12.5
	Pocket Width	14

Table 2-4 Process of the Flexible Model Combination

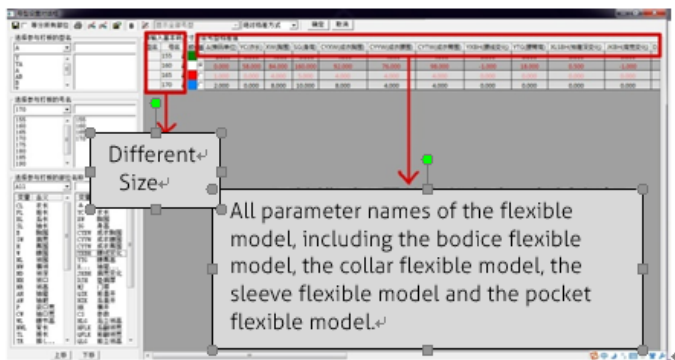
The process	Describe
1 .Import the size table and modify.	 <p>Different Size</p> <p>All parameter names of the flexible model, including the bodice flexible model, the collar flexible model, the sleeve flexible model and the pocket flexible model.</p> <p>In the Modasoft12.11.1 Pattern management platform, click new file and open the size table. According to the size design, modify the parameter values.</p>

Table 2-4 continued

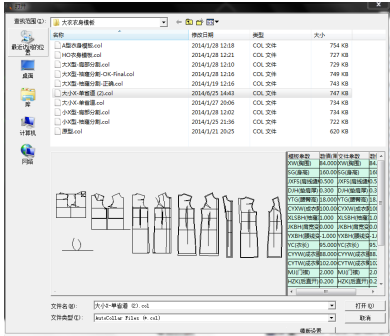
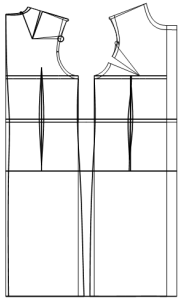
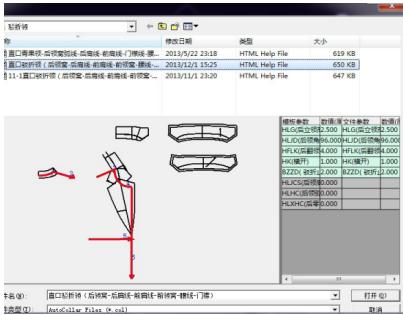
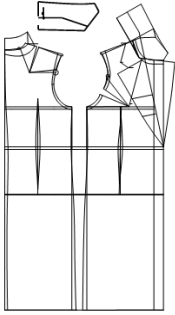
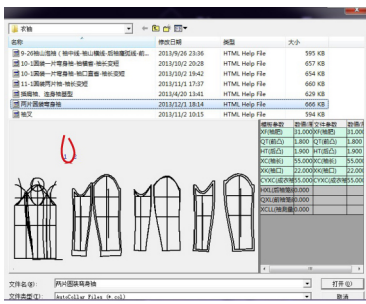
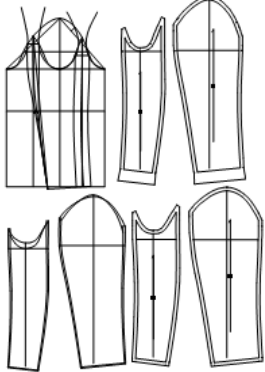
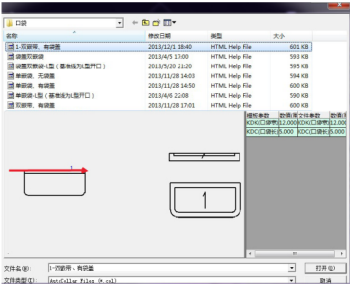
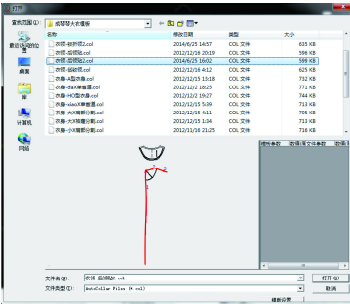
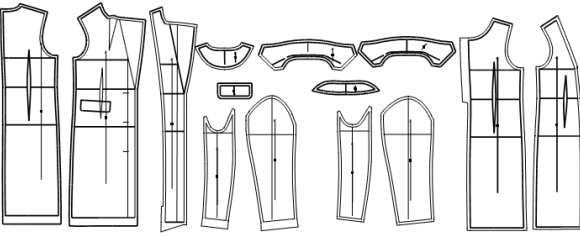
The process	Describe
2. Import the Bodice Flexible Model.	  <p>Press shortcut key CTRL+M and open the template window. Select X Shaped-Single dart bodice and click. Enter the bodice flexible model.</p>
3. Import the Collar Flexible Model.	  <p>After finishing the bodice pattern making, import the collar flexible model. Press shortcut key CTRL+M and open the template window. Select the regular notch collar flexible model. Following the icon baseline, import the regular notch collar flexible model.</p>
4. Import the Sleeve Flexible Model.	  <p>After finishing the collar pattern making, import the sleeve flexible model. Press shortcut key CTRL+M and, open the template window. Select the normal sleeve-curved sleeve-two piece sleeve flexible model. Following the icon baseline, import the sleeve flexible model. Add the armhole curve alignment mark.</p>

Table 2-4 continued

The process	Describe
5. Import the Pocket Flexible Model.	 <p>After finishing the sleeve pattern making, import the pocket flexible model. Press shortcut key CTRL+M and open the template window. Select the double welt pocket-flap pocket flexible model. Following the icon baseline, import the pocket sleeve flexible model.</p>
6. Import the Back Neck Facing Flexible Model.	 <p>Import the back neck facing flexible model. Select the back neck facing baseline.</p>
7. Detail design	 <p>To modify the shape of the front panel, take out the front panel. Draw the side and lining panel. Cut the regular notch collar, modify the shape of the regular notch collar, modify the size of the seam line, add buttons, and finish the pattern making.</p>

2.3 Result

For the 3D virtual fitting and real fitting experiment, the same body measurements are selected. Then, sample clothing is produced. The size of the sample clothing, the panel pictures, the flow of the automatic pattern making, the 3D virtual fitting pictures, and detailed information are shown in Table 3 -5.

Table 3-5 Result of the Compose Experiment

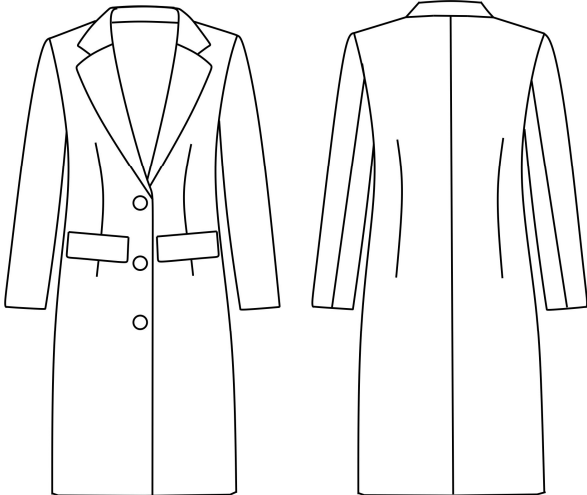
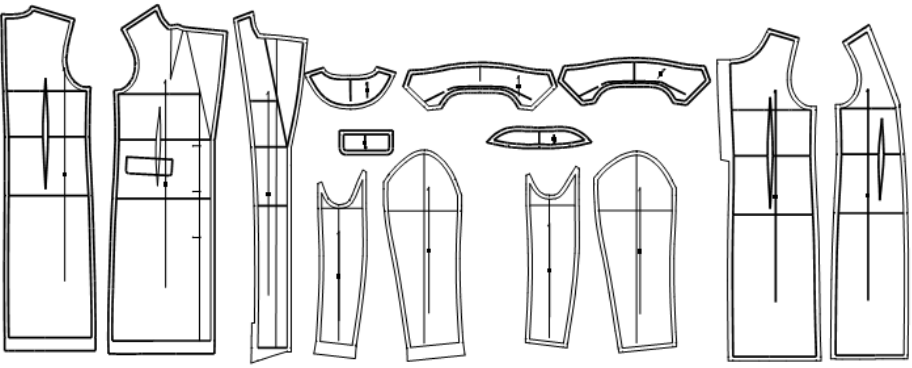



Experimental running time : 30 min	
Style Diagram	The Combination Process
	<div>Bodice Model X Shaped - Single Dart</div>
	↓
	<div>Collar Model Regular Notch Collar</div>
	↓
	<div>Sleeve Model Normal Curved Sleeve Two Pieee Sleeve</div>
	↓
	<div>Pocket Model Double Welt-Flap</div>
↓	
<div>add Button</div>	
Panel Result	
	

Table 3-5 continued

Virtual Fitting Pictures			Virtual Fitting Result
			The Virtual fitting result is good.
Conclusion	The flexible model combination was run correctly, and the result of the pattern making was good.		

4 Conclusion and Future Work

Understanding how the latest CAD technology is applied to the structural design makes significance of the study and selection of CAD technology - 2D CAD for rapid pattern generation technology and 3D virtual fitting technology, evident as a means to establish a parameterized model.

The accuracy of pattern making was tested with the combined experiments of model combination and 3D virtual fitting. These two experiments demonstrated the applicability and efficiency of our proposed model.

By following our proposed steps, the variable garment CAD flexible model established in our study cover a large number of flexible model styles, which can have better quality patterns. By importing and adjusting these models, the garment structural design can be rapidly achieved and the efficiency of pattern making is greatly improved.

Thus, our study based on the new garment CAD technology, establish a garment CAD flexible model. Future studies on the garment CAD flexible model can continue as follows:

1. Enriching the garment CAD flexible models: For building more commonly used body, collar, sleeves, and extra part models. Further study can be conducted to build other garment CAD flexible models.

2. Building garment CAD flexible models for special body types : the establishment of flexible models for special body types that can meet a higher degree of customization requirements and thereby realize the objective of scientific, high-tech, and automated tailoring.

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Study on the methods for reproduction of Supplementary Components

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1. Purpose of Study

There have been significant improvements in the digital clothing technology (i.e., the technology to reproduce clothes on the computer) over the past decade. Digital clothing, i.e., the garments created with that technology, is getting attention as a means to realize virtual fitting, mass customization, etc.

So far, the digital clothing technology has more or less focused on the principal parts of the clothing. For DC to be used to a practically significant level, the authors note that, the clothing supplies need to be able to create the supplementary components including buttons, zippers, elastic bands/strings, pockets, belts, patches, ornamental stitches, ornamental attachments so that the consumers can see those elements in judging the garment.

This paper investigates how those elements can be added in the current DCT, without calling for any significant work in the garment construction or simulation.

2. Methodology

There are two different philosophies for the Digital Clothing technology, namely, the principalism and the pragmatism. Principalism is the way of thinking that what DCT does should work in the same way as the real clothing production works. On the other hand, Pragmatism is the way of thinking that what DCT does may not work in the same way as the real clothing production works. Under the pragmatism, the panels used in the draping simulation do not need to be identical to the ones used for actual manufacturing. For example, in constructing/simulating pants, one can use panels that do not include the margin for the cuff. Instead, that margin can be added in the manufacturing phase. Our

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investigation is based on the pragmatism, which implies that the supplementary components created in this paper may be (1) look-only or (2) different from actual manufacturing.

For the visualization of a supplementary component, under pragmatism, this paper proposes that we can take one of the following three options:

- Direct Visualization: The supplementary component is visualized as the fabric is conventionally visualized. For example, the patch pocket in a shirt can be directly visualized.

- Omission: When the pants have a continental pocket, one can decide to omit the visualization of the interior parts.

- Visualization Only: The supplementary component can be shown without having the actual object included. For example, the lip pocket can be visualized without making a cut to the principal panel, but instead mapping a sprite onto a thin rectangular panel. A sprite is an image (which can have transparent portion) that is mapped on the flat surface to give an impression of a 3D object. Similarly, a buttonhole can be visualized without having a hole.

Subsequent sections of this paper will present how the supplementary components that frequently occur in the real clothing can be created elements .

For each component, we will explain two parts:

- Construction and Simulation: explains how the pattern-making, garment construction, and simulation can do for the creation of the supplementary component.

- Visualization: explains how the visualization can be done to visually emulate the effect.

3. Results and Discussion

Some might think the proposed investigation under pragmatism has less practical value. But the authors find it contrary. Creating the supplementary components under principalism is often impossible with the current DCT. Even for the cases the DCT accommodate, creation of the components can involve a significant amount of work, which significantly limits the freedom of design. We note that the pragmatism and manufacturing can work in harmony. It takes out burdensome components in the draping simulation phase, to expedite the design and decision making processes. When a design is decided, then the manufacturing-purpose pattern making can follow. To the best of our knowledge, there has not been any article yet that (1) focuses on the supplementary components in the digital clothing, and (2) proposes practical approaches that can circumvent the limitation of the current DCT.

4. Conclusion

Under pragmatism, we experimented creating other supplementary components, which could be done with a minimal effort. We proposed a way to simply add supplementary components to digitally created garments. It is very easy, but visually enough for the conceiving the design and judging the garment.

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Simulation of Historical Costume

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1. Purpose of Study

Technological advances have brought about innovative changes in the world of fashion. Most promisingly, the 3D apparel CAD, which integrates 3D computer graphic technology into the pattern CAD system, has attracted attention for its reputation as an outstanding application. It is expected that use of this technology could reduce the time and costs in the design process through virtual simulation. Besides, the technology behind 3D apparel CAD has been used in many ways; fashion brands which offer personalized commodities by applying virtual avatars and garments, and individual designers presenting virtual fashions shows are notable examples. Additionally, the scope and possibility of this technology are expected to increase.

In light of this promising development, this study tries to investigate the potential applications of digital clothing technology, and expand the boundaries of its practical use. Specifically, the study aims to create accurate digital duplicates of costumes from historical sources and to explore the possibility of developing them as online museum exhibits. This paper reports on a pilot exercise conducted to identify the prerequisites for further progress.

2. Methodology

Prior to the development process, a review of a range of published papers on digital clothing technology, drape and digital curation was carried out to establish a firm theoretical background. Subsequently, the design plan for the digital costume reproduction was determined. The subjects of the digital production were taken from the Museum of London. Two costumes in their collection from Arnold

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(1977) were selected for this study: C1861-3 a day dress; and C1928-9 an evening dress. The data collection of the costumes were carried out in the museum in February 2013. The structure, sewing techniques, materials, texture, colors, and prints of the costumes were measured and recorded manually and by using a digital camera, scanner, Pantone Color Que and Pantone Formula Guide. Information regarding body shape and underwear at the time was provided by the museum staff. For generation of the virtual body and costume, various applications were employed. The virtual model creation was carried out using MakeHuman and Autodesk 3DS MAX 2015; costume generation and simulation were implemented using DC Suite 3.0, Autodesk Maya 2012, FXGear Quloth and Adobe Photoshop CS5.

3. Results and Discussion

The review of existing digital costume projects revealed several limitations, including cases which lacked accuracy in costume structure and details; cases which did not visualize the garment movement; and cases whose focus was weighted toward the representation of the outward form of the costume. In order to develop the digital costumes as effective online museum exhibits, this study suggests the following considerations: faithful reproduction based on historic sources, 3D shape which allows observation from all angles, visualization of dynamic garment movement (which stimulates synesthesia) and facilitation of deconstruction to enlighten garment structure. This study expects that these requirements will help to resolve the limitations of existing work and enhance the exhibitory and educational efficacy of digital costumes.

As a pilot exercise, digital production of C1928-9, an evening dress, was carried out to ensure the feasibility of the study and to clarify any technological problems which might be encountered before reproduction of the older and more complicated costume is attempted. Based on the diagrams in Arnold (1977) and the data collected, a virtual model and costume were generated through the following process: (1) virtual model generation, (2) pattern making, (3) pattern positioning, (4) assembly, (5) simulation and (6) mapping source generation and test rendering.

4. Conclusion

The pilot exercise in this study revealed the following limitations. Firstly, several differences in appearance between the original and virtual dress were observed due to the errors in the measurements of diagrams. Additionally, the smooth surface of the virtual dress did not represent the bumpy surface of the silk

chiffon fabric, and was superficially visualized using image sources from the scanned fabric data. Secondly, the garment seams were disregarded because the assembly of the digital clothing was accomplished via the attachment of the contour lines of the patterns in the 3D apparel CAD system. Thirdly, the realistic garment drape was not completely achieved as precise material property values were not applied at this stage.

The authors are now in the process of overcoming these limitations to achieve more faithful reproduction. The improved digital costume will be then developed as a museum exhibit which conveys three-dimensional, dynamic and structural information. As a final outcome, this study plans to establish an online platform to display digital costumes and deliver more in-depth knowledge about garments; we believe this will bring positive results for both museums and audiences.

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An Analysis on the Morphological Relationship of Hair Styles with Changes in Necklines and Collars in 20th Century Fashion⁺

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1. Purpose of Study

As William Safire(1929~), a columnist of New York Times, has pointed out that differential element freshly appearing after race, gender, religion and ideology is appearance, the era of lookism where appearance influences not only personal relationship but success and promotion is inaugurated. With the current of modern society that regards appearance as social competitiveness, people get more and more interested in the synthesis of various extrinsic factors through cosmetic surgeries, clothing, hair, make up and such elements that can stress their appearance even more. Most people choose clothes that make them appeal themselves and display matching hair style. Clothes and hair style form the total image with interaction and especially neckline and collar of many other clothing elements are the most closely related to hair style as being located the nearest to hair so a necessity of a research can be suggested. Thus, this research aims to analyze how hair style has changed depending on changes in neckline and collar appeared in clothing in 20th century and the morphological relevance of such.

2. Methodology

For this research, literature review and objective research were conducted together. For the literature review, preceding researches such as books, academic

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journals and dissertations related to western costume history were mainly studied. The pictures were selected through the second materials such as books related to art history and western costume history, which contain paintings and figure paintings showing necklines, collars and hair styles the best. The selected pictures were analyzed by organizing a group of five experts who have high-level education above doctorate in fashion study in order to secure the objectivity of materials. The contents of the research were considering changes of hair style according to neckline and collar after classifying 20th century by decade and selecting 20 frontal pictures each and analyzing the morphological relevance of neckline, collar and hair styles.

3. Results and Discussion

Under the influence of bustle and S-curve style at the end of 19th century, stand collar and up-hair style had been in fashion in the early 1900s. Neckline mainly appeared bateau and off shoulder neckline as going towards mid to late 19th century. Accordingly, up-hair style similar to the hair style appearing in stand collar had been in fashion.

Neckline mainly appeared rather than collar in 1910s. For necklines, bateau, V-neckline, round neckline and square neckline appeared and for collar, stand collar appeared. Therefore, not only up-hair style but short straight hair style and short wave hair style appeared.

In 1920s, boyish style prevailed period, round neckline, camisole neckline, cowl neckline, shirt collar and tailored collar appeared. Accordingly, bob hair style and short wave hair style matching with boyish style.

In 1930, womanish style prevailed period, short wave or straight hair style appeared along with square neckline, cowl neckline, V-neckline and round neckline. Shirt, mandarine, tailored collar and stand collar appeared, accordingly, up-hair style, short wave hair style and up braiding hair style appeared together.

In 1940, the second world war broken, tailored, shirt, mandarine and flat collar appeared and camisole neckline and oblique neckline appeared. And short wave hair style and up-hair style appeared in accordance with such military trend.

In 1950, coming back to elegant style, camisole neckline, V-neckline, round neckline, top neckline, and bateau neckline appeared and accordingly, elegant up-hair style, chignon hair style and long wave hair style appeared. Furthermore, shirt collar, bow collar, roll collar, and flat collar appeared and short wave hair, up-hair and ponytail hair style appeared in accordance with such elegant trend.

In 1960, young fashion period, V-neckline, round, halter and henley neckline appeared and shirt, turtle collar, tailored and flat collar appeared. Short straight or

wave hair style, up-hair style, long wave hair style and long straight hair style appeared in accordance with such young fashion trend.

In 1970, hippie and punk style prevailed period, round neckline, V-neckline, bateau and slit neckline appeared and shirt and tailored collar appeared together. Accordingly, short wave hair style, short straight hair style, up-hair style, and long straight hair style appeared.

In 1980, power suit period, various necklines such as square, V-neckline, round neckline and cowl neckline appeared and tailored and shirt collar appeared along with them. For hair style, up-hair and short wave hair style were in fashion. Simple hair style mainly appeared in 1980 compared to other periods showing various necklines and collars and it is presumed that hair style got simpler since power shoulder was in fashion.

In 1990, round neckline, slit, bateau, camisole, halter, and oblique neckline appeared and shirt, tailored collar and roll collar appeared along with them. And various hair styles such as long straight hair style, short straight or wave hair style, and up-hair style appeared in accordance with such various trend.

4. Conclusion

In the early 20th century, hair style were simple and unify under the influence of simplified and unified necklines and collar. In the mid 20th century, more various necklines and collars started to appear and, various hair styles, mainly short hair styles, happened to appear. In the late 20th century, necklines and collars started to appear even more variously and varied long and short hair styles also appeared in accordance with such fashion. As you can see above, as fashion got diversified, necklines and collars had gotten more various and complicated and so had hair style. Moreover, the morphological relevance of neckline, collar and hair style appeared prominently during the period showing simple and unified neckline, however, collar and hair style while that appeared low during the period showing various necklines, collars and hair styles compared to the period showing simple and unify styles.

With this research, it was clear that neckline, collar and hair style were organically related to each other, rather than being considered as a separate conception, and I wish that a follow-up study that compares the morphological relevance of ancient, medieval and modern necklines, collars and hair styles.

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Survey on the Actual Condition of Women's Headdress of Ethnic Minorities in Guizhou China -Focusing on the Shui, the Buyei and the Han People-

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1. Purpose of Survey

Guizhou province is located in Yungui Gaoyuan(雲貴高原), southwest China, and its capital is Guiyang(貴陽). Guizhou shares borders with Sichuan(四川省) to the north, Yunnan(雲南省) to the west, Hunnan(湖南省) to the east, and Guangxi(廣西壯族自治區) to the south. The population of Guizhou is approximately 35million, and 40% accounts for ethnic minorities, making Guizhou the second most populated area with ethnic minorities following Yunnan. It is often dubbed as "the hill country" since its area is 174,000km², nearly two folds larger than that of South Korea, but 90% of its topography consists of high plateaus, mountains, hills, rivers, and lakes.

Because Guizhou had not been active in exchange with the external world, it had many isolated areas, leaving Guizhou to be classified as a remote area and underdeveloped. However, over a long period of time, Guizhou has become home to various ethnic minorities from many different neighboring areas, and these people have been engaged in mutual exchange and convergence to develop this area into their habitat. Today, the ethnic minorities in Guizhou have formed a cultural ecosystem of "mass or small mix residence", "mix residence or residence of concentration", and "converged life." Among the 56 ethnic groups in China, 49 of them, including the Han, Miao, Dong, Buyi, Tujia, Shui, Hui, Bai, Yao, Maonan, Mongol, and Manchu people reside in Guizhou. Even today, these minorities are creating their own glorious culture along with their long and proud history.

With a purpose to understand the actual conditions of how the minorities in Guizhou wear headdress, the researchers conducted this survey on the ethnic

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minorities scattered around the high plateaus and hills of Guizhou, each groups residing in concentrated communities, creating their unique culture

2. Method and Content of Survey

The content of this survey is the review of the cultural and formative characteristics of the headdresses of three ethnic minorities residing in Guizhou: the Shui(水族), Buyi(布依族), and Han(漢族). To gather relevant data, the researchers investigated the Shui Family Museum (水族家庭博物館) in an ethnic minority village of Sandushui Autonomous County(三都水族自治縣) Guizhou for the headdress of the Shui(水族), and the Buyi village of Buyizu Miaozi Autonomous County or Buyi Shitou Village (布依石头寨) of Qinling(鎮寧) for the Buyi headdress, and the Han folk village of Tianlong Tunbao(天龙屯堡) for the Han ethnic minority headdress. The researchers took photos during the investigation and also gathered relevant data while visiting the Guizhou Provincial Museum and other individual owners. Studying theoretical studies in literature and conducting data analysis of actual investigations, the researchers reviewed the formative characteristics of the headdress of three ethnic minorities in three different areas in southwest China. To better understand the headdress culture, the researchers added some data related to the actual conditions of how the people in the area wear their costumes.

3. Results and Reviews

According to the review on the headdress culture and its formativeness of the ethnic minorities of Guizhou, China, each group had its abundant, unique, and colorful headdress culture as they adapted to the natural environment they are residing in, harmonized with nature, and put emphasis on their history and tradition.

1) Headdress of the Shui People in Sandu, Guizhou

The Shui people are ethnic minorities scattered across the provinces of Yunnan, Jiangxi(), Guizhou, and Guangxi(廣西省) China. They are mostly residing in the Sandu Autonomous County of Guizhou, and the population is estimated to be 340,000. The Sandu(三都) Shui Autonomous County was established on January 2nd, 1957.

The Shui are part of the Dong Shui Language in the Kam-Tai Language Group of the Sino-Tibetan Language Family(漢藏語系 壯語族 水語支). They live at watersides, mainly engaging in rice farming and other handicraft industry. The Shui are well-known for embroidery, dyeing, and weaving. In the past, they grew the raw materials, made the thread, created their own fabric through weaving and

dyeing. The Shui women wear cold-colors such as white, blue, black, and navy, illustrating their simplistic view of aesthetics on costumes - simplicity in color and design, and emphasis on the spirit.

The Shui people are well-known for their Horsetail Embroidery(馬尾繡), a colorful and vivid embroidery method using horse tail hair twisted with white thread to embroider the outskirts of the fabric, and then using other colored thread to embroider the inner part of the pattern. This method was adopted as a national intangible cultural asset in 2006.

The costumes worn daily and during holidays are different. The tops worn by women daily have round necklines and wide sleeves, and the length of their coats is usually lower or above their knees. The Shui women put aprons around their waist and wear embroidered shoes.

During the holidays, the Shui women wear coats and narrow-pleated skirts with embroidered shoes. They also wear silver ornaments, wide necklaces, silver bracelets and earrings.

The hairstyle of the single Shui women is antique. They braid their long hair into one strand and twist it into a round bun on one side of the head while older women wind up their hair at the crown of the head.

Single women use long blue, white, or black and white striped long headscarves to cover their head. Meanwhile, married women use black, white, or black and white striped long headscarves to do the same. The length of the headscarf is approximately 6*chi* or 181cm. The Shui women cover the back of their head with this long headscarf and wrap it around their head, making a frame on the head and then create a round shape by folding the edges, stiffening, and wrapping the head. Then, they push the right end towards the inner part of the headscarf, and slightly show the left end on the outer side of the headscarf. During holidays, the Shui women wind their hair to the crown of their head, fixing it with a *eunjam* or silver comb, then use various silver flowers for decoration.

2) Headdress of the Buyi in the Anshun City, Jinlie County, Shitou Village, Guizhou

The Buyi are a relatively large ethnic minority in southwest China with a population of 3million, according to the 7th census conducted in 2014. This figure has declined by 100,000 compared to the year 2000. The Buyi population residing in Guizhou accounts for 97% of all Buyi people in China, and they are concentrated in the areas of the Buyi Miao Autonomous County of Zhenning, Guanling, and Ci Xiong, Guiyang City within Guizhou. Most of them are engaged in agriculture, mainly rice farming, and they are famous for the Huangguoshu Falls. Some Buyi people live in areas of Vietnam. They use the Buyi language which is

part of the Zhuang Thai Language.

Both men and women prefer wearing the colors navy, blue, and white, and their clothes differ depending on the region. Coats with large collars are either have embroidery on the edges, shoulders, and sleeve hems or battick decorations. The bottoms are either long trousers or long pleated skirts with battick dying, and wear aprons.

The headdress is different depending on the martial status of the Shui women. In the past, single women used two strands of long hair made from three strands of braided hair - one strand was actual hair and the other was made from silk thread with tassels on one end. Its length is about 65cm, long enough to wrap the head once. Single women place a rectangular headscarf - either self-weaved or embroidered - around their head from the forehead towards the back, and place their braided hair on top of it.

Married women wore self-made *jiaqiao*(假髻) or round frame where the front is round and the back is covered with a rectangular fabric, using bamboo sheath(竹皮), bamboo sprout shells(笋壳), blue hemp cloth(青布). They flipped over the round frame 1foot or 31cm to the side towards the back. Mid to elderly women placed their hair on the crown on their head and wore a headscarf on top of it.

3) Headdress of the Ming Han People in Tianlong Tunbao(天龙屯堡 or 安顺屯堡) Guizhou

Tianlong Tunbao is located in west Guizhou and Pingba County(平坝县) of Anshun City(安顺市), 72km away from Guiyang City. According to a 2014 census, the population of the Ming Han people is 2,870,000 but reportedly, the population during the Ming Dynasty was only 1,500,000. Anshun Tunbao or Tianlong Tunbao of Guizhou was founded during the initial years of the Ming Dynasty. In the 14th century, at the early years of the Ming Dynasty, Shi Huangdi Zhu Yanzhang(朱元璋) drove out the Yuan, dominated Zhongyuan(中原), and founded Ming. It was a military village for punitive forces of the Han people who were dispatched to control southwest China. They resided and stationed in this area back from 600years ago. In other words, the Ming Han ethnicity are the descendants of the Han military who came in to conquer the southern area to eliminate the residing powers of Yuan Dynasty. They have been trained as militants and also engaged in farming through garrison farms, and did not go back to their homes at retreat.

In Anshun or Tianlong, there are many garrison farms built by the military, and at the very center is the Tianlong Tunbao. The locals here call this 'Tun Bao Ren.' Unlike the Han culture or ethnic minority cultures in other regions, the culture of Tunbao illustrates the unique converged customs of the Ming Han people and

ethnic minorities, since they were relatively closed to the outer world for the past 600 years. The Ming Han ethnicity is considered the cradle of Chinese history and culture with its preservation and succession of the customs and traditions of the Ming Dynasty from 600 years ago, including language, costumes, architecture, and religion. Their original ancestors are the mainstream authentic Han people of China, but because they are an ethnic minority in Guizhou, the land of minorities, the locals also willingly accept this fact.

The costume of Tunbao women is a living reference for research on Ming costumes. They prefer wearing clothes in blue shade, and wear long gown-type outer coats that have openings on the right side with fancy embroidery on collar edges or sleeve hems. The bottoms are semi-fitted silhouette black trousers worn with flower embroidered shoes. They wrap their waist with black tassels or aprons on the front, and put a white or blue waist band around.

The headdress of Tunbao women differs depending on their marital status. Single women tie their hair down into one strand instead of putting their hair up. Married women wrap their hair over their forehead using multiple layers of white bands and fix their hair using pins until they become old women. They also wear their hair in a bun, covering it with a net or use jade *binyeo* and sometimes wrap their head with fancy check-patterned scarves.

Once married, the Tunbao women pull out their hair on the front of the forehead and cover their head with headscarves. Apparently, this was a measure to relieve the concerns of the husbands who had to leave home for the battlefields. Today, women still continue wearing white bands on their heads with a heart of waiting for their husband who took part in war. When older women become grandmothers, they change the white band into a black band.

4. Conclusion

In August 2013, the researchers conducted an actual study to review the headdress culture and its formative characteristics of three ethnic minorities; the Shui, Buyi, and Han (Tianlong Tunbao), residing in Guizhou China. The researchers have concluded the following.

First, the three ethnic minorities had their own way of expressing their various types of headdress. In other words, the items used for headdress were different, and they also showed unique differences in the types, materials, detailed decorations, and the way they wore the headdress. This result indicates that the headdress of ethnic minorities is the cradle of rich history and tradition, functioning as a barometer for their unique life style and spirit.

Second, even within the same ethnic minority, there is a distinctive classification

between the headdress of married and unmarried women. In other words, the hairstyle is the evidence and symbol of women's marital status. Women's headdress reflects their traditional thoughts and values since it depends on the hierarchy or traditional customs and sense of community.

Third, the most worthy fact we can find through the headdress of the ethnic minorities is their outstanding formative and artistic value. Meanwhile, the headdress of each group has organic commonness in line with their costumes. Although the design or style of their costumes is simple, the decorations added to the costumes are designed in the most sophisticated and splendid way to express their beauty at best. By doing so, they are fully expressing their sense of outstanding artistic sense, creative formativeness, and skills. They are among the most precious hall of fame that can't be found anywhere else in the world.

Fourth, there is no doubt that the ethnic minorities will face great challenges on how to maintain and preserve their traditional costumes in an era of modernization and assimilation to other minorities. The day might come when ethnic minorities live the life of modern people abandoning their traditional costumes and wearing modern clothes. However, it is certain that the headdress is the symbol of their ethnic minority group that will remain until the very last moment. This is because the headdress is their ethnic pride and driving force of their life.

In conclusion, ethnic minorities with rich history and culture with different social and economic backgrounds have gathered in Guizhou and created their unique culture. Due to harsh conditions in terms of history, geography and society, they still have many limitations in socioeconomic development. However, the researchers look forward to the strong determination and optimism of the various ethnic minorities that will create a moment for another new culture of their own, continuing to cultivate this land in the future.

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An Analysis on the Form and Decoration of Foot-Binding Shoes in China

-Focused on collection of Tianjin Huaxia Shoe Culture Museum-

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1. Purpose of Study

The foot binding in China has been criticized and viewed in a negative way by the public, in terms of distorted aesthetics of men, symbol of social status of women through marriage, and appreciation of foot binding by scholars. However, the book "Illustrations of China and its people" offered readers in Europe and Asia a new perspective of China, and emphasized the feminine beauty of foot binding, from a sociological viewpoint, like embroidered waistbands and gaiters. Also, Lotus Feet, a novel written by Feng Jicai portrays love through foot binding, and describes foot binding as a retraining but elegant and delicate symbol of women. The importance of foot-binding shoes became maximized with women's desire for beauty, and more decoration was added to make the shoes beautiful. For those reasons, it seems necessary to research the unique forms and decoration of foot-binding shoes in China.

The purpose of this study is to analyze unique and feminine shapes and decoration of foot-binding shoes in China, rejecting the critical viewpoint of previous research.

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2. Methodology

The research was limited from the Song dynasty (960~1279), during which foot binding began, to the Qing dynasty (1644~1912), based on collection of Tianjin Huaxia Shoe Culture Museum, (天津華夏鞋文化博物館). The research method included literature review and case study. The literature review was based on literature, books, articles, and internet data both from Korea, China, and other countries. For case study, total 70 pairs of foot-binding shoes were selected from Tianjin Huaxia Shoe Culture Museum and analyzed qualitatively, based on the forms and decoration.

3. Results and Discussion

1) Form

Among the 70 pairs of foot-binding shoes selected from Tianjin Huaxia Shoe Culture Museum, the normal shape, whose toe cap is pointed neither upward nor downward, was most prevalent with 26 pairs (37.1%) followed by the upward toe cap, 17 pairs (24.3%); the mixed type with an upward toe cap and with high neck, with a heel, or with a downward toe cap, 15 pairs (21.4%) the downward toe cap; 12 pairs (17.2%).

Among the foot-binding shoes exhibited in the museum, there are shoes with embroidery of apricot blossom on blue background and whose toe cap is neither upward nor downward. The shoes with morning glory embroidery on blue background and straight toe cap have elegant and feminine beauty. The foot-binding shoes with arabesque embroidery on red background have pointy and upward toe cap and straight sole. Another example is those with floral embroidery on yellow background and a yellow strap around the ankle. The foot-binding shoes with pointy and downward toe cap and bent sole have sophisticated and elegant beauty with blue and green floral pattern on black background. Floral and animal patterns on yellow and green background can be found in boots type shoes with high neck and downward toe cap. Other styles included those with heels, upward toe cap, high neck, and floral embroidery on red and black background.

The colors of the shoes were mostly complementary to make them look gorgeous, while the line around the ankle and embroidery were based on the same color for unity and sophistication.

2) Decoration

Among the 70 pairs 9 pairs of foot-binding shoes did not have decoration (12.9%) and 61 had decoration (87.1%), among which 51 pairs had pattern

(83.6%) followed by 8 pairs(13.1%) with mixed decoration including fringe and tassel, applique, and sequin; and two pairs with applique(3.2%).

On the black background, the toe cap was decorated with pink peony pattern, and, various floral patterns were used on black, black and blue, and gold and black backgrounds. Foot-binding shoes made with straw entwined on a yellow background use feminine butterfly pattern. Also, floral and peacock patterns on black and purple background show feminine and sophisticated beauty. Foot-binding shoes with upward toe cap with gray background were decorated with floral pattern and sequins of various colors like red and green on the toe cap. Flat foot-binding shoes are decorated with glittering sequin on pink background, making the tassel on the front more glamorous. The boot type, with high neck on black background, has multiple layers of applique on the toe cap, and silver sequin and pink tassels on the top. The shoes with a geometric pattern on red background used purple and green tassels on the toe cap for feminine sophistication. Also, other styles included one with red background and upward toe cap, yellow tassel, and floral embroidery on either side of the shoes. Floral applique on either side of the shoes with brown background creates feminine image, while another pair had a bird applique on black background. Embroidery was used for decorating a flat surface, on top of which tassel and sequin was used for gorgeous finish of the shoes.

4. Conclusion

In this study, forms and decoration of foot-binding shoes were analyzed, based on collection of Tianjin Huaxia Shoe Culture Museum. The result shows that the normal type was most prevalent with 26 pairs(37.1%), followed by the upward toe cap, 17 pairs; the mixed type with an upward toe cap and with high neck, with a heel, or with a downward toe cap, 15 pairs; the downward toe cap, 12 pairs respectively. As for decoration, 9 pairs of foot-binding shoes did not have decoration (12.9%) and 61 had decoration (87.1%), among which 51 pairs had pattern (83.6%) followed by mixed decoration including fringe and tassel, applique, and sequin and applique in the order.

This study confirmed that there are many forms of foot-binding shoes and unique decoration was used to enhance aesthetic value. Future research may include harmony of foot-binding shoes and costumes.

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A Study on the Two-Dimensional Shapes' Continuity-Applied Costume

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1. Purpose

The principle of two-dimensional shapes is diversely applied to architecture, interior design, design and sculpture (one form of the pure arts), and expresses designer's awareness of creation, aesthetic attitude, values and desire. The inspiration from the two-dimensional shapes has been applied to clothing in a variety of ways. And, it has also been applied to not only Western costume, but Korea's traditional costume.

The purpose of this paper is to solidify the two-dimensional shapes' principle and explore the world of psychological thinking, based on designers' creative design basis using the two-dimensional shapes. This study is meaningful in that it identifies that costume is the arena of thinking expressing designer's values or belief, in addition to superficial significance of practical value.

2. Content and Methodology

This paper is to identify the applied principle through the definition of two-dimensional shapes and examine the two-dimensional shapes' principle in the design domain applied to our everyday life through the cases of architecture, interior design and videos. This paper also investigates the principle of two-dimensional shapes from the practical aspect through application scope, method and mode targeting human body-applied clothing and accessories.

The methodology of this study is to examine the symbolic meaning contained in the two-dimensional shapes-applied various examples by searching for those examples. Also, it is to grasp that Mobius Strip is a principle giving artistic inspiration of designers in the various arts fields. Based on this, this paper attempts to identify that the two-dimensional shapes' principle-applied design is diffused in our daily lives.

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3. Conclusion and Consideration

The two-dimensional shapes in the Western costume are one of the best techniques awarding third dimension to human body through the composition of clothing. Here, Eastern thinking, which is designer's ideological source, can be viewed, due to simplicity and uniqueness exhibited by the two-dimensional shapes.

The principle of two-dimensional shapes, which can be the Western science, has ideological value, different from dichotomous thinking or rationalism. The principle is rather related to the principle of circulation and win-win meaning that two extremes are inter-communicated with one another, which are the Eastern view of thinking. This is closely connected with Eastern thinking together with Korea's traditional clothing's symbolic meaning.

4. Conclusion

The two-dimensional shapes have the limited value of existence and unlimited value of existence simultaneously, and two extremes like death and life co-exist together. In the end, the two-dimensional shapes, as one circulated link, have a symbolic significance that means movement as continuity and circulation.

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A Study on Traits of Kimono Applied in the Early 20th Century European Fashion

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1. Purpose of Study

Many fashion designers have been fascinated with Japanese traditional costumes and their traits since the 19th century. The 19th century has been regarded as revolutionary era for economy and politic which means from the fashion view that people might have looked for new and exotic style. In this social background, Kimono may have been unique and fresh from European view.

This study aims to find traits of Kimono which had a huge influence on European fashion in the early of 20th century and how these attributes were applied.

2. Methodology

This study is referred to books such as Japonism in fashion and a history of fashion and the website of brooklyn museum. The general traits of Japonism are based on 'Japonism' written by Fukai, Akiko and Mabuchi, Akiko and the study of the actual costume is based on the 'A history of fashion' written by Ko, Ehlahn and brooklyn museum website.

3. Results and Discussion

Japanese art and culture were before Kimono became popular source of inspiration for fashion in Europe. Japanese art called 'Ukiyoe' was first officially introduced to Europe through Paris International Exhibition in 1867. Simplified line and subjective forms which were not realistic, unique and strong color expressions were main traits of 'Ukiyoe' and those distinctive features attracted European contemporaries in the 19th century. After that, their interests in Japan were spread in other areas especially fashion. Even in Opera and theater Japanese

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women and culture were popular themes, thus these social phenomena reflected their interests on Japanese fashion as well.

The outstanding traits of Kimono were shown in the two aspects, one was material and the other was constructions.

1) In the material view, the natural motifs, asymmetric disposition of motifs and lustrous silk were applied in the European fashion. As a natural motifs, big and fancy bloom of chrysanthemum, rice plants and wildflower which had not been used in European design were shown in the 19th European material. In addition to animal motifs like peacock emerged as well.

The natural motifs on the material were disposed asymmetrically. One of evening dresses made by Charles Frederick Worth in 1895 had big motifs on the bottom asymmetrically which were reminded of sunset. In case of Charles Frederick Worth, he just used the Japanese motifs with western constructions held in his clothing compared to Paul Poiret who applied not only Japanese motifs but also constructions.

2) The other trait was a garment construction which was one of the most outstanding differences between early European clothes and Kimono. Kimono has a flat, almost two dimensional structure while European clothes had three dimensional structure. Kimono's flat structure enabled free body movement. Owing to this flat structure, it made natural drapes which looked more elegant compared to tight and constructed clothes such as bustle or crinoline etc.

As early as 1908, Marie Callot Gerber and Paul Poiret took inspiration from drapery-like quality of Kimono and the long and wide sleeves and crossed bodices were also applied in every dress.

One of the ways to wear Kimono was 'Nukiemon'- back neckline disclosed due to dropping the collar to downward - which was likely to be applied in fashion by Paul Poiret.

Madeleine Vionnet was also inspired by Kimono with reliances on uncut length of fabric and raised dressmaking to an art form.

4. Conclusion

In the revolutionary era for economy and politic from the late of 19th century to the early of 20th century, the European people looked for the new exotic fashion different from previous European fashion. The original attributes of material and construction of Kimono coincided with this needs, thus the outstanding traits of Kimono such as natural motifs and asymmetry appeared in European fashion and the different views on nature started in Europe. In future, the designers who have applied Kimono since the early 20th century and how the

traits of Kimono have affected 21th century street fashion should be studied more.

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A Study on the Business Possibility of Procurement Service for Re-purchasing

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1. Purpose of Study

There were constant researches about distinctiveness of Dongdaemun area. Contents about character analysis of fashion commercial district (Han, 2013), retail fashion buyers' utilization of information source in Dongdaemun market in accordance with work experience (Kim & Chung, 2014), transaction relationship between local fashion retailer and wholesaler in Dongdaemun fashion market (Chung & Ju, 2011), wholesaler and distribution company analysis (Seo & Lee & Lee, 2009), and vitalizing policies (Hong & Lee, 2007), and also have been performed studies about purchasing behavior analysis, commercial district analysis, and structural analysis of Dongdaemun market such as purchasing behavior of wholesale and retail consumers in Dongdaemun market (Lee & Kim & Lee, 2008). However, the studies about textile fabric and subsidiary material market research are very insufficient.

Some retailer who purchase from specialty wholesalers in Dongdaemun fashion district often use procurement services for re-purchasers called "sa-ib-sam-chon" (purchasing uncle), but this system only runs at night time and requires long-term contracts, so it is unuseful to students and general consumers who are living in far from capital area. Therefore, procurement services for textile fabric and subsidiary material re-purchasers are necessary and profitable.

Some of the customers who purchase textile fabric and subsidiary material in the Dongdaemun shopping complex revisit the complex for repurchasing, and this study was conducted on the assumption that there may be problems of usefulness of time as cost and place when the customers are coming from provinces or buy small amount of products.

In this context, the study is purported to develop processes saving physical,

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temporal troubles of those who are difficult in repurchasing textile fabric and subsidiary material because of distance and producing profits during the procurement service by using the accessibility to Dongdaemun shopping complex, while theoretically verifying its possibility via market research would-be consumers.

2. Methodology

This study was conducted in the assumption of many students majoring in fashion-related area revisit Dongdaemun Shopping Complex to re-purchase textile fabric and subsidiary material, and mainly targeted students majoring in fashion-related area as people under investigation.

Questionnaires for this study conducted from April 6 to 25, 2014 to students majoring in fashion-related area in their 20s and 30s in Seoul city, Gyeonggi Povice, Jeolla Povice, Gyeongsang, and Jeju Province. 347 questionnaires were distributed in total, and 333 were used for the study excluding undependable responses.

SPSS for Window 19.0 was used for descriptive statistical analysis on each question, and differences among groups depending on residential area and number of visiting were cross analyzed.

3. Results and Discussion

First, the result of this study was that students majoring in fashion field purchased in Dongdaemun Shopping Complex most frequently, and the most of types of product they purchased were textile fabrics and then followed by drafting and sewing tools, and subsidiary material. Also, the most common transportation cost to Dongdaemun Shopping Complex from residential area was more than 20,000 won, with 140 people (42%). 76 people (22.8%) traveled 1 to 2 hours to Dongdaemun Shopping Complex from their residential area, 60 people (18.0%) took 2 to 3 hours, and 122 people (36.6%) took more than 3 hours while only 11.1% took less than an hour. As such, many students majoring in fashion-related area took a lot of time and effort to visit Dongdaemun Shopping Complex in person.

The movement time to the Dongdaemun shopping complex was mostly 1 to 2 hours for the residents in Seoul and Gyeonggi Povice and mostly 3 hours and more for the residents in Jeolla Povice, Gyeongsang, and Jeju Province. Also, students majoring in fashion field visited Dongdaemun shopping complex more than once in a year regardless of residence, they confirmed the need of procurement services for re-purchasers of textile fabric and subsidiary materials.

Second, 59.2 percentage of students majoring in fashion field had given their assent to the necessity of procurement services for re-purchasers of textile fabric and subsidiary materials, and 66.1 percentage of them agreed with the necessity of proxy receiving service, so the potential of the market had been verified.

Finally, based on the results of previous researches, system, estimated cost, and estimated sales of the procurement service—an agent is ordered by the initial purchaser to purchase specific products within the complex and to deliver them to the orderer—for the consumers who personally purchased textile fabric and subsidiary material (and all the products dealt in the complex) and want to purchase the same products more were presented.

4. Conclusion

The research will provide many implications for developing process of procurement services for re-purchasers meeting the demand of consumers who wants to repurchase textile fabric and subsidiary material in Dongdaemun Shopping Complex.

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The Effects of emotional intelligence and emotion regulation strategy on Customer orientation and service delivery level

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1. Purpose of Study

Employees regulate their arousal and cognitions in order to display the appropriate emotions at work. For example, those who work in customer service may encourage repeat business by showing smiles and expression of one's eyes, kind greetings, polite attitudes to customer. In the past, emotions were ignored in the study of organizational behavior(Arvey at al., 1998), but emotional labor of employees in service encounter are watched by researchers and managers of enterprise lately. Emotional intelligence is the ability or tendency to perceive, understand, regulate, and harness emotions adaptively in the self and in others(Salovey & Mayer, 1990). There are studies that emotional intelligence had a direct positive effect on sales performance(Lee at al., 2010; Law at al., 2008). Also, Min and Cho(2009) have proposed that it showed that emotion regulation strategies affected customer orientation like customer service and significantly. Service encounter employee in the workplace experience negative emotion during confrontation stage with customer. Accordingly, the main purpose of this study is to indicate the effects of salespersons' emotional intelligence and emotion regulation strategies in fashion store on customer orientation and service delivery level.

2. Methodology

1) Research problems

- ① to identify factors of emotional intelligence and emotion regulation strategy of salesperson.
- ② to identify the influence of emotional intelligence on emotion regulation

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strategies

③ to identify the influence of emotional intelligence and emotion regulation strategies on customer orientation.

④ to identify the influence of emotional intelligence and emotion regulation strategies on service delivery level.

2) Subjects and Research tools

Researcher of this study developed a questionnaire on basis of references analysis. Data collecting period was from July 1 to August 30, 2013. The subjects of this study were 200 salesperson working at fashion store in Suncheon, Jeollanamdo and Jeollabukdo.

3) Data analysis

Data from 182 subjects was used for data analysis. Percentage, frequency, means, factor analysis, reliability, regression were calculated by using the SPSS program.

3. Results and Discussion

1) Factors of emotional intelligence and emotion regulation strategy

The emotional intelligence was shown in three dimensions of other's emotion appraisal, self emotion appraisal, and regulation of emotion, and total variance was 66.3%. And emotion regulation strategy was shown in four dimensions of active, support-seeking, avoidant/distractive, autosuggestive, and and total variance was 65.3%.

2) the influence of emotional intelligence on emotion regulation strategy

Regression analysis was conducted to understand the impact of emotional intelligence on emotion regulation strategy. As a result, the other's emotion appraisal and self emotion appraisal of emotional intelligence had a positive(+) influence on active regulation strategy, and other's emotion appraisal had a positive(+) influence on regulation strategy of support-seeking and autosuggestive. also the self emotion appraisal of emotional intelligence had a negative(-) influence on avoidant/distractive regulation strategy.

3) The impact of emotional intelligence on customer orientation

Regression analysis was conducted to understand the impact of emotional intelligence on customer orientation. As a result, the emotional intelligence of other's emotion appraisal and self emotion appraisal had a positive(+) influence on customer orientation. As the regression equation had 19.6% explanatory, it's predicted that the higher emotional intelligence, the higher customer orientation.

4) The impact of emotional intelligence on service delivery level

Regression analysis was conducted to understand the impact of emotional

intelligence on service delivery level. As a result, the emotional intelligence of other's emotion appraisal had a positive(+) influence on hospitable service delivery level, and the emotional intelligence of other's emotion appraisal and self emotion appraisal had a positive(+) influence on procedural service delivery level

5) The impact of emotion regulation strategy on customer orientation

Regression analysis was conducted to understand the impact of emotion regulation strategy on customer orientation. As a result, the active regulation strategy had a positive(+) influence on customer orientation, and the avoidant/distractive regulation strategy had a negative(-) influence on that.

As the regression equation had 17.1% explanatory, it's predicted that the higher active regulation strategy of emotion regulation strategy, the higher customer orientation, and the higher avoidant/distractive regulation strategy, the lower customer orientation.

6) The impact of emotion regulation strategy on service delivery level

Regression analysis was conducted to understand the impact of emotion regulation strategy on service delivery level. As a result, the active regulation strategy and autosuggestive regulation strategy had a positive(+) influence on hospitable factor of service delivery level and the avoidant/distractive regulation strategy had a negative(-) influence on it. Also, the active regulation strategy had a positive(+) influence on procedural factor of service delivery level and the avoidant/distractive regulation strategy of emotion regulation strategy had a negative(-) influence on it.

4. Conclusion

The purpose of this study was to investigate the influence of emotional intelligence on emotion regulation strategies. Also the purpose of this study was to investigate to the influence of emotional intelligence and emotion regulation strategies on customer orientation and service delivery level.

Main findings are as follows: as a result of factor analysis, emotional intelligence of salespersons verified three items, that is, other's emotion appraisal, self emotion appraisal, regulation of emotion. And four factors of emotion regulation strategy were consist of active, support-seeking, avoidant/distractive, autosuggestive.

First, as a result of regression analysis, other's emotion appraisal and self emotion appraisal of emotional intelligence influenced active regulation strategy of salesperson, and other's emotion appraisal of emotional intelligence influenced support-seeking and autosuggestive regulation strategy, the self emotion appraisal of emotional intelligence had a negative(-) influenced on avoidant/distractive

regulation strategy.

Second, the other's emotion appraisal and self emotion appraisal of emotional intelligence had a positive(+) influenced on customer orientation.

Third, the other's emotion appraisal of emotional intelligence had a positive(+) influenced on hospitable service delivery level, and the emotional intelligence of other's emotion appraisal and self emotion appraisal had a positive(+) influenced on procedural service delivery level.

Fourth, active regulation strategy had a positive(+) influenced on the customer orientation and avoidant/distractive regulation strategy had a negative(-) influenced on it.

Fifth, the active regulation strategy and autosuggestive regulation strategy had a positive(+) influenced on hospitable factor of service delivery level, and the avoidant/distractive regulation strategy had a negative(-) influenced on it.

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Precedent Factors in the Effect of Mobile Shopping Quality on Consumers' Impulse Buying of Apparel Products

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1. Purpose of Study

Apparel mobile commerce indicates to buy apparel product with hand-held terminal unit such as smart phone or PDA through mobile network(Choi, 2009). This technical advance may provide significant convenience to consumers. Hence, this convenience provokes to impulse buying of apparel products which are specifically more vulnerable regarding consumer's impulse buying behavior. Therefore, the purpose of this study was to investigate the effect of mobile shopping quality on consumers' impulse buying of apparel products.

2. Methodology

In order to investigate the purpose of this study, a questionnaire was developed with 5 point Likert scale based on preceding researches(Ha & Stoel, 2009; Kim, 2012; Kim 2010) and then distributed. Then, SPSS 18.0 was used to conduct reliability test, factor analysis, and regression analysis on 300 returned usable questionnaires.

3. Results and Discussion

The most frequent use such as apparel buying or information searching through mobile commerce was below two times per week (60.7%) and below 30 minutes at each time (50%). 68.7% respondents had experience of apparel buying through mobile commerce.

The reliability of mobile shopping quality factors showed high cronbach's alpha which were customer service(.812), credibility(.871), design(.836), security and payment(.762). Dependent variable, Impulse buying factor was .892.

Mobile shopping quality factors such as credibility and design of shopping mall in descending order affect significantly consumers' impulse buying of apparel

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products. This regression model has a power of explanation(34.8% with $R^2=.348$) with $F=39.382$ ($p<.001$).

4. Conclusion

For conclusion, the credibility of mobile shopping was the prime accelerator of impulse buying and next accelerator was design of shopping mall which are fitted letters and icons, efficient site composition, appropriate optical view with overall atmosphere, and speedy transfer for connecting. Since mobile shopping is done by hand held terminal unit which is small screen compared with internet shopping using pc screen monitor, suitable design of shopping mall was the important booster to impulse apparel buying behavior.

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Effects of apparel company supporter's online review on consumers' brand attitude and purchase intention

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1. Purpose of Study

Blog refers to the one-person media that produces contents by using the images, videos, and texts(Ok, Gwak, & Kim, 2009). Blog has evolved into a tool that enables communication between companies and customers and can help build relationship with consumers. Previously, the blog marketing pushed forward by companies placed primary focus on conveying the information of their products or services directly to consumers. However, recent years have witnessed vigorous blog marketing through online supporters. Online supporters are the group of people selected by companies for online promotion of products or services and focus mainly on generating the messages which are conducive to stimulating the hands-on experience with the products and services of companies and can create impactful advertising effect.

This study examined how the reviews offered from blogs operated by apparel brands online supporters would influence consumer's brand attitude and purchase intention. Specifically, this study examined how the brand reputation (well-established brand vs. unestablished brands) and directions of the review message (positive, two-sided: both negative and positive, negative) would influence consumer's brand attitude and purchase intention.

2. Methodology

This study employed a 2 (brand awareness: high awareness vs. low awareness) X 3 (review direction: negative vs. two-sided vs. positive) between subject factorial design. Through a preliminary survey, the outdoor jacket was selected for the apparel item for this study, and K2 was selected as a well-established outdoor brand. Fictitious brand names were created as an unestablished brand. Subjects were assigned randomly to the experiment stimuli. All measurement items

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for brand attitude and purchase intention were adopted from previous studies and reworded if necessary (Park, 2007; Park & Yoo, 2006).

A total of 180 responses were collected with 30 responses in each of the six conditions. Respondents were 42.8% men and 57.2% women and the average age was 22.7.

3. Results and Discussion

The results of two-way ANOVA revealed that the effect of brand reputation and supporters' message direction on consumers' brand attitude and purchase intention. Two-sided (both positive and negative) message was rated high on brand attitude and purchase intention compare to negative or positive directions.

The interaction between brand reputation and message direction was significant for attitude, but not for purchase intentions. For the well-established brand, two-sided message has the highest ($M=3.20$) brand attitude, followed by positive($M=3.00$) and negative($M=2.38$) messages. For the unestablished brand, two-sided message has the highest ($M=3.60$) brand attitude, followed by negative($M=2.90$) and positive($M=2.59$).

4. Conclusion

The blog marketing that involves online supporters can be considered to have greater consumer familiarity compared to existing company blogs. Consumers can be offered more specific information on products and services through the testimonials produced after hands-on experience with products and services. This study investigated the effects the message direction of apparel company supporter's blog and brand reputation. The result showed that consumers tend to have positive attitude when they read the blogger's review with two-sided message and the review about un-established apparel brand. This is consistent with the message direction literature which stated the two-sided message, compared to the one-sided message, create more positive brand attitude (Jun & Kim, 2012). The interaction between brand reputation and message direction showed that the effect of message directions differ based on the brand reputation. Although previous research indicated that negative word-of-mouth message can create more positive brand attitude and increase credibility compared to positive word-of-mouth message (Chtterjee, 2001), the results of this study showed that negative message did not increase brand attitude compared to positive or two-sided messages for the well-established brand.

The subjects of this study were limited to those in their 20s in order to target the group of people who were heavy users of internet. Thus, more study needed

to be conducted which covers wide-ranging age groups and regions. Future research may use the online survey format, the media which allows the blog reviews to be presented in an actual format. Further research could consider including multiple variables, such as the characteristics of products or services, as well as the characteristics of consumers, to determine the factors influencing the supporters' word-of-mouth effects in online environment.

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An Exploratory Study of Sales' Marketing Process for Online Open Market -Focusing on Amazon.com-

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1. Purpose of Study

Amazon.com is leading the online open market in the United States. Amazon.com is now selling a variety of products from foreign sites in 12 countries.¹⁾ Shopping convenience, easy pay system, rich contents, products and shipping on IT-based are succeed points of customer-oriented business model of Amazon.com.²⁾³⁾

This exploratory study is providing sales marketing process step-by-step approach to success business on Amazon.com in fashion category. An operational sales method in international online open markets on this study are able to be provided into business opportunities for future sellers and fashion brands.

2. Methodology

As Amazon.com's seller of fashion products from creating account, products approval and registration, pricing, promotions, sales, shipping and returns, refund to payout receiving, and customer response, on the view is the sales marketing process step by step will be explored. And this study will be suggested for future individual or professional power seller, global fashion merchandiser, etc., based on the successful business cases.

3. Results and Discussion

1) Amazon.com's advantage of an online open market

The online platform operators, Amazon.com have a huge customer base with a simple Internet e-commerce. Recently, the aggressive investment, ranging from

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shipping to logistics robot and drones followed to ensure timely payment.⁴⁾ Amazon have differentiated strengths throughout the one-click payment system and the best technology in the world.⁵⁾ Customer retention data using the convenience of Amazon can be implemented intuitive UI of the highest levels of customer service

2) Sales Marketing process on Amazon.com

The steps for sales marketing process is started create seller account. And next steps are proceeding on category approval, and products registration which are included in analysis for other seller's sales item. And item images up-loads, product titles, items specifications and details of descriptions, create keyword, preparing barcode, pricing, promotion, packing and shipping, payout settlement and payment, and returns, refunds until consumer response should be proceeded.

For sales marketing for amazon, the first step is creating seller account the payout bank account as an Amazon seller, which is professional seller and individual seller of Amazon's seller account.⁶⁾⁷⁾ Success on Amazon depends on the product's characteristics. It is important to develop to specific product, above all.

So, products' category should be approved for sales marketing, and 5 images should be up-loaded and must be approved on the Amazon web of their reasonable policy before sales. It should also be identified, such as competitors and competitive products, and navigation characteristics, price, promotion activities. And other seller's sales items should be analyzed.⁸⁾ And the next step is to create a product picture image. Images should be clear and contain of information in an easy-to-understand product accurately represent Amazon products. All of images should be at least 1000 pixels on one side, because the customer can use the zoom function.

Product title, descriptions should stimulate the purchasing with accurate information so that customers can easily find the keyword.⁹⁾ So well made keyword of sales products bring the exposure and increasing sales. And then sellers prepare barcode, which is UPC barcode.

Next is pricing the product, sales price must be included the Amazon's fee, shipping, return handling fee, administrative expenses, product cost, and sale's margin. Amazon's fees include referral fee, variable closing fee, and fixed closing fee.

Amazon ads are only available to professional seller. The way in which to approach the coast of fur-click (cost per click) search for certain keyword in the search list of customers exposed to advertising expenditure items when they click

on the product was advertised. Advertising products can also be set up, the number of ads, number of exposed to the consumer through the Overview.

Packing and shipping services in the Amazon, and is operated by the FBA, "PRIME", for professional seller, and professional seller is paying management fee for packing and shipping per item. And sellers can check out amount payments on their bank account 3-5 days from the date of transfer in the Amazon.

If returns and refund were issued, Amazon fee may be returned to the buyer. Refund commission should be charged in accordance with the refund I receive from the seller. Normally, refund commission is calculated as ((product price + shipping) X15%) X20%.

4. Conclusion

This explore study is understanding for step-by-step of sales marketing process from create account and sales manage to returns and refunds and consumer response on Amazon. Do not interpret all of online open market. This study are limited to those of the Amazon of several online open market, the proposed sale to the seller and the only power marketing operations process study.

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Body image of Korean and British young women

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1. Purpose of Study

Research has tended to focus on cross-cultural differences between Asia and other parts of the world in young women's perception of body image(self and ideal), and regarding body issues. However, little work has been done on the cross-cultural differences in these perceptual variables with Asia and country from Europe, in particular, between Korean and Britain young women.

Therefore, the purpose of the study is to examine and understand the cultural and perceptual differences between two countries, Korea and Britain, regarding body image and body issues.

2. Methodology

The Statistical Package for Social Science (SPSS)Version14.0 for windows was used to provide descriptive statistics. Independent sample *t*-test, paired sample *t* tests, and Pearson's correlation analysis were conducted for the study. The participants in this study were female college students; 108 from a central university in Seoul, Korea, and 68 from a university in England. The Korean and British participants' ages ranged from 20 to 34 years and from 18 to 32 years, with a mean age of 20.78 (SD = 4.24) and of 21.03 (SD = 2.41), respectively.

3. Results and Discussion

There are gap between the perceptions of two countries young women regarding body image(ideal and self), and body issues. Both Korean and Britain female college students chose ideal body images that were smaller than their self-defined body images. The ideal and self images were significantly different in both groups. Both groups were dissatisfied with their body size.

And another finding that compared to Korean group, British group were more

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satisfied their body parts, such as waist, bust, Hips, thighs, calves, ankles, upper arms, lower arms, wrist, face, and whole body.

4. Conclusion

The thin ideal of body image has become more globalized among young women in two countries. The paper has presented that the Asian; Korean and European: U.K. country is getting spread of the notion of thinness and slimness in young women

The study was limited small sample size. Future study using more participants from more diverse age group and more diverse ethnic groups is recommended.

The study will help marketers and retailers who develop new products and new markets aimed at Korea and Britain women related to body image, body satisfaction.

Successful Social Media Marketing in High-End Brands

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1. Purpose of Study

Since the use of social media is getting more frequent internationally, customers get the information of brands and products quickly and easily and pursue various needs and styles.

As social media communicate with the public horizontally, it was difficult for luxurious brands accustomed to dominate the public to get used to it. However, many high-end brands now lead innovation while being luxurious and social at the same time.

This study tries to investigate and analyze successful cases of high-end brands, which think highly of scarcity and brand-image and provide high quality products to customers, broke the old image and lead innovation while making the best use of popular social media as marketing method.

2. Methodology

To analyze successful cases of high-end brands using various social media, this thesis analyzes and investigates the books about social media marketing and materials of literature and website about fashion marketing of social media and high-end brands. Therefore, it studies how high-end brands use social media and what marketing purpose they use with it.

3. Results and Discussion

High-end brands use various social media such as Twitter, Facebook, Youtube, etc. On Twitter and Facebook, they make relevant page and update news about the brand every day or week while using brand logo and advertising pictures on main page. Mostly they update new products and events firstly on social media to enhance brand loyalty. Due to the characteristics of social media, pictures are

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rapidly shared by people all over the world simply by making the page and uploading pictures. That's why many high-end brands actively use social media to increase intimacy between the brand and the public and attract more various customers. This is a very effective way of growing popularity of high-end brands more than marketing with advertisement or sponsorship without changing the basic image of the brands.

1) The case of high-end brands using social media for marketing

① Burberry

Burberry is luxurious brand that first started using Twitter account in Korea.

Burberry emphasizes that all the factors such as music and model should have an English atmosphere. Accordingly, they manage all the stores coherently over the world and, at the same time, use a strategy of showing off 'fashion people' from all over the world enjoying 'British Elegance'. 'Art of the Trench'(artofthetrench.burberry.com) is social media(SNS), opened by Burberry in 2009, where anyone wearing Burberry trench coat can upload and share their own pictures with other users. There you can see people from different races, ages and genders wearing Burberry trench coat, walking down the street and talking over the coffee around the world.

Through these various tries, Burberry recorded 2 billion pounds (approximately 3.3437trillion won) of sales in 2012 fiscal year and business profits increased 5 times more than previous year. In this process, Burberry could strengthen the brand-image lyrical and luxurious.

② Toryburch

Fashion show gained much attention after rapidly promoted by SNS through the smartphone. Brand promotion has been done naturally when fashion maniacs took pictures with their smartphones at Fashion Week and spread them through SNS. It's not only Toryburch got much attention through SNS.

Now Louis Vuitton also uses social service to promote products. Louis Vuitton Monët Hennessy, the French luxury brand, started running Facebook from 2009 and let the users of Apple's iPhone enjoy the show through the phone in real time as the number of them is increasing.

③ In celebration of 2010 World Cup, Louis Vuitton held the campaign called 'Meet with Greatness' which was possible to meet the great heroes in soccer history like Pele, Maradona and Zidane in one place. When loading the screen, Louis Vuitton promoted the brand by showing their symbol monogram icon and provided the video like meeting and listening to those three players through the soccer game or the interview they participate directly. Then they provided the sharable address on Facebook and Twitter. Like this, it's possible to make the

campaign by combining international festival with brands. In this case, the campaign means for communication. By communicating in the campaign, high-end brands are enabled to firm the luxurious image and approach customers friendly. There have been increases in the number of designers of luxurious brands using Facebook and Twitter, the world's biggest SNS. Also more and more consumers hope designers to get closer to the world by social media.

4. Conclusion

When high-end brands use social media, they firm the image of high-end and add popularity upon it.

Brands save a lot of time and cost by using social media and enhance the sense of intimacy and trust with consumers based on intimate relationship formed by communication.

And high-end brands are carrying effective campaigns while giving information and fast feedback in social media.

The conclusions of this study are as follows.

First, high-end brands use the brand logo showing prestige and reputation or pictures of eyewear and handbags on their page in social media.

Second, there are more campaigns through the video, not only through the picture. The video along with music enables brands to show their identities more clearly.

Third, the sales volume increased by social media campaign and customer loyalty to high-end brands also grew up since customers trust brands with given information and pleasure.

This study contributes to be a base data to establish effective marketing strategy with social media in the future by analyzing globally high-end brands using social media and researching successful cases of them.

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A study of body exposure attitude according to underwear attitude and efficacy of image making of female

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1. Purpose of Study

Recently deconceptualization of underclothing and outer clothing makes it vague to sectionalize the inside and outside of clothes and expands the functions of underwears. Underwears have been put stress on functionality and comfortableness more than aesthetics but change the role of basic function such as skin protection and secretion absorption into flattering the body shape according to the increase of aesthetic needs as underwears become high quality and high value products. In addition, the attitudes toward clothing exposure has a different evaluation from the past with the changes in moral values and sexual openness. It may be significant to apprehend the female attitudes toward underwears and body exposure.

The word 'Image' is often used for modern people to express themselves and people manage themselves by trying to have good images. Image-making, therefore, is to try to manage and improve the image for achieving their pursuing goals and the efficacy of image-making appears different by the level of belief of successful achievement. The components of external image-making are face, posture, fashion, hair style, makeup, conversation and so on and especially fashion plays an important role which can be earned by changes. Accordingly this study tries to find out the influence of underwears' sub-variables which is a component of image-making and the difference of body exposure attitude by the attitude of adult female and the efficacy of image making.

2. Methodology

Questionnaires are administered to 405 female adults living in Deagu and

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Kyungbook areas from 7th June to 17th June, 2014. Frequency, factor analysis, reliability analysis, regression, and χ^2 -test were used for data analysis. Research problems are as follows.

First, it is to understand the factor structure such as underwear attitudes, and efficacy of image making.

Second, it is to find out the effect of underwear attitudes on efficacy of image making.

Third, it is to examine difference of body exposure attitude by the underwear attitude and the efficacy of image making of female.

3. Results and Discussion

The result of factor analysis on the underwear attitude of adult females showed aesthetics, ostentation, wearing sensation, the importance of maintaining a good manner with the 57.19% of explanation. The efficacy of image-making showed self confidence of display, positive image, ability to display with 60.25% of explanation.

The result also showed a significant influence of the aesthetics of underwear attitude on self-confidence of display in the image-making efficacy with 20% of explanation. The aesthetics and wearing sensation of underwear attitude has been proved to have a significant influence on positive image in image-making efficacy with 26% of explanation as well as aesthetics and ostentation of underwear attitude have a significant influence on ability to display with 26% of explanation.

There were a partly significant difference in adherence degree, low-cut degree of a blouse or t-shirt by the aesthetic and ostentation of underwear attitude and see-through material, but no significant influence of wearing sensation, and the importance of maintaining a good manner on body exposure attitude. A significant difference in close fit degree and see-through material according to aesthetics of underwear attitude showed higher aesthetics group prefers clothes with tighter fit and blouse with higher level of see-through material to lower aesthetics group. According to ostentation there was a significant difference in body adherence degree and the cut degree of t-shirt or blouse. A higher ostentation group prefers clothes with tighter fit and 5~7 cm low-cut tops. A group with high ostentation more tended to choose see-through clothes.

There also was a significant difference in body exposure attitude among the items such as body adherence degree, low-cut level of blouse or t-shirts, the length of pants or skirts, see-through material according to self-confidence of display, the group of higher ability to display preferred tighter clothes and higher level of low-cut as well as see-through clothes to lower group. The positive image

also made difference in the length of skirts or half-pants as longer length by higher group. According to the ability to display, a significant difference was found in adherence degree and low-cut level, a higher group in this category preferred tighter clothes and 5~7 cm low-cut tops.

4. Conclusion

This study tried to find out the body exposure attitude according to the underwear attitude and image-making targeting adult career women, and the results are as below.

The average of wearing sensation showed high, which means women tend to choose underwears with comfortable for action and well absorbing sweat. Every factor of image-making efficacy showed higher score than average, especially positive image was highest, which means facial image plays an important role in interpersonal relationship.

The more body flattering clothed women had higher ability to display. Women who choose underwear that can cover their bads and comfortable tried to increase self-confidence by making facial image better, while women who love to wear nice and expensive underwears had higher intention to display their facial images that raise their personality.

Women who prefer the underwear that support the body shape tended to wear clothes with tighter fit. And those who prefer underwears of luxury brands with showy colors choose clothes that support body shape with see-through material and also choose tops with 5~7 cm low-cut.

The group with higher self-confidence to display had a tendency to express themselves gallantly by wearing clothes with proper level of low-cut rather than deep low-cut and wear see-through blouses or skirts. The positive image is shown from inner image rather than attractive appearance, therefore most women wears skirts or half pants with proper length not with short length to show off. The group of higher ability to display seemed to try to make a better image by wearing clothes that supports their own attractive points and neck and breast lines by covering or tightly fitting with their body shape.

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Measuring Importance of Internet Apparel Stores' Design Attributes using Three Different Methods

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1. Purpose of Study

As apparel shopping on Internet web site becomes more prevalent, a great deal of attempts to measure importance of web site design attributes on Internet apparel shopping has been made both in academia and marketing research field. There are various measures determining importance of attributes including importance ratings, constant sum, Q-sort, maximum different scaling, unbounded ratings and magnitude estimation. Among the available importance measures, three most commonly used measures were compared to examine the importance of web site design features on Internet apparel shopping.

The purpose of this paper is to examine the importance of design features on Internet apparel store through three different importance measurements. The design elements examined in this study are as follows: availability of enlarged pictures, availability of product detail pictures, availability of other buyers' opinions after using the products, availability of coordination items, and availability of size measurement charts. The three different measurements used in this study included two direct measures and one indirect measures using conjoint analysis.

2. Methods

Instrument

The first direct measure used a nine-point scale asking how important each attribute is and the second direct measure was to choose the most importance attribute out of the five design attributes. Conjoint analysis was used to measure relative importance of the Internet apparel stores' design elements and it is

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considered to be an indirect measure.

The online survey questionnaire consisted of four sections which included three different types of importance measures and demographics. The three different methods were used to measure the importance of design features for Internet apparel sites. The five design features of Internet apparel sites were chosen by the researchers after reviewing several Internet apparel sites which are popular in Korea.

The first-choice method asked respondents to choose the most important design feature among the five design features when purchasing clothes from Internet retailers. Secondly, respondents were asked to rate on a nine-point scale (1=definitely not important; 9=strongly important) how important each of the five design features was in their purchase decision. This method is one of a stated importance measure. The last method involved a paired-comparison conjoint analysis. The Conjoint Value Analysis (CVA) package was used to generate 18 paired profiles with an orthogonal design. The five design features were fed into the conjoint analysis as attributes. Each attribute had two levels (available and not available). The respondents were asked to rate their preferences between two different conjoint combinations in each conjoint profile on a nine-point scale.

Sample and data collection

An online survey was used as the primary means for data collection. The sample consisted of 150 female and 150 male Internet shoppers who have shopped clothes on Internet stores more than once for the last 12 months, whose age ranged from 16 to 69 with an average age of 32.6 years. 79 per cent of the sample fell in the age range of 25 to 45 while those older than 30 years accounted for 60 per cent. The majority of the sample completed two-year college or higher education (N = 210, 70%).

3. Results and Discussion

First, the results of the stated importance measure showed relatively high scores with little differentiation between absolute ratings of each design features. Respondents indicated that each of the design features was important when they shop for apparel items through Internet stores. Give that a rating of five is considered average importance on a nine-point scale, respondents rated all features were important to their decision. While men and women rated the importance of the design features in the same order, women tended to rate higher on all design features than did men. Even though men and women agreed that the availability of enlarged pictures is the most important feature and the availability of coordination items is the least important, little variation between

the features would limit the persuasiveness of the results.

Second, the result of the first-choice method showed a marginal difference between the respondents the top two features. More than one-third of the respondents chose the availability of enlarged pictures as the most importance feature when they shopped for apparel items on Internet stores.

Third, the results of the conjoint analysis showed similar results.

4. Conclusion

This study examined website store design features with three commonly used importance measures, and found that the findings from three measures were similar with little differentiation. The result of this study can be used to improve the validity of attribute importance measurement in consumer behavior in apparel shopping.

Effect of SNS characteristics on Outdoor Wear Purchase Intention

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1. Purpose of Study

The biggest topic in Korea's culture in the early 2000s was "well-being". In other words, people started to go after higher dimensional desires such as the pursuit of value and self-realization (Lee, 2004). Due to the spread of well-being culture and five-day workweeks, which led to the popularity of leisure sports culture and increase in health and leisure, outdoor culture began to grow (Lee, 2009). The outdoor brands' shares in the fashion market rapidly increased, along with the increase in the sales of outdoor products. The size of the outdoor market gradually increased annually, and after reaching the one trillion won mark in 2006, it reached 4.37 trillion won in 2011 (Kwon, 2012) and eventually exceeded 6.04 trillion won in 2013. Also, the popularization of smartphones intensified the popularity of social network services (SNS) that began in the mid-2000s. Therefore, the purpose of this study investigate effect of SNS characteristics on consumers'purchase intention of outdoor wear.

2. Methodology

In order to investigate the purpose of this study, a questionnaire was developed based on preceding researches and then distributed to 200 consumers. Then, SPSS 18.0 was used to conduct reliability test, factor analysis, and regression analysis on 171 returned usable questionnaires out of 185.

3. Results and Discussion

First, the characteristics of outdoor wear purchase were examined, the most frequently purchased outdoor brand was Northface(16.4%), followed by Kolon Sports, K2, Black Yak, Nepa and Columbia Sports. Jackets/jumpers(49.1%) were the most frequently purchased outdoor products, followed by shirts/t-shirts(27.5%) and

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pants(16.4%), which are mostly clothing goods. As for the frequency of purchase, purchasing once or twice every six months(40.9%) was the most common frequency, followed by once or twice every three months(31.6%), and once or twice every year(24.6%). 100,000 won to 200,000 won(36.3%) per purchase was the most common amount spent on outdoor wear purchase, followed by 400,000 to 600,000 won, 200,000 to 400,000 won, and less than 100,000 won.

Second, SNS activity related characteristics of respondents were examined, and the most frequently used SNS was a messenger(82.5%), followed by Daum cafe and clubs(16.4%). It was revealed that the usage of Blog/Mini homepage and micro blogging was relatively low. Naver was the most frequently utilized service for cafes or clubs, followed by Daum, and in case of mini homepage usage, Naver was the most dominant(95.3%). Next, as for a messenger, 100% of respondents were using Kakao Talk, and for micro blogging, Facebook(41.5%) was the most popular, followed by Kakao Story(35.1%) and others(18.7%). In case of daily average SNS usages, 68.4% of the respondents used SNS for less than an hour, which was the most common, followed by 1 to 2 hours(15.8%) and 2 to 3 hours(15.2%). Lastly, as for the mobile devices used for using SNS services, 66.1% of the respondents used mobile devices, followed by PC/notebooks(33.9%).

Third, the effects of SNS characteristics on on-line and off-line outdoor wear purchase intention using SNS were that only the SNS-usefulness factor has positive effects with $\beta = .736(p < .001)$. This regression model has a high power of explanation(68.1% with $R^2 = .681$) with $F = 179.024(p < .001)$. In other words, it can be seen that the outdoor wear purchase intention through SNS increases as the awareness of SNS characteristics' usefulness for obtaining and acquiring information and goods increases.

4. Conclusion

As for the effect of SNS characteristics on the consumers' purchase intention of the outdoor wear, the purchase intention increased as the awareness of SNS usefulness increased, and it had no relationship of attention with SNS enjoyment. Through this, it can be seen that the outdoor wear consumers can wisely purchase outdoor goods based on the information that is usefully acquired through SNS. Based upon this result outdoor wear company utilizes SNS marketing approaching consumers' perspective and regarding how to provide effectively useful information through SNS.

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An Analysis of Menswear Brands in the Current Domestic Fashion Market

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1. Purpose of Study

Along with the development of the recent menswear market, zoning is getting subdivided in various tastes. Old brands are targeting the young ages to transform their obsolete image into fresh one. Also, in terms of price strategy, they suggest a reasonable price and reinforce the casual line because of the fast changing market trend. Through analyzing past 10 years trend of the new menswear-brand and investigating the menswear-brand's current situation in domestic fashion market, this study shows changes and trends in menswear market and foresights for the future strategy that the menswear brands should develop.. This study aims to analyze the differences between domestic and overseas menswear brands, and provide baseline data for the domestic brands in regards to strategic direction in the coming years. The following were investigated in order to achieve the purpose of this study.

First, to find out the present state of menswear in the domestic fashion market.

Second, to analyze new menswear brands launched in the past 10 years

Third, to analyze the difference between domestic and overseas menswear brands.

2. Methodology

This study used 20 reports published by Samsungdesign.net, which provided trends of new brands from 2005 S/S to 2014 F/W, in order to analyze the trends of new menswear brands—launched during that period. Menswear brand information in the Korean Fashion Brand Annual(2014), of which there were 168, were utilized to research the current state of the brands in the domestic market. The focal points of the detailed analysis were the brands' type and zoning, revenue scale, target, concept, price range, and distribution channel. SPSS was

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used for statistical analysis to calculate frequency, percentage, average and standard deviation. χ^2 test and t-test were used for analyzing the differences between the domestic and overseas menswear brands.

3. Results and Discussion

1) A distribution of menswear brands in the domestic fashion market showed ranging from 5 years or less to over 30 years since they have launched. There is also an even distribution of brands in regards to revenue scales from the lowest of KRW 35 thousand to KRW 230 million. The domestic brands and overseas brands in the market are similar in proportion. The zoning types were character casual, formal wear, dress shirt, business casual, traditional casual, and contemporary. The 43.7% of brands designated 20's men as their target customers, which indicates that the age of the target customer is getting lower. In terms of pricing, the bridge-priced brands did not show a big difference with either prestige price zones or budget price zones. As for distribution channels, department stores were most prevalent, followed by, road shops, outlet stores, and company-managed stores. Most of Menswear brands chose 2 to 3 distribution channels at the same time.

2) The launching of menswear brand have been active for the past 10 years. However, the rate of launching started to decrease noticeably after 2010, and even there were no launchings in the following zoning groups: formal wear, business casual, and dress shirts. Character casual brands have consistently launched at a high rate, and contemporary brands have launched actively in the last 5 years. Increase in overseas brand launchings suggests that menswear is becoming more sensitive to trends. The proportion of brands that are targeting men in their 20's have also gone up in the last 5 years, and it has mainly been in the bridge-priced brands.

3) Domestic brands have a much bigger market share in the formal and character casual zoning, while overseas brands are more prevalent in the traditional, dress shirt, and contemporary zoning. This shows that domestic brands need to develop more in these zoning. In terms of pricing, there is not a huge gap between domestic and overseas brands. Since menswear is strategically priced at a high level, providing customers with high quality clothes is required.

4. Conclusion

There have been steady launchings of menswear brands in the character casual zoning for the past 10 years and active brand launchings in the contemporary zoning in the last 5 years. So, it is expected that menswear become more sensitive to trends and designs. Also, as brands targeting 20's men are getting

increase, it suggests that menswear brands are striving for a younger mindset. In terms of pricing, prestige and budget line launchings are dwindling, while bridge line launchings are increasing. This shows that customers are demanding luxury items at a reasonable price. Since there are higher ratio of overseas brands in the dress shirt and contemporary zonings, domestic brands need to develop and produce more high quality clothes in these zonings.

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A Study on the Design Characteristics of Neoprene in Fashion Collection⁺

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1. Purpose of Study

As neoprene that had been previously used only for industrial purposes has been newly used in diving suits, it is mixed with completely different materials such as silk or printed with fancy patterns to express different looks and create new styles in designer's fashion collections. Starting from the jumper made of neoprene in the 2007 F/W by Alessandro Dell'Acqua, a series of fashion houses such as Miu Miu, Balenciaga, Comme Des Garcons, Burberry Prosum also released fashion items in diverse designs and colors, leading to the popular use of neoprene.

Preceding studies on neoprene include those by Chilsoon Kim et al., Jeongim Choi et al., and Yheyeong Lee, neoprene was reported to rapidly emerge as a popular material amid the formation of sportive fashion trend. However, there is no research on more specific application of recently-popularizing neoprene material-based design characteristics. In this point of view, this study aims to review the trends of neoprene in designer's fashion collections, and analyze design characteristics according to the features of neoprene.

2. Methodology

This study will be performed by examining theoretical backgrounds of neoprene described in various papers, textile & fashion magazines, internet web sites, news

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articles, etc. Prêt-à-porter collections were investigated herein for 5 years from 2010 S/S to 2014 F/W collections. The selected works include those clearly showing neoprene material and those mentioning neoprene in their material explanation to qualitative analysis for the neoprene material design characteristics. The material should be recognized as Neoprene however, it is quite limited to be certain since it is a collection picture.

3. Results and Discussion

1) Exaggerated form

Emporio Armani in the 2013 F/W collection, the neoprene jacket's shoulders were designed asymmetrically and the skirt was inflated to give the look of exaggeration. As for Marni RTW 2014 F/W, the upper sleeves were exaggerated to focus the unique textile volume of neoprene while falling to a slender waist in the A-shaped silhouette, adding a feminine look to an otherwise excessive design. The sweat shirt in the Balenciaga collection, which ushered in neoprene popularization by bringing about numerous copies amid sensational popularity in 2012, gives also different look from normal sweat shirts with an exaggerated silhouette and an impressive SF image printing. The sweat shirt by JUUN.J x ALEXANDFELIX in the 2012 F/W collection is a good example of designing with neoprene based on its rich volume. There is a hard shaped neoprene jacket by Balenciaga in the 2012 F/W. It made the most of neoprene characteristics -ease to express oversized silhouettes than cotton or wool and light and soft texture easier to express structural silhouettes. As such, since the shape was exaggerated, the jacket composition line, details, etc., are much reduced.

2) Sophisticated patterns

The 2014 S/S collection by Sadie Williams presented three dimensional effects by compressing multi-layer neoprene fabric at a high temperature and adhered metal threads on it to add an exclusive texture with subdued gloss to show a dress of its own unique look. This is a work in the 2013 F/W collection by Ground Zero who uses colors in a geometric way. Neoprene was printed with an image associating a robot. And the overall collection was decorated under the concept of cartoons. Tommy Hilfiger, in the 2014 S/S collection, stressed activity by using vivid blue and green together with lemon yellow to give a fancy color arrangement. The DKNY 2013 F/W collection showed beige-toned, bold stripes giving the sense of autumn in sophisticated designs. Also, the OHNE TITEL 2013 S/S collection showed live expressions through a geometric color blocking with vivid blue and black. This is another example of using neoprene characteristic of expressing colors far vividly than other materials.

3) Mix-match with other materials

The Gareth Pugh 2010 F/W collection showed works expressing epicene and classy looks at the same time by mixing glossy leather with neoprene. MARNI and Givenchy showed witty design to mix neoprene and knit up together. They layered neoprene Bustier onto simple tops to maximize distinctive crossover designs. The KYE 2013 F/W collection added fur details on neoprene tops for uniqueness. The Tommaso Aquilano and Roberto Rimondi's 2014 S/S collection used sheen padding in the body and neoprene in sleeves. However, those were in the same colors to give the sense of unity. These works showed that neoprene can be used with other diverse materials such as leather and knit without the sense of difference and it is very useful in creating works of unusual and crossover looks.

4. Conclusion

This study is to analyze the design characteristics of neoprene in designer's fashion collections that was mainly used for industrial purposes is now used as a trendy fashion material by designers. And the results are as follows:

First, neoprene's texture used to be thick and heavy but as it was further processed to become softer and lighter, it became easier to make a shape than other fabrics. For this reason, neoprene-based designs are normally in exaggerated shapes and simple designs without details. It was found that neoprene was utilized in jackets, sweat shirts and etc., in structural forms.

Second, neoprene is synthetic rubber with dense tissues and good dyeing property to express colors more vividly than other materials. It was found that designers, recognizing this, tried to express their characters by adding special textures, geometric color arrangement and fancy-colored flowery patterns to neoprene-based designs that could look epicene and rigid.

Third, neoprene material is efficient in giving diverse different looks depending up display. Neoprene was found to be easy to mix and match with other materials such as leather, knit, fur, padding, lace, silk and etc. Especially, the sense of unity was maintained through the type of incision and color arrangement. This finding indicates that neoprene expressed distinctive look and atmosphere in design beyond imagination when matched with various materials.

Based on these research findings, the present study is expected to illustrate as useful basic data for neoprene to overcome the previous convention as a material only for industrial purposes or diving suits and create and develop more unique images.

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Development of Design for Band Type Heating Vest

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1. Purpose of Study

By the influence of ageing population, the well-being trend, and the increase of the interest in health, people tends to enjoy sports and outdoor life. Followed by the change of consumers' life style, the interest in smart clothing grafting scientific technology has increased, and the research on this subject is necessary.

The subject of this study is on heating vest, one of the domestically commercialized smart clothing. The study was processed collaborating with the heating vest manufacturer. This study is to develop improved design of band type heating vest by grasping the weak point of currently on sale heating vest design by the manufacturer. Through this process, satisfaction of the consumer and the manufacturer will be increased.

The purpose of this study is as follows: 1) Conduct demand survey with the manufacturer and wearing evaluation test with the consumer on band type heating vest. 2) Suggest design draft on band type heating vest for both genders reflecting the demand survey results. 3) Conduct consumers' preference survey for design draft. 4) Make the sample product, and then conduct the evaluation of wearing.

2. Methodology

Before the demand survey, design for the previous developed design of band type heating vest by the manufacturer was analyzed. The demands for the design of new band type heating vest was researched from interviewing with three manufacturers in charge.

Consumer demand survey was conducted by wearing evaluation test. The survey target is 20s to 50s adults both men and women 30 people each. The subjects answered the questionnaire after walking or slightly moving for 10 minutes

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wearing old band type heating vest fitting well to their body with controller on. The room temperature was 18°C, and 7% RH. The questionnaire has 12 questions with 5 point scale each, containing convenience, heating function, wearing sensation, and design. SPSS 22.0 program was used for data analysis to calculate the mean and standard deviation, and conducted independent T test. In design preference survey, 20s~50s men and women 50 people each, overall 100 people participated. Each design was scaled into 5 points from 'highly preferred' to 'highly not preferred'.

3. Results and Discussion

The results for the demands of band type heating vest design interviewing with the manufacturer in charge are as follows: 1) Differentiated design from old band type heating vest on sale. 2) Maintaining band type style. 3) A design easy to coordinate inside the outer. 4) Separate design for men and women. 5) Inserted heating device design. 6) Use of easy fastener. 7) Use of elastic and washable fabric.

Improvements were necessary according to low satisfaction result on convenience, wearing sensation, and design questions excluding heating function question in wearing evaluation test. Also, the results of the analysis showed low satisfaction on women compared to men in every questions. The questions for convenience of size adjustment, convenience of using fastener, wearing sensation, thickness, fitness, and texture of fabric questions, showed significant difference between men and women. Therefore on the basis of this result, the development of design in consideration of each gender's body type and preference is necessary.

The process of design development is as follows: 1) Suggested 6 heating vest design drafts on the basis of demand survey ; 3 for men, 3 for women. 2) Decided the place of heating device from the selected 6 design drafts. 3) Applied black/brown, black/dark gray, black/navy color in selected 6 design drafts. Overall 18 color variations were suggested. 4) Conducted consumer design preference survey on selected design draft. Design B-2 for men and design F-1 for women were the highest nomination. 5) Made the sample and conducted wearing evaluation test. The result showed the new developed heating vest scored higher in every questions for both men and women compared to the old heating vest. For men, the questions for easy to put on and take off, convenience of using fastener, heating function, wearing sensation, texture of fabric, coordination with outer, and overall design showed significant difference between old and new heating vest design. For women, excluding the questions for heating function,

place of heating, and place of controller, every other questions showed significant difference between old and new heating vest design.

4. Conclusion

This study was progressed collaborating with heating device manufacturer, and is significant for suggesting design to commercialize into a product. However, suggesting variety of heating vest design is limited since the design was developed by the demands of the manufacturer. The further research is required to develop segmented design focusing on consumer's life style change, age, characteristics, and uses of wearing. Furthermore, the development of various items of heating clothing design beyond heating vest is also required.

This study expects to be helpful to the heating vest manufacturer whom are having difficulties on development of design by the lack of professional designers even though this industry has significant potential followed by the increase of consumer needs. Also this study is looking forward to provide and opportunity to increase the interest to the development of domestic heating vest design which is in shortage of number as yet.

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Dynamic Application of 3-D Printing Technology in Fashion Industry

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1. Purpose of Study

3D printing was first developed in 1984 and was used only in limited fields until early 2000, but due to recent technical advances and being generalized in the household, it has been gaining attention in an extensive impact. Also, modern fashion applies various materials and techniques to attempt in making a new structural form. Thus, 3D printing technique has been applied in the fashion industry in many different ways. This study is to research fashion cases about what kinds of attempts are being made and especially aiming to research on structural aspects.

2. Methodology

As for research method, a case analysis was progressed with various literature researches and preceding researching about the existing 3d printing as the background. In order to analyze fashion cases of 3D printing, websites such as www.style.com and www.google.com were used to collect data and preceding researches were used to accurately understand about 3D printing through using literature to make this understanding. The object of this study is to correctly understand about 3D printing and analyze fashion cases.

3. Results and Discussion

1) 3D Printing

3D printing is a type of additional manufacturing technology that makes a three-dimensional object by repetitively spraying layers of substances. When 3D printing produces a product, it can be produced with much process steps which allows it to be a highly practical technology. It is gaining attention as the next

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generation production technology as a trend with a much wider applicable field by the development of the technique. This 3D printing shortens the procedures of tailoring and sewing process of the fashion design and can make immediate primary production possible. Also, without going through several process steps to actualize the design, geometric designs and complicated patterns can be produced immediately with the printer using a simple CAD to insert data which allows various three dimensional designs to be possible.

2) Design Characteristics that Combined 3D Printing - Structural Design

The characteristics of structural designs can be classified into three parts. First is the segmentation of geometrics lines and planes. Structural designs incise geometrically, compositing a detail with a geometric form and uses diagonals and curves to form asymmetric forms. Segmented lines and planes are applied as geometric patterns in structural designs used frequently in solid materials and material mix and match and out cutting are used to emphasize the segmented lines and planes. Also, it is possible to show geometric lines in the silhouette by either exaggerating or omitting the clothing's structure. The second is textile expression by physical manipulation. This appears when flat materials are made to be three dimensional materials by tying, crumpling or layering during material production. A new texture was shown by destroying the two dimensional structure of the existing material. The modification of the design and silhouette by contingency and flexibility, not a form fixated by the tailoring and sewing, was shown. The third is a simple manufacturing process by the CAD.

3) Cases where Brands Truly Use 3D Printing in Designs

① Iris Van Herpen - Iris Van Herpen has researched on new designs and created a third textile by mixing materials with unique properties since her first collection in 2007. Through this, she displays her own Haute couture costumes. The collection that first combined 3D printing technique was the 2012 F/W Paris collection 'Capriole'. This collection was succeeded by the cooperation of Iris Van Herpen, architect Isaie Bloch and a profession 3D printing company MGX and has derived results that went beyond the limitations of textile materials. Iris Van Herpen's designs that have manual and digital techniques have the existing costume technique and new material and techniques of 3D printing coexist. Also, a structural geometric form of design was directed and since sewing was not necessary causing no seams, the division of lines and planes were expressed that were impossible with the existing textile.

② Jenna Fizel's N12 Bikini Project - Jenna Fizel has only used 3D printing techniques without other fashion tailoring and sewing to make a bikini. With the material of nylon 12, a repetitive geometric pattern was used for production. SLS

(Selective Laser Sintering) was used for the process with a nylon material considering the minimum of 0.7mm thickness and flexibility. If the bikini's structure is magnified, it is designed through thousands of circular plates and thin lines entangled with each other with mechanical considerations. The produced product not only has a spectacular design and ease of production but it is also well water proofed, allowing it to be comfortably worn in water. This project not only shows the possibility of the usage of 3D printing but it also gives faith in the functionality of the produced product.

③ Bitonti's Black Dress – It is a black dress made by the collaboration of architect Bitonti and designer Michael Schmidt using 3D printing. The design was made by Fibonacci sequence and Golden Spiral's golden ratio. , The processing operation was progressed by design insertion by CAD and 3D printing technique afterwards. The dress was made up of a total of 17 parts and was produced by using the exact data by scanning the model's body. This black dress applies 3D printing to fashion while maintaining the design elements yet showing that an exact and ideal custom clothing and easy production is possible.

4. Conclusion

Through this study, we found out the characteristics of 3-D printing itself, design feature when 3-D printing applied to fashion design and the reason why we use this technology for designing and manufacturing in current fashion industry. Also we verified the limit caused from the early stage of applying 3-D printing technology to fashion industry.

1) Prominent design characteristics when combining 3D printing with fashion design – Fashion design combined with 3D printing can produce differentiated structural results. 3D printing allows geometric patterns and variety of materials possible, and through this a differentiated structural design can be produced.

2) Reason why fashion industries are interested in 3D printing techniques – Existing clothing construction requires much processing steps from tailoring and sewing. However, clothing construction with 3D printing method can make immediate printing possible after design constructing and sketching and inserting exact data to the CAD. This shortens time of many process steps and also reduces price.

3) The limit caused from the early stage of applying 3-D printing technology to fashion industry - The process stage of current fashion industry is specialized in several decades of experience such as pattern producing and sewing. But it's unknown how it can be specialized by introduction of 3-D printing. 3-D CAD system is still an unexplored field regarding fashion. Therefore, there remains the

task how fashion industry should prepare with that. In addition, even though materials have been diversified due to 3-D printing technology, it's still unknown how to print out the wearability of fashion as it is in one-dimension in terms of the material composition with the form of fabric and weaving. It's because the look is important but the wearability is the absolute factor for fashion. Although it seems possible to solve such problem by developing injection materials of 3-D printing, it still seems like needing long-term study.

This study is a simple case analysis study of 3D printing techniques in fashion design. However, following this study, a study on work course applied in 3D printing fashion as well as method research and 3D printing combined in actual work should be research with in depth research and experimental research.

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An Analysis of Design Characteristics of High-Fashion Brands Extending into the Lifestyle

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1. Purpose of Study

The fashion consumption, usually focusing only on clothing, is expanding its range to the food and the housing category as well, and such change is encouraging to consume as pursuing their own identities and improving their life quality at the same time. Such situation has created a new way of consumers' culture called Lifestyle Branding and is gaining a great deal of attention from the fashion market for the branding's being able to help the fashion market to meet any special need or lifestyle of a consumer.

Both the high fashion brands and the fashion companies have wanted for long that they would take the lead in the lifestyles of people, and these high fashion brands and companies are currently trying to expand their lifestyle brands systematically. At present, all those high fashion brands including Hermès, Ralph Lauren, Armani, Roberto Cavalli, Bulgari, Missoni and others are not only obsessed with fashion items. They expanded their brands into not only lines of fashion fields such as Women and men's wear and a second brands but also accessories, electric appliances, house wares, furniture, dining, hotel and beauty services so that the consumers can have various experiences with the brand.

At present, such lifestyle trend is greatly affecting even the Korean fashion market, and that has been making the market being considered as a field with high potential. Therefore, this study analyzes the lifestyle brand-expanding strategies and features of the high fashion brands that are actively working in the global collections from the view of the designing and the marketing communications. Eventually, this study will present basic references and informations that would help the Korean fashion market, which is being evaluated

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as the purple ocean in the lifestyle market, to create their own lifestyle brands identity that would help accelerate the globalization of the Korean lifestyle brands.

2. Methodology

The method of the study will be followed. Firstly, general understanding on definitions, types, advantages and disadvantages of the brand expansion were reviewed through paper studies. The design background and their fashion philosophy were reviewed on the part of Missoni, Armani, Roberto Cavalli, Versace and Moschino. Secondly, for practical stage, the study collected images or photographs of those lifestyle brands that have been engaging in fashion (2010 S/S ~ 2014 F/W), accessories, home decorations, hotels, foods, beauty and many other areas and based on what could be found in the materials, the study talked about design characteristics and marketing communication strategies as well. That led the study to compare one brand to another focusing on different features of each brand which are observed when they try to cope with high fashion or lifestyle fashion. The research materials are from fashion books, articles, newspapers, magazines, official homepage of each brand, and fashion related internet web sites.

3. Results and Discussion

The lifestyle brand contains values and desires of people or culture and reflects an identity or a lifestyle of a customer such as foods, clothing, a place to live, sports, hobbies, well-being and others. The lifestyle brand is described as the brand that expresses values or desires of a particular people or culture in detail. The types and areas of the lifestyle brands have been expanded so widely that not only do they strengthen these products that would aim for self-expression and self-display such as cars, clothing and accessories but also they communicate with consumers through TV, commercials, web sites, and promotional events in some digital media environment. Until now, expansion of lines in a fashion brand means launching of low priced line and accessories, beauty, and jewelry as they expanded other sub-lines. Nowadays, however, as the consumers' lifestyles are considered important, the fashion brands extend their business scopes to the hotels, furnitures, home decorations and living appliances, spa, and the foods.

The study compared the ready to wear collections to the design characteristics of each brand that has grown their lifestyle brands successfully after their more than 30-year brand history. According to the results, the most popular design of Missoni is these zig-zag patterns presented in more than 40 colors, and Missoni

has been presented their identity which eventually led them to the combination of eye-catching colors. They apply dots, graphic prints and others to make home decoration goods that feel both fun and practical, and the point items in red or yellow with stripes or black and white dots printed are used to decorate the hotels. All those are working good enough to make the consumers see the distinctive feature of Missoni. When it comes to Armani, which is characterized as modern minimal design in black and white, they use soft materials and pursue a design that feels controlled but practical at the same time. The fine fabric, mono-toned colors, geometric prints that improve the quality of the design feature prominently in Armani bedding, minimal bath supplies and furniture shows modern and simple characteristics. Roberto Cavalli, which is characterized as animal prints in every different color that a designer has personally created, focuses on a woman's sexual attraction emphasizing feminine curves and uses details found in handicrafts to make interior decoration goods such as animal-printed fabrics and paisley patterns with various patterns applied. Those goods decorate splendid cafes, and are introducing the identity of Roberto Cavalli to customers. Versace comes up with healthy sexual attraction by using its own Medusa symbol, vivid colors and fancy decorations. These unique styles of Versace found in watches with gorgeous patterns applied, the Medusa symbol decorated in gold, and home collections and furniture finished in gold with bold patterns and prints applied are being presented through the Versace lifestyle brands. Being regular is the last thing that Moschino celebrates their designs with humors and wits. These humorous items found in their collections are being spotted in sofa shape of clothes or bag-or-boots-shaped lighting appliances displayed in Moschino hotel. Those items in simple colors have been making the interior decorations of the hotel even more beautiful. Not only that, the study analyzed the marketing strategies of each brand and found out that they are operating online stores through their official web sites in which people can buy not only ladies' wear but also other various lifestyle goods. Add to that, they are working actively on SNS such as Twitter, Youtube, Facebook, Google+ and others, and share ideas with consumers in real time as releasing news on collection fashion shows and the brands as well as campaign commercials. Lastly, their trying to grow their lifestyle brands systematically is also helping them to develop the brands through collaborations with other brands such as SPA brand, shoes, baby carriages, electric appliances, sportswear and others.

4. Conclusion

This study looked into the design characteristics of the fashion brands that have

successfully grown their lifestyle brands in spite of their high price ranges, and figured out that as the brands with the longest history in the field, they already had their own strong identities and were using these identities & contemporary trends as a chance to show the consumers their authentic value through their lifestyle brand designs. Those high-end brands are taking their brand power to a higher level and absorb the new change in the contemporary fashion industry not only by expanding their brands both constantly and systematically but also using marketing strategies such as promoting their brands or communicating with customers through SNS or collaborations.

Therefore, the result of this study can be used as a direct reference for the Korean fashion market to forecast trends of high fashion brands that have been quickly introduced and purchased in the domestic market as well as these fashion designs preferred in foreign countries. The study also expects that the information provided above will be a help when the Korean fashion market tries to establish global marketing strategies for the globalization of their lifestyle brands.

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The Modern-Girl Fashion (1920s~1930s) of Korea Expressed in Movies

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1. Purpose of Study

Film is the most universal and visual media among all mass media and can be easily accessed by the public and gives a strong sense of reality. The background of the movie is divided into time and space, and the background and contents of the movie and the description of the characters are mostly presented through visual media. Costumes and props are quite effective, as the media composes such strong visual images.

Movies rekindle the past by reflecting the times it portrays in relation to the storyline or gives a modern reinterpretation of the times. Costumes seen in movies show the historical backdrop of the movie and also show the fashions at the time. This study is intended to examine the fashion of modern girls, the first modern women of Korea, by focusing on the costumes seen in movies set during the 1920's - 1930's.

2. Methodology

Movies that dealt with the period between the 1920's - 1930's and represented the modern girls' fashion at the time through the costumes of heroines among films released after 2000 were selected in order to analyze the fashion styles of modern girls of Korea as depicted on film during the 1920's - 1930's. The movies chosen were <Blue Swallow (2005)>, <Modern Boy (2008)>, and <Radio Days (2008)>, and the costumes analyzed were those worn by Kyung-won Park in <Blue Swallow>, Nan-sil Jo in <Modern Boy>, and Mary in <Radio Days>.

The fashions in the movie were analyzed through photographs collected through DVDs of the movies. Photographs that presented the occupation of the heroines, their ideologies, and styles at the time were selected and stage costumes were

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excluded. To extract photographs, scenes that clearly depicted the costumes of the heroines were captured from the beginning to the end of the DVD. For the captured scenes where the costumes could not be identified easily due to resolution issues, photographs were downloaded from the Photo section of the portal site, NAVER Movie, and put through a pattern analysis. For fashion analysis, the heroines were examined from head to toe by focusing on their costume, accessories, hair style, and makeup.

3. Results and Discussion

Kyung-won Park, the heroine of the movie <Blue Swallow>, showed various fashion styles from the pilot's suit to overcoats, dresses, mannish looks, and military looks in combination with various hats, such as trappers, cloches, and berets, and accessories such as pearls and clutch bags.

The hair styles were mostly short, including wavy short hair styles and finger wave hair styles, except during the early phase. The makeup was natural makeup without excessive cosmetics or clear red lipstick.

Nan-sil Jo, the heroine of the movie <Modern Boy>, mainly had a *garçonne* look, a long and slim style, and the mannish look which prevailed during the 1920's and the 1930's. She wore different clothing in many scenes of the movie and had a bob cut hair style. The makeup emphasized her long and thin eyebrows, clear eye lines, and red and pink lips.

Mary, the heroine of <Radio Days>, was another *garçonne* style heroine with a simple and linear silhouette and a low waistline. She wore a Western style dress representing the modern woman. For accessories, she often wore *garçonne* style items such as cloches and pearl necklaces and also used a clutch bag, gloves, parasol, and capeline suitably, showing the fashion of modern women in Seoul at the time. Her hair style was mostly finger wave up style, while the makeup focused on dark eyebrows, dark eyeliner, and pink lips.

4. Conclusion

The costumes of the heroines of the movies <Blue Swallow>, <Modern Boy>, and <Radio Days> presented typical fashions of modern women and girls in Korea during the 1920's - 1930's. The fashions that were popular during the 1920's - 1930's, such as the *garçonne* style, the long and slim style, and the mannish style were rekindled or reinterpreted from a modern perspective and the films also showed accessories that were popular at the time, such as cloches, capelines, pearl necklaces, and parasol. Additionally, the short hair style and finger wave hair style, as well as long and thin eyebrows and red lips, which were popular among

modern girls, can be seen in the movies.

Modern girls in the 1920's - 1930's were the first modern woman and fashion icons of Korea in the early 20th century. In the study of the fashions of the times through cinema costumes, the costumes shown through movies can present the historical backdrop and fashions at the time in the best way. Their value as cultural content should be acknowledged. However, considering the characteristics of film, it is necessary not to overlook the fact that any interpretation of fashion in movies involves a modern reinterpretation due to the intention of the movie, unlike a true reproduction or historical research.

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Distinctive Characteristics of Thom Browne Suits for Men

-Focused on 2012 F/W~2015 Spring Collection-

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1. Purpose of Study

The objective of this research is to define the characteristics of Thom Browne men's suits and to analyze what makes them distinct from Classical men's suits. Through this study, current era's perception on aesthetic of men's suits can be observed and future changes in the direction of men's suit design can be forecasted.

2. Methodology

Alan Flusser's printed books on men's suit such as Dressing the man were studied to define features of classical men's suits. Moreover, characteristics of Thom Browne suits were analyzed through prominent fashion websites including Thom Browne's official site and the research was focused on collections from 2012 F/W through 2015 Spring.

3. Results and Discussion

Thom Browne's men's suit is regarded as the design that breaks the mold. Traditional classic suit's form, material, and color are equipped within a frame and the conservative of adhering to that form and style method is the characteristic. The difference from the existing classic suit appears in Thom Browne's suit's characteristics which are expressed by silhouette, color, pattern, and material.

1) Silhouette

The characteristics of the repetitive used silhouette of Thom Browne's suit are angular with an awkward tightness and an exaggerated body of a male. These characteristics appear in tight-fitting jackets with a narrow collar and short sleeve. Classic men's suit emphasizes neatness and moderation. It means that the pants

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cannot be short up to a point where the socks are shown or have wrinkles everywhere and this is shown in design matched with the form where the pant's bottom should not cover the heel. However, Thom Browne's suit's shows an attempt of using various silhouettes that breaks the mold of this concept. A design that flaunts muscularity or the beauty of men's body was frequently used by depicting muscles through inserting filling matters in the shoulder lines, chest, thighs, and abdomen. Layering that overlaps various clothes that doesn't match and cropping which shortens the sleeves or length were shown in all collections. Also a silhouette cutting that reverses the inside and outside allowing all the stitches to be sticking out appeared frequently.

2) Color

Existing suits used the color gray, navy and black most frequently and using the same color overall in one piece was universal. However, when Thom Browne was developing a suit collection centered on the color gray, he used a bright and raw color of gray used in manga which is a different color of gray used in existing suits. Although using solid colors used in classic suits, using different chroma to patch collages is also a characteristic. In the spring collection, pastel tones that are frequently used in women clothing but never used in existing suits were used to feature a new type of men's suit

3) Pattern

In Thom Browne's suit collect, the various patterns using plaid and stripes were repetitively used. Double tattersall that uses tattersall repetitively was mostly used and the use of tartan (Scottish check), hounds tooth, herringbone, glen plaid, and windowpane check were also noticeable. The above patterns are frequently used in classic men's suit but Thom Browne exaggerated the size of the classic pattern or used two types of stripe and plaid in one outfit or applied a collage technique in the pattern and used a new form of pattern in the suit different from the traditional suit. In addition, leaf, toy characters, flowers and butterfly patterns that were not used in existing suits were applied.

4) Material

Thom Browne's collection shows unexpectedness and destroys seriousness by combining heterogeneous materials to the design in each clothing seam during stereotype breakaway from existing men's suit.

Existing men's suit use materials such as wool/linen, wool/polyester, and wool/mohair frequently. The 2014 Spring Thom Browne collection used plastic and lace not using in men clothing for an extreme attempt. Also, the wall of the material was demolished by using quilting and toy-like character design appliqué. Although tweed and flannel materials used in classic suits were most definitely

used, in parallel to the pattern, different texture materials were mixed and used to express differently from existing materials.

The usage of seams or studs decorated all over the suit and embroidery that uses beads and jewelry that are also materials that could not be found in existing men's suit and limited to women's clothing, were developed by combining them with men's suit.

4. Conclusion

Through this research, we analyzed the characteristics of Thom Browne's suits in the 201 2F/W~2015 Spring collection. Also, through this study we can predict that from now on men's clothing trend will continue to develop into more creative and diverse forms and be used by modern men. Classic suits are recognized by the public as difficult and clothes with too much rules to keep. Depending on the occasion, the color and form have to be modified and it is not easy to express one's personality among this. However, Thom Browne's suits breaks the rules of classic suits and catches the attention of and popularity from the public through various styles and extreme forms. The public that felt bored and difficulty of classic suit will find a new formativeness though the easy and shocking suits of Thom Browne.

The previously explained silhouette that emphasizes and flaunts the beauty of men's body, cropping by shortening the sleeve or length and using bright and raw gray colors is the representing example. Also, even though the colors of the existing suits were used, colors were patch collaged by using various chroma, and even with patterns, exaggeration in classic patterns used frequently in classic suits or two types of stripe and plaid in one outfit was used leading to a new type of pattern to be used in the suit different from the traditional suit by applying pattern collage techniques. As with the material, plastic and lace were used for an extreme attempt to present a change in the new suit.

Although this study was limited to research about Thom Browne's men suits, continuing to research various brand collections will help predict in detail of what kind of change will be brought upon men's suits.

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A Study on the Variation of Denim Fabric Shown in Designer's Collection⁺

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1. Purpose of Study

Denim fabric was developed from working class so it is durable but not trend sensitive and it has versatility that you can express vintage to elegance by using different processing methods and techniques. Denim can be seen on the runway every year after being interpreted in a various ways by designers. Blue, a representing color of denim can express fresh and modern image and it also can be transformed into different colors by processing it such as washing. Collection analysis using denim is performed frequently but design trend analysis by years can help developing designs using denim and improving denim fabric that denim is transformed into different surface and color every year.

2. Methodology

The historical background of denim's development by literature review will be addressed first and then actual cases will be analyzed by categorizing denim's surface design with a focus on the four major collections in prête-à-porter. All designer collections using denim fabrics that were introduced to Paris, London, New York and Milan collections from 2010 to 2014 were selected based on related thesis, publications, fashion magazines and internet web sites.

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3. Results and Discussion

The word denim came from Nimes, the city in the southern France which was the center of fabric industry in ancient times as they called newly twilled fabric as "Serge de Nimes". It is believed that denim was first introduced as a fabric for working clothes for the people from all over the world rushed to Sacramento River in California, America, dreaming of becoming rich as gold mine was discovered in that area in 1848. Denim was first introduced to Korea during 1950s and 1960s and it was practically used by young people. However, denim in the 21st century has settled down as a main fashion stream as it can be used in punk, vintage as well as romantic style for all ages in all fashion areas on the top of having practical usage. Therefore, how denims are transformed into different looks was analyzed based on processing methods witnessed in representative collections.

Firstly, it is fraying and tying methods. Chanel emphasized its brand identity by using logo printed denim for their 2010 S/S collection. In this collection, Chanel used gradation on the denim to give African impression and improved completeness by fraying hems exquisitely. In Barbara Bui's 2014 S/S collection, they maximized the texture with transformed fabric by showing blooming flower with frayed denim. They maintained simple silhouettes, yet had creativity by presenting different textured denim from other existing designers. In addition, Jean Paul Gaultier presented extremely skinny denim pants during their 2014 S/S collection and it can be considered as typical deformed outfits by tearing the fabrics then re-tying them. They emphasized toughness of denim by tearing the side line from knee to hem and roughly fraying the strands on both sides.

Secondly, it is tearing and patchwork methods. Ashish focused on providing vintage and natural images by tearing the denim pants purposely to give a vintage impression in their 2014 S/S collection. They also presented crossover with putting spangles on most of the denim designs. Ashish's 2013 F/W collection also presented Bohemian denim designs by reformatting and rearranging denims with natural hair style. They also presented voluminous oval line together with colorful denims that are not easily seen from other designers' collections. In Junya Watanabe's 2013 F/W collection, he presented recycle feeling by reformatting one outfit after doing patchworks on deformed denim materials.

Thirdly, it is coloring(De-coloring) and washing methods. In their 2012 S/S collection, Isabel Marant presented real European casual style by utilizing the image of travelling Parisienne girl wearing body suits with washed denim. It had a strong vintage image from completely de-colored denim, light blue to dark blue colored denims. House of Holland presented casual denim looks with suspenders

and washed denim pants in their 2012 S/S collection while 3.1 Phillip Lim used white washed denim fabrics of simple silhouettes matched with soft colored vest in their 2012 S/S collection.

Fourthly, it is trimming methods. Moschino presented glamorous looks by showing light colored, quilted denim jacket and skirt that were trimmed with golden chains in their 2014 F/W collection. Just Cavalli also showed pearl trimmed casual denim jackets with patchworks on them to provide feminine images in their 2011 S/S collection while Dsquared 2 showed vivid colored denim pants with fringe ornaments trimmed on the hems to provide unique and punk images in its 2012 S/S collection.

Lastly, it is to mix and match with other fabrics. Ashish showed jacket and pants made equally by white washed denim and sequin ornamented fabrics in its 2013 S/S collection and they are the perfect example to match unusual fabrics together to make one outfit. House of Holland presented mix and match of denim and lace applying applique to the collar of shirts, sleeve and hems in its 2014 S/S collection. D&G also performed excellent mix and match by matching denim with leather and suede in its 2010 S/S collection. Though they used leather and denim, they still presented casual and feminine looks with ruffled skirts.

4. Conclusion

According to the analyzed results of the designers'collections from 2010 to 2014 by categorizing the denim fabrics into 5 different processing methods, it is found out that denim can be transformed into the right fabric for the time for its versatility with colors and fabrics. Its designs also can be applied from pants, skirts to tops and jackets as time goes by and it is suitable for developing various processing methods and textures. It can be also used for mix and match with other fabrics such as leather, suede, lace, spangle and beads. Therefore, denim can express casual, elegance and sexy looks on the top of its natural and free looks. It is expected that continuous research can be developed as denim can be seen from many more designers'collections with different processing methods.

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The Study on Design of Inner Wears foreign Brand

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1. Purpose of Study

As demand of women's inner wears is increasing due to acceleration of their economic activities, importing inner wears go on increasing due to deficient design and variety of Korea. Thus, it is necessary to improve design of inner wears for domestic market. This study examines inner wear design of foreign brands, and has an intention of providing basic standards to design new inner wears.

2. Methodology

Foreign design brands of inner wears that 200 working women in their 20s and 30s really want to wear are examined. They live in the capital area(67% in Seoul), and their job is 21.7% in teacher, 17.4% in bank clerk, 15.8% in major company, 12.3% in government employee, 9.2% in airline, etc. Finally, 350 inner wears of CHARNOS, MARKS and SPENCER, SPANX, JULIE FRANCE, MAGIC, MAIDENFORM, and SIMPLY BE brands are selected, and this study examines these wears.

3. Results and Discussion

CHARNOS has 30 sizes considering different races, and has a system of individual customized service. Every shop has proper fitting service, and thus costumers are able to select inner wears in their size. Color is simple, like dark and natural. A recent hit design is 80,000 won one-piece body shaper, which has 8 sizes. It has detachable string and ergonomically designed full bra cup, and its subtle corset function adds more naturalness. Designs of MARKS AND SPENCER are comfortable and invisible, but also are emphasizing on softly putting body shape curve. Their fabrics are thin, light, and permeable. In USA, the culture of party is well-developed, and thus a style of dressing with party clothing is usual.

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Open Bust Slip, which is a hit design of SPANX in USA, adopts slip neckline coming down to their chest line, and its design is useful in wearing a party dress or in wearing an upper garment with low-cut chest line. Sewing is simple, and smooth fabrics are used. Various sizes and designs are launched to satisfy different purchasing purposes. 3-dimensional seamless, light, invisible, breathable, moisture-wicking, and microfibre fabrics are used. Recently, Torsette removing a part of bra, which is a type of camisole with holding a part of belly by a shoulder strap, is a hit product. MAGIC that is a brand of detachable dress shapewear attracts out attention to soft waist line. On examining design brands of MARKS AND SPENCER with affordable 60,000~130,000 won, which enters in the department store, their designs are comfortable and invisible, and shapewear softly putting body shape curve is overwhelming. Also, being right on an objective of inner wear like my body that is not exposed come out, color is simple as possible, thin, and fabrics are breathable.

4. Conclusion

Foreign inner wear brands are variously launched with more personal specialized subdivision, and are more exoteric through simplification in design and fabrics without offending. They are classified into all shapewear, camisole, thigh slimmer, body brief, slip, waistnipper, control panty, leggings, and etc., having much more items than Korea. With being conscious of younger sense, keeping their designs simple, posh fabrics and color sense are used, and shapewears enjoy popularity as an item just wearing inside jacket.

It is not easy to generalize foreign inner wear brands because women's exposure is very usual in their country. However, their designs would be characterized by trend reflecting their social activities increasing. It is apparent that various women's inner wear designs, considering export, should be developed with bearing deeply at heart the functionality, popularity, and inner wear outfit.

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A Study of Color feature in Woman`s Ready-To-Wear Collections from Seoul, Beijing⁺

-Focused on 2014-15 F/W Collections from Seoul, Beijing-

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1. Purpose of Study

The important formation elements of mega trend are politics, economy, social culture, science, and technology in the late 20th century. In this sense, China which is growing its influence in international society will play the leading part of mega trend in the near future. To go with increasingly growing Chinese market and its influence, it is necessary to analyze a fashion trend in China and compare with it with the Seoul collection. Of fashion design elements, color is recognized as an important tool to express one's cultural identity and originality in international society and is one of economic strategies to extend influence. This study, therefore, aims to analyze and compare color in F/W 2014 women's ready-to-wear collections of Seoul and Beijing which can see the latest color trend to investigate a color feature of women's collections in Seoul and Beijing and provide information for the color planning of F/W 2015-16.

2. Methodology

This study was made by theoretical study and empirical study. The theoretical study examined a color system and color scheme methods through previous researches and literature data. The empirical study extracted color in F/W 2014-2015 women's ready-to-wear collection in Seoul and Beijing and analyzed

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the characteristics of general color, the percentage of monochrome and polychrome, the frequency of main color, color scheme types, and color scheme technique. Study data were collected in the Seoul Fashion Week of Collection section of an on-line website of Vogue Korea(www.style.co.kr/) and A/W 2014-2015 Fashion shows of Picture section of an official website of the Beijing Collection(www.chinafashionweek.org/). For color analysis data, RGB color was extracted by the eyedropper tool in Photoshop CS6, the RGB value was entered to Munsell Conversion-Version 12.14.5 for the conversion into Munsell value, and converted colors were classified along with 10 Munsell colors, achromatic colors, and silver and gold colors. The color extraction of each apparel was limited to no more than four colors and the apparel which showed more than five colors was excluded. Finally, a total of 1,749 colors were collected: 1,021 colors from 58 brands of the Seoul collection and 728 colors from 22 brands of the Beijing collection.

3. Results and Discussion

First, for the characteristics of general color, BK(31%) was the highest in Seoul, followed by Wh(19%), PB(8%), R(7%), YR(6%), Itgy(5%)/dgy(5%), Y(4%), and Mgy(3%) and Bk(25%) was also the highest in Beijing, followed by PB(14%), Wh(11%), R(9%), YR(6%), Itgy(5%), and mgy(4%)/dgy(4%).

Second, the percentage of monochrome and polychrome was 28% and 72%, respectively in the Seoul collection, and 34% and 66%, respectively in the Beijing collection. Both collections showed high percentage of polychrome, but polychrome was higher in the Beijing collection than in the Seoul collection.

Third, for the frequency of main color, BK(41%) was the highest in Seoul, followed by Wh (16%) PB(9%), R(6%), YR(5%), and mGy(4%)/dGy(4%), and BK(28%) was the highest in Beijing, followed by PB(15%), R(13%), Wh(9%), and lGy(5%)/mGy(5%). Although BK was the most frequently used main color in both collections, the second frequently used color was Wh in the Seoul collection and PB and R in the Beijing collection, suggesting some difference.

Fourth, the combination types of polychrome were divided for analysis: achromatic color + achromatic color, achromatic color + chromatic color, and chromatic color + chromatic color. While Seoul was 40%, 54%, and 6%, respectively, Beijing was 18%, 68%, and 14%, respectively. In other words, achromatic color + chromatic color was the most common in both collections. While achromatic color + chromatic color was common with achromatic color + achromatic color in Seoul, there was no a big difference between achromatic color + achromatic color and chromatic color + chromatic color in Beijing.

Fifth, the color scheme technique of chromatic color combination was divided into identity, similarity, contrast, and other for analysis. Similarity(65%) was most frequently used in Seoul, followed by identity(15%) and contrast(10%) /other(10%), but identity(43%) was most frequently used in Beijing, followed by contrast(20%)/other(20%) and similarity(17%).

4. Conclusion

The results of the color analysis of the Seoul and Beijing collections suggest that both collections showed high use frequency of achromatic color but the Seoul collection used achromatic color more commonly than did the Beijing collection. In the use of main color, the Seoul collection also showed high use of achromatic color. Moreover, the Seoul collection used achromatic color more frequently in the color scheme of polychrome.

Further study will be conducted to compare the use of color with trend color for more in-depth study.

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Fashion-cultural Design Development

Based on the Facial Make-up of Chinese Beijing Opera

-Focused on Chinese Four Major Novels of Wonder-

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1. Purpose of Study

Beijing Opera is one of the leading representative of Chinese culture including literature, music, dance, martial arts, and performance. It is still significant cultural heritage in these days because it has inherited Chinese history of arts for a long time. It contains unique stage make-up which was regarded as independent and systematic genre of art, however fashion-cultural design applications using formative beauty of stage make-up of Beijing Opera were not to be found yet.

The purpose of this study is to develop the fashion-cultural goods utilizing facial make-up of Beijing Opera to propose the possibilities of commercialization with modern application of traditional Chinese culture. Fashion-cultural products design based on Chinese traditional culture has both academic and practical value because Chinese traditional culture has the potential to appeal to the world market.

2. Methodology

This study was performed first as a theoretical study of literature, studying definition and type of facial make-up of Opera to review the formative characteristics. Secondly, analysis of main character, "Guan Yu and Zhang Fei" of "The romance of the three kingdoms", "Li Kiu and Lu Zhishen" of "108 Stars of Destiny" and "Monkey King" of "Journey to West" using a book of Beijing opera facial make-up collections of "Yongqi Zhao" who is an expert on facial make-up of Chinese Beijing Opera for analysis of formative characteristics. Thirdly, designs were developed on 2 concepts into 3 styles based on analysis of main characters.

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3. Results and Discussion

Monkey King who was humorous and brave was expressed in 'hieroglyphic face' type in which monkey's face was characterized with decorative slender shape. Zhang Fei who was exciting and brave expressed in 'Shi Zi Men face' by thick beard and eyebrow, Guan YU as its main characteristic, faithful and loyalty, was presented as a wise commander using red-face, forehead wrinkle and elevated eyebrow. Lu Zhishen, valor and resourceful high monk, was expressed as splendid eyebrow along with beard and red-dot between eyebrows symbolizing sari, Li Kui, the owner of the complex character, was brave, cruel, and antic as the form of 'Shi Zi Men face' shape which compartmentalized the face to give the strong impression. In order to develop the cultural products design, facial make-up color, form, and texture of five main characters were analyzed, and finally design themes were planned as 'Modern Chic' and 'Traditional Splendor'.

In 'Modern Chic' theme, design inspirations were derived from the simple face with well-defined features to show modern image in which black, white and light blue colors were used in main colors and Chinese's favorite vivid red as point color to highlight the character's features. In order to express modern chic theme, the decorative elements of facial make-up were excluded, and the eyes, nose, and mouth were represented extremely simple.

In 'Traditional Splendor', based on the aspect that facial make-up of Beijing Opera was the essential element of stage art, traditional and gorgeous feeling was important. The designs were planned that the heros of the novels were reproduced on facial make-ups of Beijing Opera, bringing to mind that 'Chinese four major novels of wonder' were completed in Ming dynasty. Traditional motives were applied using traditional Chinese arts specially architects, patterns, and ornaments, along with strong and brilliant colors of deep and vivid tone.

Three styles of cultural products for each theme were designed as computer graphics and women's scarves and men's ties were developed to 36 works using program Illustrator CS6 in total. As for the final step, 3 scarves and 3 ties for 'Modern Chic' and 3 scarves and 3 ties for 'Traditional Splendor' were produced as real samples using lustrous high-quality silk with digital textile printing.

4. Conclusion

The conclusions of this study were as follows.

First, it was able to see that the facial make-up of main characters was expressed in detailed lines and splendid color effects so Chinese traditional arts could be worth studying design development for the further study.

Secondly, the simple form of Zhang Fei, Guan Yu, Lu Zhishen, and Li Kui were

chosen and the shapes of eyes, nose, and mouth were emphasized and simplified as modern and chic with leaving other parts out, in the course of this process modern interpretation could be possible.

Thirdly, decorative forms of Monkey King, Zhang Fei, Lu Zhishen, and Li Kui were selected and traditional Chinese arts, ornaments, and patterns were applied to highlight the formative aesthetic of facial make-up of Beijing Opera.

At this point in time that China becomes one of the biggest fashion consuming market, this cultural fashion products developments can aim for both Korea and China, and going further world market. This study can let people know the value of traditional culture of China, the cultural center of North East Asia during its long history, and provide the opportunity to commercialize high value-added fashion goods.

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An Investigation of Present Condition of the Cultural Products Applying Peking Opera's Make-up in China⁺

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1. Introduction

Peking opera is a Chinese traditional performing art and it remains in its existence since the Qing dynasty when Peking opera was famous for until today. Peking opera with various techniques such as preview, music and dance include stage art, costumes and make-up thus it is a comprehensive art form that shows Chinese culture intensively.

Characters of Peking opera are divided into 4 Hangdang(行当), which are Sheng(生), Dan(旦), Jing(淨) and Chou(丑) and Gumbo(脸谱) is a face make-up that is used for Jing and Chou roles, and through Gumbo, a person's appearance, age, status, occupation, personality, and behavioral traits can be expressed. Also, there are unique Gumbo patterns for each historical figure. Gumbo is a symbol of sophisticated works of art and Chinese culture beyond make-up techniques.

The purpose of this study is to establish a chance to recognize newly about a need of cultural products development utilizing Chinese culture resources through survey of cultural products utilizing Gumbo which is selling on Chinese internet, and to suggest directions of cultural products designs of Gumbo. Research scope includes forms, colors and expression methods of Gumbo which is Peking opera, and cultural products utilizing Gumbo distributed in the markets. Research methods include literature, books, articles, internet resources, etc of Gumbo which is Chinese Peking opera for theoretical consideration, and status of cultural products utilizing Gumbo. Materials are collected through some internet web sites

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that Chinese consumers prefer. As a result, 600 cultural products applying Gumbo are selected as the objects.

2. Present Condition of the Cultural Products Applying Peking Opera's Make-up

Gum(脸) means a make-up of Chinese Peking opera refers to face and expressions of face, and Bo (谱) means a pedigree referring to the systemic record of the subject's system and order (Chang, 2013). In the beginning, Gumbo used 3 colors, red, white and black, but today's Gumbo's basic colors are red, purple, black, white, blue, green, yellow, pink, gray, gold, silver, etc.(Ahn, 2008). Forms of Gumbo can be divided into 14 types, which are Jeongyeom(整脸), Samjangwageom(三块瓦脸), Sibjamungeom(十字门脸), Yukbungeom(六分脸), Soiwageom(碎花脸), Woigeom(歪脸), Seungeom(僧脸), Taegamgeom(太监脸), Wonbogeom(元宝脸), Sanghyunggeom(象形脸), Sinseongeom(神仙脸), Chugakgeom(丑角脸), Soyogeom(小妖脸) and Youngwoonggeom(英雄脸)(Zhao, 2003).

For status of products applying Gumbo, 600 Chinese cultural products which were analyzed based on the internet in 2014 were selected to classify and analyse for purpose, characters and colors. Firstly, according to the purpose of the products, it can be divided into 4 types, art facts, daily supplies, clothing, stamp and commemorative coins. The result of the analysis is that daily supplies showed the highest frequency of 36.8%(221), art facts 32.2%(193), clothing 21.2%(127) and stamp and commemorative coins 9.8%(59) were followed.

When looking at the detailed items of daily supplies, ornaments showed in the order of Samjangwageom 15.2%(91), Soiwageom 5.3%(32), Simjamoonggeom 4.2%(25) and etc. 12.2%(73), and for colors, it showed in the order of red 10.7%(64), black 6.2%(37), blue 5.3%(32) and etc. 14.7%(88). Art facts items showed an order of Samjangwageom 9.7%(58), Simjamoonggeom 7%(42), Soiwageom 5.5%(33) and etc. 10%(60). Colors showed in the order of red 12.3%(74), blue 6.8%(41), black 4.2%(25) and etc. 8.8%(53). In the clothing items, they showed in the order of Samjangwageom 5.3%(32), Soiwageom 2.7%(16) and Sibjamungeom 1.5%(9) and etc. 1.5%(9), and colors showed in the order of red 3%(18), black 2.7%(16), dark red 1.5%(9) and etc. 3.8%(23). Also, for accessories, it showed in the order of Samjangwageom 5.2%(31), Sibjamungeom 2%(12) and Soiwageom 1.7%(10) and etc. 1.3%(8), and colors were shown in the order of red 3%(18), dark red 2%(12), black 1.8%(11) and etc. 3.3%(20). Lastly, for stamp and commemorative coins were shown in the order of Jeongyeom 2.5%(15), Soiwageom 1.5%(9), Sanghyunggeom 1.3%(8) and etc. 4.5%(27), and colors were shown in the order of red 4.7%(28), black 2.5%(15) and white 1.2%(7) and etc. 1.5%(9).

Generally, Gumbo appeared in 600 cultural products showed in the order of Samjangwageom 35.3%(212), Soiwageom 16.5%(99), Sibjamungeom 14.7%(88), and according to the colors, it was shown in the order of red 33.7%(202), black 17.3%(104) and blue 13.5%(81).

Among various Gumbos, the reason Samjangwageom, Soiwageom and Sibjamungeom showed high frequencies is because these 3 types of Gumbos can be changes into active designs by combining various patterns. Characteristics of Samjangwageom are usually used for honest and sincere characters and valiant spirit of the characters are expressed in various colors and patterns. Soiwageom and Sibjamungeom are changed from Samjangwageom, and they are more colorful than Samjangwageom and their lines are complicated. Chinese red preference is a tradition of 5,000 years of Chinese civilization. Old Chinese people thought that red is originated from the sun because burning sun is like fire, and they believed that there is vitality in it. Due to the superstitious reasons, red also expels misfortune and bring good luck. Based on this background, red has a meaning of good omen and it is shown the most frequently in Gumbo.

3. Conclusion

Thus, as a result of analyzing cultural products utilizing Chinese Peking opera's Gumbo, it was shown in the order of accessories, clothing and accessories, stamps and commemorative currency, and accessories showed the highest. Among cultural products utilizing Gumbo, Samjangwageom showed the highest and this is because it can be changed into various designs by combining patterns and the reason red showed the highest frequency for Gumbo is because there seems an effect of China's unique color symbol. Thus, Gumbo of Peking opera is a cultural resource of China, which can be utilized in various ways and cultural products utilizing Gumbo can be said to be a repository of an excellent idea that can be established as a Chinese unique cultural product. As the result of this study was analyzed by collecting materials from Chinese internet web sites, there could be differences from the result of actual analysis at sites. However, it is expected to contribute partially to provide basic materials to the corporate which enter into massive cultural products market.

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Rebozo as An Iconic Fashion Symbol in Mexican Culture

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1. Purpose of study

This study aims to investigate how Rebozo, an essential piece of traditional Mexican costume, became such an iconic fashion symbol in Mexican culture. This is of great importance given that even Mexicans are not well acquainted with Rebozo's origins, believing only in oral traditions and assumptions made from scholars on the subject during the last few centuries. People's opinion regarding this subject seems to be misconstrued. Therefore, another underlying objective of this study is to condense and to simplify the findings which will clarify the disclosure on the subject.

2. Methodology

The investigation includes as many academic resources including books on Mexican culture (Steines, 2010) and Mexican textile tradition focusing on the State of Chiapas (Morris, 2009). The work of Ana Paulina Gamez Martinez on her Art History Master's degree thesis (2009) was a big contribution to the research because she very comprehensively reviews the history of Rebozo. Newspapers La Jornada (Juaregui, 2002) and El Universal (2014) were also used on this research, not because of their mixed historical facts, but because of the interesting analysis both of them mention on the key role Rebozo plays in past, present and future Mexican society.

3. Result and Discussion

It's interesting how such a simple fashion accessory carries such a big part of Mexican history. Rebozo is typically a rectangle big enough to wrap an upper part of a body in a loose and comfortable way. Originally, it is weaved on a loom and the complexity of the design varies along with embroidery and fringe decorations.

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People have been trying to locate its origin for years now with little success. Many in Mexican society assume that, given its weaving technique, it was originated during pre-Columbian Mexico but that seems to be wrong, by going over what little information is available on that subject after the spanish conquest there is no sign that Rebozo existed.

Throughout Mexican history there are several important facts that can be categorized as influences on the start, development and the establishment of Rebozo as the symbol it is.

1) Religious and Political Influences

There are several facts hidden throughout art and literature, before and after the conquest, that suggest that Rebozo was created after the spanish conquest because of the new law based on catholic church strictness which prohibited respectable women to wear their hair down, specially in church. As a consequence, indigenous women were not allowed to wear their traditional clothing and had to cover their heads at all times.

2) Social Influence

In Colonial Mexico, social class division was very predominant, and Rebozos helped in making these distinctions, first it was used to differentiate indigenous and illegitimate mixed race women from legitimate mixed race and spanish women, but by mid XVII century it had become a popular and socially acceptable fashion piece, its use being spread to all social classes. The materials and techniques used were the determinating factors that marked Rebozo's owner as an upper class (silk, fine wool, embroidery, gold and silver thread) or lower class citizen (plain cotton with minimum detail on the weaving).

3) Practical Influence

This classification persisted even after Mexico's Independence, what changed was Rebozo's uses, not only did it work as a tool for everyday work (carrying heavy weight) and as a fashion accesory, but it was also used for pawning when needed, as a commemorative work of art through its embroidery and as an important part of funerals, being worn by both attendees and the deceased in an aromatic version of it.

4) Historical Symbolization

Until early XX century this was how it was used, later it became the symbol for the Mexican Revolution women, who went to war with their husbands and, in some cases, fought side to side with them. By mid XX century it was used by intellectuals and artists alike as a symbol of nationality, which was probably the reason of its continous presence around Frida Khalo's shoulders.

Even though these findings expose Rebozo's originis as Colonial era and not

pre-Columbian, its importance as a Mexican fashion accessory icon can't be doubted, by several accounts it is known that in pre-Columbian textile tradition there was a connection between spirituality, religion and textile weaving, so it's very interesting that this iconic textile piece also has its origins on what was the new religion in those times. As fellow fashion designer Carla Fernandez (Steines, 2010) stated "clothes (...) are more like a portrait of your soul, your history, your family, and all the generations you carry with you. People get to know you through your clothing." And in this case it's very true, that's why the Rebozo is such an important piece of Mexican culture, it carries with it centuries of Mexican history and the memories of countless members of a new-born Mexico.

4. Conclusion

As a result of this research the origin of Rebozo is clarified and exposed as an XVI century invention derived from the Spanish conquest but none-less Mexican. Given that it was a hugely important part of Mexican costume through several centuries, it's easy to understand how in the past century it was mentioned so frequently, in a very romantic way by both historians and Mexican literature authors, which is why and how it became an iconic fashion symbol in Mexican culture.

Finally I would like to add that having found out how and why Rebozo became such a typical Mexican culture representation, in further studies it would be interesting to investigate how is it that it is known like this internationally, going further than pointing worldwide famous painter Frida Kahlo as an important representative of Mexican culture, but also analyzing the possible influence of Hollywood films and the general characterization of "Mexicanism" through the eyes of United States media and the impact it has had on Rebozo as a representation of Mexican fashion.

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An Analysis on the Preference of Women's Fashion Style in China through Chinese Female College Students in Korea

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1. Purpose of Study

The purpose of this research is to analyze fashion style preference of Chinese female consumers by focusing on Chinese students studying in Gwangju-city and Jeolla Provinces, Korea, who are excellent overseas human resources, in order to study Chinese female consumers who have high potential value in the future. More over through this research, it will make a base to prepare fashion DB targeted at China, by establishing systematic information network of Chinese students studying in Korea, along with strategy deployable for Korean fashion companies to enter Chinese fashion market.

2. Methodology

The research methode are combined literature review and empirical study. In the empirical study, the questionnaire will be used for analyzing the fashion preference of Chinese female college students studying in Korea. First of all, research subjects are limited as female college students in their 20s, among Chinese students studying in Gwangju-city and Jeolla Provinces. The women in their 20s are highlighted as the important consumer group leading fad, along with high propensity to consume in Korea and China. This research was conducted from Sept. 1, 2012, to Aug. 30, 2013 and 204 questionnaires were used for the analysis. Through this research, I hope enhance specialty for fashion preference by surveying Chinese female college students studying in Korea, who have highly interest in fashion.

3. Results and Discussion

Survey results conducted on Chinese students studying in Gwangju-city and

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Jeolla Provinces in Korea, are as follows:

First, Chinese students studying in Gwangju-city and Jeolla Provinces, answered what they have most interest in fashion style is design, price, color and brand, in order. Thus, it is found that we have to focus on design most to attract them in fashion industry.

Second, as a result of examining their favored fashion style, Chinese students studying in Korea preferred casual style most, followed by elegant and romantic styles, in order.

Third, in fashion style preferred by Chinese students studying in Korea, the results shows they prefer to a top and bottom coordinate style. It is found that their most significant fashion items are coats and T-shirts, which reflects they place a highest importance on the top item and compose their fashion style.

Fourth, clothing colors favored by Chinese overseas students are black for top and black for bottoms as well, while white for one-piece dress. And then, clothing colors they want to buy showed high ratio in black for top and bottoms, and also for dresses, and clothing colors they are also wearing at the moment were found black for top, bottoms and dress. It is also identified that they actually purchase and preference are the same on top and bottoms, while different in colors they purchase and preference on for dresses.

Fifth, it shows that the clothing pattern favored by Chinese overseas students is a plain pattern; and the clothing material is cotton.

4. Conclusion

Through these results, it is clearly illustrated that the preference of Chinese overseas student's fashion style in Korea. Especially in the color preference, it is found that different outcome compare to the previous researches that women in China prefer romantic style and red color but students studying in Korea prefer elegance style and black color, showing slight difference from local women.

In addition, I could understand foreign students studying in Korea, outstanding manpower in the global age, also gradually show changing aspects, catching up with global trend. It is considered that this kind of research could be useful for understand Chinese fashion market and young female consumers.

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A Study on Types of Seonyeo(仙女:Fairy) Images in Korean Folktale

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1. Purpose of Study

This study tries to analyse and categorize Seonyeo images in Korean folk-tales, a kind of cultural archetype. Legends, folk-tales, and myths orally transmitted from ancient times contain archetypal subjects of collective unconsciousness and of human beings, and thus make us to understand social milieu of those times, consciousness, and attitudes of those belonging to those times by analyzing characters in those tales. Characters from folk-tales familiar to everyone can be valued as a source of generating new values in a variety of industrial areas due to their familiarity. The study on images of Seonyeo in folk-tales is in response to the needs of the age in which interest in culture has been growing and a range of efforts to turn cultural archetypes into industry are tried. Thus, this study is meaningful in that it will be used as a resource for cultural goods development and a variety of theatrical productions by using folk-tale characters.

2. Methodology

Based on the investigation of Seonyeo, this study analyzes folk-tales which feature Seonyeo, and then classifies images of Seonyeo by types. The investigation of Seonyeo has been done around papers and encyclopedias on Seonyeo, and folk-tales are searched through *Cultural Content Dotcom* by Korea Creative Content Agency and *Korea National Culture Encyclopedia* by Academy of Korean Studies. Of 813 results from search by key words such as Seonyeo(仙女), Cheonyeo(天女), and Yeoseon(女仙), 59 results are finally studied, excluding results unrelated to the study subjects and hard to classify images.

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3. Results and Discussion

Images of Seonyeo are classified into four types as follows.

1) Image of an Outstanding Beauty

As a pronoun for a beautiful woman, TSeonyeo refers to women who have outstanding beauty. Folk-tales such as *Mago Seonyeo*, *Jinseng and Pretty Deer*, *Okjamhwa*, *Legend of Keumgangsan Eunseoldae*, *The Cloud Dreams of Nine*, *Mong-seon-a-jeong-si in Jukchang House*, *Seonyeo Hongdae*, *Gil-ssam Song*, *Soo-young-ya-ryu*, *Eight Seonyeo Dances*, *Hong-jang Tales*, *Bu-beok-mong-yu-rok*, *Three Fairy Records* are among this type.

2) Noble and Strong Image of Those Who are high in Social Order or in Heaven

The second type of Seonyeo lives in supernatural world or is high in social order. Even though she is in high position, she violates taboo and is in the face of suffering she has to overcome. *Seonyeo and a Logger*, *Tales of Namudoryeong*, *A Hunter and His Wife*, *The Lazy and Okhwang-seonyeo*, *Heaven Travels of Sootgui Married to Seonyeo*, *Tales of Soogyongnangja*, *Tales of Sookhyang*, *Ssangjugiyeon*, *Yaryongseonsaeng*, *Legend of Keumgangsan Geolbuam*, *Legend of Bakdusan Rock of Baby Bath*, *Keumgangsan Seonyeo*, *Seonyeo and a Bachelor*, *Seonyeo Rock*, *Tale of Kwonikjung*, *Mongyoukwangsansiseo*, *Baekhakseonjeon* are among this type.

3) Sacred Image of Super-power Fairy

Seonyeo in this type is a super-power fairy who shows up in a dream and predicts a baby, saves a hero in danger, and helps a hero go up the ladder of status. In this type, there are *Baridegi*, *Keumgangchuiyugi*, *A Good Son Helped By Seonyeo*, *Tales of Yi Bong-bin*, *Tales of Konggi and Patgi*, *Tales of Sanbangsan Seonyeo*, *Tales of Seonyeo Getting Fruits*, *legend of Yi Toe-gye*, *Tales of Bangju*, *Tales of Garden Balsam*, *Sa-so of Samgukyusa*, *Tales of Buyong*, and *Seondosengmosuhibulsa of Samgukyusa*.

4) Buddhist Image

Seonyeo having Buddhist image appears with a Buddha, sings of Buddhist rules, and makes a monk recognize the truth of Buddhism. Referred to as Seonyeo, a woman devoted to Buddhism helps infer Buddhist image of Seonyeo.

Origin of Yumasa, *Okyunghwa*, *Yeoraeimsilgi*, *Guyi Sonyeo*, *Yangsaeng Who Loves Virgin Spirit*, *Saint Wonhyo and Uisangam*, *Byunjaecheonyeo of Samgukyusa* belong to this type.

4. Conclusion

This study shows that even though a Seonyeo plays a leading heroin only in tales relating to Seonyeo and a logger, she plays a variety of roles in legends, folk-tales, and myths and can be classified by her image. Seonyeo images

classified in the study can be taken advantage of in a range of character-related cultural industry and creative works.

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A Study on the Utilization Characteristics of Art Print for Strengthening Visual Identity of Fashion Brand

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1. Purpose of Study

Brand identity is a pivot of product design or marketing, it is a basis when consumers recognize and make a decision for images of fashion brand and a central element that consist of assets and culture of the brand. Due to this reason, in order to increase the value of fashion brand, visual elements that reflect identity of the brand shall be utilized to differentiate. Also, as arts used on fashion design has an attention characteristic visually and has a high utilization, and it stirs emotion and imagination, it can play a role as a source of inspiration which can be a basis of creative works so that it can creates various representations possibility that arts have and popularity that fashion has can create synergy that can increase each value.

Based on this need of the study, this paper will investigate meaning and importance of brand identity and visual identity when it comes to fashion brand through theoretical consideration, and by considering convergence phenomenon with arts which is a significant flow of 21st century's fashion design, application value of art print will be explored. Then by collecting the world's 4 collections from 2000 S/S to 2015 S/S, empirical cases of art print showed in fashion designs will be analyzed by contents aspect (artist, expression type and application type) and expression aspect of fashion (expression method and degree of modification) in order to study the general progress and characteristics. In addition, through continuous and creative art print, characteristics of fashion brand that is establishing its visual identity will be investigated.

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2. Methodology

This study consists of literature research and empirical research. For literature research, theoretical considerations will be made on brand identity, visual identity, convergence phenomenon of art and fashion and art related textile design or prints based on the related articles and books, local newspapers and the Internet newspaper, reports of Korea Economic Institute and fashion agencies, fashion related articles in periodicals. For empirical research, cases for visual identity of fashion brand and art print showed in fashion are usually collected from fashion collection magazine and fashion collection professional website, and as references for accuracy of the contents, fashion brand website, Fashion Magazine, Textile Design related periodicals and art books will be considered as well.

Especially when assessing cases of art print, review of fashion magazine or fashion collection website is conducted in order to increase objectivity of the study by selecting the objects that are available with confirmation of specific art type or works of the artist visually.

Periodic scope for empirical study on art print that was utilized for fashion includes the world's 4 collections(Paris, Milano, New York, London) from 2000 S/S to 2015 S/S, and effects on 21st century fashion from a macroscopic viewpoint were analyzed.

3. Results and Discussion

This study collects cases from the world's 4 collections which were suggested as a changing point in order to analyze characteristics of art print that is utilized in fashion design and it is investigated in an aspect of contents of art and aspect of expression of fashion. From the contents of art, art used for art print is divided into artist, art type and application type, and art type is again divided into flat art and three-dimensional art (including pictures and oriental painting). Flat art can be divided into concreteness and abstraction, and abstraction can be specified into geometric abstraction and expressive abstraction. And three-dimensional art includes sculpture and crafts and installation art. Application type can be divided into collaboration which is a type of joint work made by discussion with the existing artists and inspiration which designer expresses without direction intervention of the artist.

Expressive aspect of fashion is divided into expression methods and degree of modification, and expression method is divided into 3 types, all over print which composes the whole cloth according to the surface and method which print is shown on cloth, mixed print that combines other prints on art print and one pointed print that gives effects of accent by printing on only one item between

upper and bottom items or part of the item. And it is subdivided into direct application which print the work as it is based on the degree of modification comparing to the existing works, motif indirect application that expresses designs which is similar to the existing designs but not the same and reconstitution application that reconstitutes into the methods that can be expressed on fashion designs.

4. Conclusion

This study suggests application characteristics of art print as visual identity expression elements of fashion brands as 4 elements, enforcement of brand characteristic, and diversification of creative expressive methods of fashion, experience of emotion of enjoyment and application expansion as a brand asset. When enforcement of brand characteristic expresses identity of brand effectively, customers will take it as a brand symbol so that art print will enforce unique identity of the brand.

Diversification of creative expressive methods of fashion refers to the effects that fashion will lead more creative and innovative design through aesthetic depth of art and formative beauty. Experience of emotion of enjoyment refers that one can experience with its body various emotions of art works and joy that art has and some different feelings in clothes. Application expansion as a brand asset refers to continuous management as a core identity of brand, such as support of artist, art foundation or museum establishment, various exhibitions, etc in addition to the direct application on fashion designs.

In addition, this study confirms the value of art print as a visual identity of fashion brand, suggests basic material for diversification of art print methods and provides utilization value as an educational material for fostering multidisciplinary fashion talent.

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The Optimization on Safety Color of Work Clothing in Based on Functional Color-Arrangement Planning and Field Test

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1. Purpose of Study

The purpose of this research is for finding the optimization on safety color arrangement (color brightness and color chroma) of work clothes and confirming at work field. For this research, the experimental work clothes were made based preceding research and carried out survey about satisfaction. And the optimized safety color arrangement will be proposed for machine industry workers' safety.

2. Methodology

To conduct this research, blue color(5PB) which was chosen as the best color in machine industry is selected. And 111 fabric samples were collected from Dong Dae Moon market and the colors were analysed as H, V, C, L*, a*, b* by CR400. As the result, tone map was made and find the positions as each swatch. Finally 6 swatches were selected as following high-brightness(hb), mid-brightness(mb), lowest-brightness(lb), highest-chroma(hc), mid-chroma(mc), lowest-chroma(lc) for color arrangement for safety which method were used preceding research using CAD simulation.

The 6 experimental work clothes were made which were basic two piece design and carried out in work field. After taking pictures for worker who had wearing from around 10M and then, questionnaire 5-point scale survey was carried out by 10 experts who has master and doctor degree in fashion design.

3. Results and Discussion

The result of 111 fabric swatches were classified on tone map, the colors focused on deep tone, dark tone, light tone, light grayish tone. The color scopes of 6 final selected sample swatch were 7.2(hb), 4.8(mb), 1.8(lb), 14(hc), 7.3(mc), 3.2(lc). The total 6 two piece work clothes(top : bottom - hb : hb, hb : mb, hb :

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lb, hc : hc, hc : mc, hc : lc) were made as basic design.

The result of questionnaire survey as follows. The evaluation of visibility and safety were high on hb : lb , hc : hc. The evaluation, the big color brightness difference between top and bottom provide the safety and visibility at color brightness arrangement. And high chroma for top and bottom provide the visibility and safety as well. This result is same to CAD simulation research which was preceding study.

4. Conclusion

The work clothes is the first protection for workers. The control of the color elements, arrangement can provide the workers' safety in machine industry. Since this study tends to check factors only blue color, the other color were limited.

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Case Study on Modernization Work of Tradition which was presented in 『SOU·SOU』 , Japanese Fashion Brand⁺

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1. Purpose of Study

"The capability which can attract the interest of other countries about its own lifestyle and cultural charm, in other word, 'Soft power' became more important. Japan, as attractive country, should demonstrate its 'Soft power' with 21 century style by contributing to international cultural interaction." They commented above statements in 'International Cultural Exchange Meeting Report' announced by Agency for Cultural Affairs of Japan in 2003.¹⁾

Under the background of international environmental change in 21 century, the movement which intends to rebuild its identity has been progressed in Japan over the past ten years. As 'Japanesque Modern' is its typical example, it means temporary project which intends to reevaluate Japanese culture linked to modern high technology among modern life, suggest again through modern filter over 2 years.

This study desires to know how Japan modernized its traditional culture at this time when modernization work of Japanese tradition such as 'Japanesque Modern' has proceeded over 10 years. Especially, it intends to intensively focus on features of modernization work which is represented to brand concept and design with the case of 'SOU SOU', Japanese fashion brand.

2. Methodology

This study consists of 3 kinds of methods. First, they conducted pre-survey about brand history and brand concept, product design through on-line home

⁺Following are results of a study on the "Leaders in Industry-University Cooperation" Project, supported by the Ministry of Education, Science & Technology(MEST) and the National Research Foundation of Korea(NRF).

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page. Second, to visit store located in Kyoto, Japan during 8/26 - 29 in 2014, they conducted market survey and interviewed with staff. For study range, they selected whole products which are on project, sale for the S/S and A/W in 2014 such as ladies, mens, kid's, and bags, shoes, socks, towels, cell phone case etc. of 『SOU-SOU』. Third, they organized, integrated the contents of study through analysis about fashion brand 『SOU-SOU』 which was represented in magazine and documents related to modernization of Japanese tradition.²⁾

3. Results and Discussion

『SOU-SOU』 is the brand of Kyoto which makes and sells clothes, shoes, furnitures etc. with original textiles which our company plans and manufactures based on the concept of 'Creating New Japanese Culture'. It was established by Katsuji Wakinaka (textile designer), Hisanobu Tsujimura (architect) and Takeshi Wakabayashi (producer) in 2002.

Often saying "sou sou" in conversations, which means "I agree with you" and "You're right". Japanese confirm, discover and develop ideas each other by admitting counterpart. So brand name "sou sou" which are used unconsciously was originated from their thought to represent Japanese life, to recognize Japan themselves, from the fact that it is important to acknowledge them.

As above concept of this brand, it connected its culture and industry of Japan, the features which are presented to modernization of 『SOU-SOU』 brand matches with 3 kinds of methods which was the result of the previous study³⁾ about 'Japanesque Modern'.

First, 'convergent method' means to pursue global universality through western convergence and Japanese tradition, 『SOU-SOU』 has the features of unique styling among items inspired from Kimono under the concept that Kimono culture of Japan is the most global. We can exemplify that they pursued global universality by using big amount of textile designed with number from 1 to 10, and that they launched sub brand with theme of bicycle which is collaborated with 『le coq sportif』, international sportswear brand.

Second, 'conversion method' means to pursue 'speciality' of Japan with design method which attracts real differentiation with the value of 'plus Alpha'.

『SOU-SOU』 has special feature that it is 'made in Japan' by actualizing tradition manufacturing technique. For example, they intend to design differentiation and add value using 'Ise-Cotton' with soft touch lasted for 250 years since Edo era. Also we can refer that they transfer 'Chika-Tabi' of low class which has been used from early Taisho era into colorful modern sneakers with inverse concept.

Third, 'emphasis method' means that it means that everybody can use

conveniently by connecting the virtue such as 'environmental friendly', 'frugal mind', 'comfort and consideration', 'humanity' into universal design. For their characters, we can refer that 『SOU·SOU』 expressed the landscape of seasonal view of Kyoto with textile of pop image, its applied traditional wrapping cloth to modern bag, it aggressively actualized emotional marketing through 'two-way communication' such as 'blogs' 'twitter' and regular customer rather than mass media promotion.

4. Conclusion

As the power of other SPA brand getting stronger in the field of modern fashion industry, the identity of national brand and 'made in Korea' product are losing its position in reality. Under similar circumstance of Japanese brand, we intensively analyzed by dividing cases with 3 kinds of selection. While this study is restricted within analysis of only 1 brand, we are planning to study and evaluate in a wider range of angles through comparative analysis with similar brands for the future.

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Applications of Bionics in Fashion Design

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1. Purpose of Study

Bionics is recently developed with the combination of biology and technology of the cross subject. Clothes modelling of the bionic design is done by absorbing all the elements of nature, animals and plants as a references. From ancient times to present. Biology has been the most direct and vivid in creating. Through the understanding of the structure and function of the contact, through the simulation, we can copy the biological characteristics of costume design. This not only improves the traditional functions, color and style characteristics of clothing, there will be many special functions into the field of fashion design, so that the garment industry be on the upgrade.

2. Methodology

The methodology for this study is based on history of Bionics Application in Fashion Design. Through the bionic design in fashion design research development of bionics in the clothing design process. In the end, Review Bionics in Fashion Design's past achievement and forecast the development in the future.

3. Results and Discussion

Bionic design is one of modern design in the form of clothing, are all creatures, including humans, to draw objects, and these creatures shape, contour, line, color, directly or indirectly, to borrow the costume design, structural design and color scheme up, create a new style of clothing, namely bionic clothing.

First bionic design from the beginning of human movement. Nature, animals, plants, community life, and the three-dimensional shape of the buildings are costume design drawing objects. Fishtail skirt, tuxedo, lotus leaf collar, pants, etc. is quite common. Both plants and animals and the natural landscape and urban

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construction, it is the source of inspiration of fashion designers. For example, "bow", which is based on a butterfly shape design. In addition, such as everyone knows that there are many examples, such as: China ancient MATI Xiu, foreign bat, Gigot sleeve, sleeve and so on the lotus leaf. The fashion world famous designer Christine Dior to tulip shaped garment launched in 1953 is the classic costume bionics. Designer Christian Dior designed tulip shape, becoming a classic costumes for bionic. It combines the principles of human thorax transverse, clothes and sleeves naturally linking upper shoulders showing circular arched, the lower the waist showing slim, the entire garment shaped like tulips, hence the name. The interior styling clothing costumes early bionic design also plays an irreplaceable role, which through the details of clothing inside a showcase to highlight the entire garment design features, we have talked about in front of Mati Xiu, leg of lamb sleeves, those are all part through the bionic costumes to enhance the overall beauty.

4. Conclusion

Clothing modelling of the bionic design is by absorbing all the elements of nature, through to the nature of animals and plants as a reference, to reform and to use in clothing modelling, to design a beautiful and comfortable clothes. This is a historical necessity, but also the trend of the times. In the process of learning from nature, human beings continue to learn from each other, to design more responsive to the needs of the new era costumes. With the development of economy, people on the costume design of the increasingly high demand, garment modeling in personalized demand more and more prominent. In this paper, clothing as the carrier, focuses on exploration and research of bionic design in the clothing modelling. From two aspects of the development and application of bionic design costumes to explore and dig in the future development direction of costume bionics design. Human beings should follow the concept of sustainable development, in respect of their love for nature, with the forces of nature, to inject more fresh in the clothing design elements in the future. Let the design back to nature, to achieve harmony between man and nature, is the future direction of the bionic design costumes. Let the design back to nature, to achieve harmony between man and nature, is the future direction of the bionic design costumes.

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Analysis of the Heroine's Style in the Chinese TV Drama 'Shanghai Grand'⁺

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1. Research purposes

Movies or soap operas visually and acoustically satisfy viewers by expressing various images and styles. This also applies to retail stores and music which can help enrich lives. Especially, the historical dramas produced based on the specific periods' backgrounds and history deliver its historical background, culture, and lifestyles vividly. The parts which are most emphasized in the visual elements of soap operas are the clothes of the various characters based on their status, position, and personality. Clothes can be an important means to deliver soap operas' subjects or the periods' cultures directly.

Therefore, the purpose of this study is to try to examine clothes' function in soap operas by analyzing the clothing styling of Bong Jeongjeong, the heroine of <Shanghai Grand>. <Shanghai Grand> which was telecast in China in 2007 is the story about patriotism and love against the backdrop of Shanghai before the Sino-Japanese War in 1930s. The Chinese dress which appeared in the soap opera had a great effect on the public's fashion then. Therefore, this study can be utilized as the data base in studies on female clothes in the period of the Republic of China and will make a contribution to the development of clothes' design in movies or TV soap operas.

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2. Research methods and contents

As for the research methods and contents, the costumes' role in soap opera was examined focusing on the previous studies and relevant literature. The clothes' items, colors, accessories, and hair styles that Bong, Jeongjeong wore in <Shanghai Grand> were analyzed. The analytical data was collected by capturing the photos from the DVD of <Shanghai Grand> and the heroine's costumes were analyzed based on design elements by referring to the data including relevant literature and the soap opera's reviews and articles.

3. Results and consideration

The results which analyzed the clothes of Bong, Jeongjeong, the heroine of the soap opera, <Shanghai Grand> are as follows.

First, Bong, Jeongjeong usually combined traditional beauty with modernism by wearing the styles which integrated Chinese dress with coats. Especially, she often wore modernized Chinese dress with a slender waist, a high stand collar, short sleeves or long sleeves, and the short length to show feminine curvaceousness and traditional beauty together. This style was in fashion in the 1940s and did not match the 1930s which is time period of the soap opera. This can be assumed that Bong, Jeongjeong who studied in Europe, wore fashion-forward clothes then and analyzed the fashion trends of 2007 which was reflected in the telecast. She wore coats, cardigans, short capes, or jackets combined with Chinese dress to show the intelligent charm of modern women in their 20s.

Second, the major colors of her clothes were changed according to the story and scene. Bright colors including green and purple were utilized to show her elegant image and loving nature of the heroine. Black, dark colors including dark green, and dark blue which symbolize the calm atmosphere and gloomy sense were usually used to reflect the main character's horrible destiny.

Third, the conservatism of Chinese female clothes and modernism, which was influenced by the West, was shown through accessories. The pearl earrings, necklace, and silver bracelet worn by Bong, Jeongjeong showed the elegant atmosphere of women in the noble family(大家闺秀). In addition, splendid and graceful images were created by combining the styles of western handbags and the designs of Chinese traditional pottery patterns.

Fourth, hair styles in which bangs were used to hide the forehead, combined with chignons, were in fashion early in the 20th century. Back hair color utilized perms with thick curls to imitate the Western styles of the 1930s. The hair style shape was also changed according to development of the story. Bong, Jeongjeong tied the hair above her ears back, hung the lower part of hair naturally over her

back, and used decorative fabric ribbons in accord with her cute and innocent personality. She put her hair up leaving her bangs down and showed a calm female image by utilizing pearl or silver hair ornamentation in the second half of the show.

4. Conclusion

The results which analyzed the fashion styling of Bong, Jeongjong, who is the heroine of the TV soap opera, <Shanghai Grand> showed that clothes were variously utilized through silhouettes, colors, accessories, and the hair styles in the soap opera, which reproduced the atmosphere of Shanghai, China in the 1930s reinterpreting the aesthetic sense of the Republic of China by neoterically combining it with Western elements.

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Development of Design for Heating Vest with Detachable Heating Device

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1. Purpose of Study

This study is to develop the design of heating vest, one of smart clothing which is domestically commercialized product. The purpose of this study is to develop the design for actually able to commercialize heating vest with detachable heating device by collaborating with the manufacturer. For this purpose, this research conducted the demand survey with manufacturer and consumer, and reflected the survey result to develop the high quality design of heating vest both satisfies the manufacturer and the consumer. The specific purposes of the study are as follows: 1) Conducted the interview with manufacturer and demand survey with consumer in order to develop the heating vest design. 2) Developed heating vest design reflected by the result of demand survey, and sketched the prototype of detachable heating vest. 3) Made a sample of heating vest and tested wearing evaluation to illustrate the result of this study.

2. Methodology

The demand survey to develop the design of heating vest is conducted with the manufacturer and the consumer. This survey researched the demands of manufacturer by interviewing three people in charge of the product development. The survey research for the consumer was conducted for both gender over 20. The data collected from July 3rd, 2013 through July 15th, 2013 is to analyze 196 returned questionnaire from 200 passed outs. SPSS 22.0 Program was used in this data analysis by using the method of frequency, descriptive statistic, χ^2 test, and independent two samples t-test.

Design development methods are as follows: 1) Sketched the design on the basis of the demand survey. Researched the online selling products of heating

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vest design to create differentiated ideas. Discussed with the manufacturer about the varieties of the sketches and selected the final design for sample product. 2) Selected color and fabric. 3) Confirmed the place of pockets to insert the heating device, and completed the prototype of detachable heating device. 4) Made the pattern. 5) Connected the vest and heating device, and then conducted the evaluation of wearing the sample product.

3. Results

The results of demand survey for the heating vest design by interviewing with the manufacturer are as follows: 1) Differentiated heating vest design from current products on sale. 2) Everyday wearable design. 3) Wearable design for both genders. 4) Detachable heating device design. 5) The use of washable and heat reserving fabric.

Consumer preference questionnaire was composed of wearing experience and purchase intention of heating vest, preferred neckline, length, silhouette, color, place of heating device, etc. The result of data analysis showed consumers' high interest and purchase intention of the heating vest. Consumer preferred design of V neckline, middle of waist and hip length, a little loose silhouette, and black color. The place of heating device preferred in order of back, shoulder, and abdomen.

Development of design for heating vest was conducted through the analysis of the result from demand survey for manufacturer and consumers. After confirming the demands of manufacturer, considered the highest preferred design elements from the consumer survey into the design process. Also referred to the high preferred place of heating to produce a prototype of detachable heating device.

The sample product of heating vest was made and tested wearing evaluation to illustrate the result of this study. The questions for evaluation contains wearing sensation, place of heating device, convenience of detaching heating device, place of controller, overall design, silhouette, texture of fabric, and wearing ordinarily. Both genders showed high satisfaction on all questions of wearing evaluation.

4. Conclusion and Discussion

This study is to develop the design for actually able to commercialize heating vest with detachable heating device by collaborating with the manufacturer. Therefore there is a limit which the researcher can not control the inserting number and size of the heating device. In this reason, wearing evaluation of the developed heating vest does not contain the performance of heating device and heating function. The next study is looking forward to develop the improvement

in the design area referring to dissatisfaction in consumers' evaluation. Also it is required to separate the genders and develop more professional high quality design considering the body type of men and women.

This study expects to contribute on the increase of the interest for recently growing smart clothing area, and give help to manufacturers of heating vest and other heating clothing items.

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A Study of Trend of High Heels in 2014 F/W Collection

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1. Purpose of Study

Up to now, studies of fashion in South Korea have mainly focused on 'clothes,' but in recent years, total fashion that attaches importance to the overall styling has become the mainstream, and accordingly, a study of individual items is necessary. There are various types of individual items to complete total fashion, such as bags, watches, scarves and jewelry, but shoes can be said to be an essential item for the human body in several meanings. While it is not necessary to wear the other individual items to protect the body, shoes must be put on to protect the feet of the human body, and of various individual items, they are an item with practicality and expressivity simultaneously. This study would deal with high heels that can maximize practicality and expressivity among various types of shoes. High heels were developed as a practical tool in ancient European countries to avoid mud and garbage on the roadside, but gradually becoming sophisticated, they have been developed as a tool that can express the creative uniqueness. Especially, for women, high heels get more importance and value as a tool to bring the beauty of their whole body as well as their leg-beauty into relief and complete their fashion. Thus, this study would analyze shapes, colors and materials of high heels, their design elements based on the 2014 F/W high heels collection photos.

2. Methodology

Of the fashion accessory brands, this study focused on three brands that lead the high heels market, Jimmy Choo, Christian Louboutin and Manolo Blahnik and collected the 2014 F/W collection photos via their web sites. 118 pictures from Jimmy Choo, 65 from Christian Louboutin and 34 from Manolo Blahnik were collected, and 217 photos in total were analyzed by their design elements such

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as shapes, colors and materials.

3. Results and Discussion

As a result of an analysis of Jimmy Choo brand collection photos, there were various shapes of high heels such as stiletto, pumps, sandals, wedges and boots, which were colored with solid colors such as deep black, red purple, blue, brown, gold and silver. For materials, suede, mesh, lace and leather were used, and the high heels using metallic materials felt like a calm sense of pearl, or showed designs with a sense of the season using materials with moderate gloss. In the decorative parts of the high heels, mainly flower patterns and leopard patterns were used, and there were high heels with a unique feeling using straps that reminded of butterflies and leaves. In addition, beads and crystals were attached to the ankles or the middle of the high heels, so that gorgeousness were added to the design that might look ordinary, and for the buckles of the high heels, silver was mainly used, and the ones in a shape embracing the ankles were used.

For Christian Louboutin, there were mainly stiletto high heels with pointed toes and similar shaped designs, and with colors such as black, white, purple, yellow, gold and silver, through accent coloration in light colors, they felt more various. For materials, suede and enameled leather were used, especially glossy ones, which felt bright and colorful. For decoration, ribbons or studs were used only in a part of toes, ankles and heels of the high heels, so that they looked moderate and presented designs with femininity and uniqueness. Also, various colors of studs were used, such as gold, silver, pink, yellow and transparent ones. Christian Louboutin showed mainly pump heels in this season, so there were hardly high heels with a strap or buckle, and the ones with buckles were in a shape embracing the ankles.

Toes of all Manolo Blahnik brand high heels presented in the 2014 F/W collection were in a pointed stiletto shape, and they had solid coloration of deep black, red, yellow and blue, and accent coloration was done with deep colors. Nonglossy suede and leather were used as materials to present heavy-looking high heels. Most of their patterns were flowers or geometric ones using dots, straight lines and curves. Manolo Blahnik, overall, standardized formative designs of shoes to present consistent collection, and the shape of the heels became narrower to the bottom and were in a triangular shape at the parts in contact with the bottom, which were designed in an unusual image.

4. Conclusion

As a result of an analysis of the 2014 F/W collection photos of three brands, Jimmy Choo, Christian Louboutin and Manolo Blahnik, there were commonly pump high heels with pointed toes in types and shapes among the formative characteristics of the high heels, and as colors such as black, red and purple were mainly used, there were differences in the use of accent colors or color tones in the brands. Also, all the three brands mainly used suede and leather as materials, and Jimmy Choo and Manolo Blahnik used less or non-glossy materials, while Christian Louboutin used very glossy materials, so there were some differences among the three brands. In addition, Jimmy Choo used lace and metallic materials to present high heels with femininity and sexual image, while Christian Louboutin used mainly enameled leather to present gorgeous, bright collection which could be put on regardless of season. Manolo Blahnik used mainly suede leather, which showed warm and heavy-looking collection. In patterns, all the three brands commonly used flower patterns, but they used their own creative patterns to show creative uniqueness, respectively. Jimmy Choo and Manolo Blahnik mainly used print on fabric patterns or ones with less three dimensional effect, while Christian Louboutin used three dimensional decorations like ribbons and studs, characterized by more vivid feeling. Nowadays, the fashion trend is changing day after day, and the speed of the change gradually becomes faster. The trend of high heels also, is changing in various ways in terms of shapes, colors, materials and details in each season and to meet these changes, it is judged that an in-depth analysis is necessary on the formative characteristics of high heels.

Based on this analysis, this study could identify infinite potential of high heels through which individuals can express their needs and uniqueness in the golden age of total fashion and has significance that it would help propose sources of inspiration and new concepts to designers who should satisfy the modern people who are sensitive to changes in trend.

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The Development of Digital Textile Printing Design Using the Cultural Symbol of Gwangju Metropolitan City

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1. Purpose of Study

With entering the glocal age, a local or city image is getting as important as a national image. Major advanced cities including London, New York, and Paris have promoted 'making the city's culture image' through the symbolization of natural environment, historical characteristics, city culture, and various cultural heritages in the aspect of cultural marketing.

A city symbol is a measure to take a certain city and a mirror to reflect history and culture all around the world in modern society. City-related various cultural symbols influence on the formation of a city image, and a city symbol can have effects on the heightening of huge city image and brand depending on its application. In this context, local governments at home and abroad have developed uniform design using city's cultural symbol and applied it to the medium of a city image. Therefore, the purpose of this study is to develop textile design using the cultural symbol of Gwangju Metropolitan City and apply it to public service staff's uniform. The textile design using the cultural symbol of Gwangju Metropolitan City which aims at Asian culture hub city, universal city, and UNESCO creative City is very worthwhile.

2. Methodology

This study mainly aimed to develop textile design using the cultural symbol of Gwangju Metropolitan City. The methods of the study included both literature study and empirical study. The literature study reviewed the concept and elements of city's cultural symbol, the cases of city's cultural symbolization in local governments at home and abroad, and city's cultural symbol elements of

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Gwangju Metropolitan City. The empirical study selected a motif and developed textile design using it. Textile design was produced by Adobe Photoshop 7.0 and Adobe Illustrator CS 5 programs.

3. Results and Discussion

The results of the study are as follows. First, the elements of city's cultural symbol could be embodied by 'centralized', 'federated', and 'hybrid(centralized + federated)' types. The 'centralized' type included a strong, distinctive, and single symbol which forms a city image. The 'federated' type did not have a distinctive and representative element which forms a city image but showed a coherent identity in most cases. The 'hybrid' type had multiple distinctive elements which form a city image.

Second, advanced cities at home and abroad have attempted the symbolization of city culture and emphasize or improve a city image using it in the current of integration of politics, culture, and economy in modern society. Paris has a variety of many cultural heritages or natural scenes such as Triumphal Arch, La Défense, and Seine River. Such symbol elements are mixed as an image which has context to form an image of the whole Paris. Although Tokyo has no relative strong symbols compared with other cities, a common image of a broad variety of elements such as high-rise buildings, high-class modern department stores, food, and Tokyo people's gentle, kind, and polite attitudes forms the whole city image. 'I Love New York' which means 'Love New York' has popularized and applied to all kinds of products over time. 'NYC' developed under the direction of Bloomberg, the Mayor of New York, has applied to symbolize New York in a variety of ways. Jeju-do developed tourist T-shirts using a cultural image which symbolizes Jeju such as poison bulb, citrus flower, Dol Hareubang, and woman diver and putted it on tourist staff working in the airport or quay who are frequently exposed to tourists and publicizes the image of Jeju which is the city of world peace and an international free city.

Third, a motif which symbolizes the cultural and a city image of Gwangju Metropolitan City was extracted to develop textile design and textile design was developed using DTP technique which can be produced in high variety, low volume. The concept of textile design was "A City Tinged with Light: Light Up" which reflects a F/W trend. Three cultural symbol elements of Gwangju was selected and figured as the motif of textile design. Dominant color was the one which symbolizes the color of a city image of Gwangju. Finally, textile developed in this process was applied to public service staff's uniform design in administration, tourism, and transportation.

4. Conclusion

The method to express the city's cultural symbol is the most effective to enhance city competitiveness in diversified modern society. Moreover, it is expected to make advanced public design by holding the symbol and image of city culture in public uniform as a part of the strategy of city differentiation in the age of globalization and localization.

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An Analysis on Kidult Phenomena in Fashion Collections

-Focused on Early 2000's-

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1. Purpose of Study

In the modern society, people try to find outlets to express their creativity and personality through fashion, and obvious usage a cultural phenomenon known as Kidult became frequent in fashion scenes. The purpose of this study is to analyze the kidult phenomenon in fashion collections.

2. Methodology

Tsinghua Academy of Fine Arts's professor Su Dan in 2009 at the China Textile News published the article "playful (kidult) expression of design content" in the shape, color, texture and ornamentation will wake up happy memories precipitation in the heart, of mankind happy memories from childhood age; Author Li Lili's 《product design" playful (kidult) "applications"》 presented both from a psychological point of view or the product itself, "playful (kidult) " can enhance communication between people, to achieve the psychological care of purpose; HuangShi Institute of Technology Professor Yu Weihua in 《Women design playful wind?》 in the design of women's kidult cultural phenomenon analysis to explore the origin and performance practices for analysis and so on... I'm going to study the performance practices by product's color, shape, decoration, structure.

3. Results and Discussion

Today the constant improvement of the level of living in our country, a life is in a rather quick rhythm and the living pressure is also increased. This makes people endure physical and psychological stresses. These factors inspire people to imitate pure and innocent life like child. "kidult" Is an emerging hybrid vocabulary,

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from "kid + adult" composition, this word first appeared in the August 11, 1985 of an advertising article by "The Times" on the upper. "Boston Globe" interpretation: "For the kidult, the youth does not have to end at the age of 30 or even 40 years old." Today, clothing is not only functional but also an expression of self-definition, we should demand from people's psychological point of view to analyze the significance of kidult product generation and development. Prominent in using kidult elements are Japan's Utsuki, Tsumori Chisato and China's Du Yang, and Jean-charles de Castelbajac.

Common factors of Kidult influence fashion collections are rich and bright and playful colors, interesting patterns, as well as unfettered cut styling. Strong visual sense of color, The use of three-dimensional animal ears, the eyes, the shape of toy-like characters in form of applique and decorations.

4. Conclusion

Through the above study I came to conclusion that:

- 1) In this busy modern life. Kidult phenomenon is about psychological satisfaction through expressing oneself and reliving one's own childhood.
- 2) Kidult phenomenon in fashion also has a connection to people's desire to look younger and to mentally stay young.
- 3) Kidult aspect of fashion is expressed via color, shape, proportion, and structure

In the market, increasing number of kidult products emerged in life. It is a manifestation of life to be released in a busy social life. In fashion design, we can apply to the relevant childhood memories, favorite items, etc. for the theme, and even daring to use bright colors to express the attitude, Kidult has a characteristics of everyone's childhood sensation and it can stimulate consumers' urge to relive and to enjoy the moment of their own childhood. At the same time.

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Trend of Golf Wear Colors

-Focused on 2000-2014 Online Articles-

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1. Purpose of Study

Golf has spread rapidly from the exclusive property of the privileged class in the past to various classes, and with young golfers' emergence and activities, expanding from middle-aged males to females and young people, its popularization continues. With the increase of the populations of golfers through the popularization of golf, golf wear goes under a lot of changes. Golf wear gradually changes from functional materials developed for use in sports through refined design and comfort of wearing to a concept of casual wear. In addition, by the booming of the outdoor market, outdoor brands finally enter into the golf market.

Accordingly, new changes in the golf wear market are necessary, and in the world of fashion in which domains are destroyed, it is urgently necessary to secure the competitiveness of golf wear through differentiated color plans.

Colors in golf wear act as one of the most important factors to the customers who enjoy golf on the golf course. It acts as the means to express their own personality and style or has the functions to maintain the distance from the front team and to secure the sight and safety. Like this, the importance of colors in golf wear is high.

Thus, this study attempts to understand the flow of golf wear colors by analyzing the golf wear market since 2000 when the culture of the popularization of golf was established according to the five-day work week and the golf wear market expanded until lately, and it is expected that this study will be used as basic data to establish differentiated color strategies of golf wear through this.

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2. Methodology

Regarding the research method, this study collected articles related to golf wear using the keyword, 'golf wear colors' through a search site, Naver, and the scope of analysis was the articles from October 5, 2000 through August 1, 2014. We have arranged the colors which are written in the columns based on 120 Hue & Tone colors.

3. Results and Discussion

As a result of an analysis of colors in the golf wear market, all could be summarized as six large contexts.

First stage from 2000 to 2002 was the times of 'Brown to Orange' and this stage showed YR family colors were used as diverse tones. Various tones were used including mute tones in red or green family and in general, noble or elegant colors were dominating and bright colors were used as highlight.

Second stage from 2003 to 2005 was the times of 'Candy color & Red ranges' and this stage showed the characteristic to use dazzling bright tone colors and various R family colors. Higher age groups of golf wear preferred candy colors such as gorgeous pink, blue or yellow, and apart from calm colors such as beige, khaki and brown, a lot of feminine colors such as orange, melon sky, blue and pink appeared. Reddish colors consisted of the main color, and colors such as pink and orange with a sense of fluorescence that stand out on the grass were popular.

Third stage from 2006 to 2008 was the times of 'Fresh color & Achromatic' and in this stage, bright and pale tones were dominating and showed the characteristics to use various GY or Y colors and achromatic colors. Gorgeous colors were a general trend and pastel tones emerged as the main color, and orange and pink for females and blue color for males were harmonized with white color. With colors such as black, white and gray, intense and fresh colors such as violet, orange, green, red and blue were harmonized. Yellow in pale tone and bright color of yellow green were used with colors with a natural sense, such as light and light grayish tones as well.

Fourth stage from 2009 to 2010 was the times of 'Brilliant & cheerful color,' in which senses of loud colors such as bright and raw popular orange and red were used and bright and raw fresh feel colors like yellow pink in blight tone were in vogue. Added to clothes in orange and green as point colors to express sophisticated senses, and gorgeous colors such as loud orange, yellow and blue received attention while they were put on refined designs.

Fifth stage from 2011 to 2012 was the times of 'rhythmic color & Blue

ranges,' in which light colors such as red, orange and yellow were used. And Blue, the color popular in this season was expressed in various ranges and arranged with white, beige, gray and black

Sixth stage from 2013 to 2014 was the times of 'Primitive Color & Multi-color Stripe,' in which all natural colors based on the primary colors such as pink, yellow, green and blue were used and stripes of purple, white, pink and multi-stripes of navy, white and green showed a strong tendency.

4. Conclusion

Color flows in golf wear market after 2000 could be arranged as total of 6 stages by classifying two or three years as one cycle and each stage showed differentiated characteristics in each stage.

At the first stage, orange colors with various tones were used and noble and graceful colors were mostly used. At second stage, various red family colors were used and dazzling bright tones were mostly used. At third stage, various achromatic colors were used and bright and pale tones were mostly used. At fourth stage, strong and beautiful colors with vivid and bright tone colors were mostly used. At fifth stage, various blue family colors were used and rhythmic colors like red, orange and yellow were mostly used. At sixth stage, it showed the arrangement of multi-colors and primitive colors with vivid and strong tones were mostly used.

But, black and white were always used in all stages and showed common characteristics in that blue color was used for men's clothes and RP family colors with various tones were used in lady's wear.

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A Study on Digital Textile Print Design Using the Korean Folk Paintings

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1. Purpose of Study

All countries in the world have become glocal to develop unique cultural products by creating their own traditional culture and developing their competitive and original cultural contents. Specially, the textile and fashion industry has launched unique design products which follow a fashion trend and are reinterpreted in a modern sense. This is accomplished by using traditional art, one representative of cultural contents, as a motif. Therefore, this study aims to develop the textile design of high added value and high sensitivity using folk paintings which hold Korean emotion.

2. Methodology

Both a literature study and an empirical study were conducted. The literature study reviewed the concept and kinds of folk paintings and the aesthetic characteristics of Korean folk painting based on previous studies and related literature. The empirical study developed DTP textile design using folk paintings. To design textile patterns, five works of folk paintings which revealed the aesthetic characteristics of Korean folk art were selected, scanned, and digitalized. Then, each motive was changed from the original to a vector image using Adobe Photoshop 6.0 and Adobe Illustrator CS4 program. Finally, the process was repeated and color adjustments were made.

3. Results and Discussion

First, folk paintings were posted to walls, closet doors, attic doors, or the front gates of homes. These were used to decorate the interior, and expressed the common people's life feelings frankly and breathed with them. The kinds of folk

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paintings included a flower-bird painting, a grass-insect painting, a fish-crab painting, a letter painting, a genre painting, four cardinal deities paintings, a tiger-magpie painting, a painting of ten symbols of longevity, and a painting of books and stationery. The flower-bird painting was the most common in folk paintings and the flower is in harmony with female and male birds. The grass-insect painting included a butterfly, a grasshopper, a cricket, a wart, a cicada and a frog. The fish-crab painting included fish, shellfish, and crabs. The letter painting includes letters which represent Confucian virtues and tale contents. The genre painting was mainly divided into the painting of farming and weaving and the painting of a civil official's life. The painting of farming and weaving describes rural life and the painting of a civil official's life describes a standard civil official's whole life in the form of a documentary painting. The four cardinal deities painting describes symbolic animals which represent all directions and defends cosmic order. Meanwhile, the tiger-magpie painting describes a tiger, a magpie, and a pine tree. The painting of ten symbols of longevity expresses ten creatures which symbolizes longevity such as the sun, a mountain, water, a stone, a cloud, a pine tree, herbs of eternal youth, a turtle, a crane, and deer. The painting of books and stationery describes four precious things of study (brush, ink, paper and an ink stone) and civil official's daily things (a vase, a flower, ceramics, glasses, etc.).

Second, the aesthetic characteristics of Korean folk paintings were examined. First of all, the form of folk painting was expressed by embodying an image in ideal formative space in a plane structure using lines and colors. The line of folk paintings draws the outside, focusing on the outlines of things while the inside is painted. Generally, the form of the line is thick, strong, and soft in nearly regular thickness and diagramed freely in simplification, exaggeration, or repeated overlap. The formative characteristics of Korean folk paintings are repetition, complexity, and abstract. Repetition means the repeated expression of more than two shapes in the same form. For example, carp scales are repeatedly expressed by overlapping half-circle patterns and the overlapping effect creates a deeper and newer spatial dimension. Complexity is achieved by a complex action that more than two modes join and free expression of the object through omission and moderation. Abstract is a form of nonrepresentational expression as shown in the tiger-magpie painting. A tiger overwhelms the whole canvas, and emphasis is placed in the forms of highly abstract and geometric lines. Also, a sharp contrast of colors without light and shade, combined with great distortion in the whole balance creates a powerful, yet simple, work of beauty. Korean folk paintings used sensitive colors. While moderate colors in India ink were mainly used in Korean

orthodox paintings, strong five directional colors and achromatic colors were often used in folk paintings. Folk paintings which stress contrast between the primary colors based on the five elements attach importance to the color harmony of the canvas rather than object's unique color. Korean folk paintings construct a unique canvas and space by various and free points of time. This is different than the clear and collective paintings about the before and after, the right and left, the top and bottom, and the rise and fall and the ignorance of perspective. In other words, objects are simultaneously arranged in the whole canvas to express them perfectly or simultaneously with ideal space on realistic things to create a fresh complex phase. In this sense, ideas on things people think are freely expressed as they are contained in folk paintings. Their usual breakaway and freedom of expression such as the ignorance of perspective and multi-points of time has various possibilities of being changed into modern design and the value of art history.

Third, a new image motive, which was interpreted in a modern sense and followed a fashion trend, was created based on the aesthetic characteristics and motive of Korean folk paintings and DTP design was developed using it. The concept of textile design was "Global Tribe" which reflected a S/S trend in 2015 to feel a traditional Korean image and a modern sense at the same time. Representative design motifs were selected from five works which revealed the unique aesthetic characteristics of Korean folk paintings. The main color was five direction colors which are often shown in folk paintings and trendy colors were matched for modern feelings. The design of textile print was focused on stressing the aesthetic characteristics of folk paintings in pattern forms and composition.

4. Conclusion

This study is meaningful in that it takes over Korean people's sentiments in the global era and develops a design suitable for consumers' high sensitivity by using Korean folk paintings as its motive and designing textile prints in a modern sense. It is considered that further study should be actively conducted to develop fashion cultural products of high added value and high sensitivity using Korean folk paintings which have infinite possibilities as a design motive.

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A Study on Different Fashion Styles Occurring between Shenzhen and Hongkong

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1. Purpose of Study

Although Shenzhen and Hongkong are only separated by a river, fashion styles of two cities are quite different. This study will briefly introduce the distinct fashion styles of Shenzhen and Hongkong and explore the reasons for the occurrence of style differences.

2. Methodology

First, previous researches on fashion styles of Shenzhen and Hongkong will be studied to summarize the differences. Second, a questionnaire survey will be conducted to collect relevant information from local residents to find out fashion style they prefer and the view they hold on fashion. Third use web search and book information to comparison and analysis about Hongkong and Shenzhen' historic culture, result in the difference.

3. Results and Discussion

On the basis of the survey conducted, Hongkong and Shenzhen' s fashion styles are defined.

1) Hongkong: Under the influence of British education, Hongkong residents follow strong formality of fashion. People wear dress suits for work and casual outfits for after work. A formality is toned down for after-work clothes but within a boundary of invisible guidelines, in order to be considered as well-dressed. However, Hongkongese are creative and bold in expressing themselves through fashion within that boundary.

2) Shenzhen: People in Shenzhen are more focused in obtaining luxury brands than creating one's own style. Although there are many options in creating various

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fashion styles, Shenzhennians often prefer to follow only the biggest and hottest trend. Even when there is no visible guideline, people tend to imitate and to limit themselves to certain ideas. Shenzhen's dressing style is less variable and seldom free. Shenzhennians use dresses to build a confidence.

Causes behind those differences are extracted and divided into based on previous researches on two cities.

1) On basis of the Thesis Research, Economic: Shenzhen is one of special economic zones in China and has shown great increase in economics development since introduction to outside world and internal reform. Hongkong is a tax free paradise and enjoy a nice reputation all over the world especially in the field of economics.

2) Region: Hongkong is next to mainland and Macau, in a central location with a strong history as a shipping port. Hongkong has been referred as a hub for finance and import/export trades in Pacific Asia.

3) Politic: On the basis of the study of modern and contemporary Chinese history, Hongkong is a special administrative region with special policies and systems. Although Shenzhen is a special economic zone enjoys some preferential policies, it is still constrained by the policies and systems of China.

4) Culture: Hongkong used to be a colony governed by the great Britain for hundreds years, it has been influenced much by british culture. Because many speak English fluently, people can easily communicate with foreigner and very opt toward receiving and opening to foreign cultures. Shenzhen was just a small fishing village until recently with little knowledge of outside culture. Although Cantonese had been Shenzhen's first language, Mandarin is now taken the place of first language and English has not been considered as much important as in Hongkong.

4. Conclusion

Shenzhen and Hongkong are cities that are immensely involved in fashion, and physical distance is not great. However, due to differences in economic, regional, political and cultural environment, two different fashion styles occurred between Shenzhen and Hongkong. This study had limitation on comparing due to lack of evidences in comparison due to insufficient previous researches on the issue. The comparison and research were heavily relied on the conducted surveys. Fashion style does not only just represent a person but also represents the culture and status of the city and in future studies, what other factors caused the difference in fashion styles from cities that are geographically located near. Also Other than Hongkong and Shenzen which were once part of different countries, other

geographically near cities within China should be compared and studied to solidify the causes affecting the culture and psychological influences over people's ideology in fashion.

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A Study on the Fashion Style Types of the Chinese First Ladies⁺

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1. Research purposes

Fashion, when it applies to female leaders like politicians or first ladies, is not just dressing up. In other words, their fashion can deliver messages or symbols that they cannot verbalize. It is also used as a means to show leadership, strengthen the negotiating power, or as an important tool which can communicate and commune with people.

Therefore, the purpose of this study is to prepare a data base which is necessary for studies on the first ladies' fashion by analyzing fashion styles according to Chinese first ladies' role types and the first ladies' image making.

2. Research methods and contents

The subjects of this study to analyze Chinese first ladies' fashion are: Chiang Soong Mayling(宋美齡) who is the wife of Chiang Kai-shek(蔣介石), Chiang Ching(江青) who is the wife of Mao Zedong(毛澤東), Liu Yongqing(劉永清) who is the wife of Hu Jintao(胡錦濤), and Peng Liyuan(彭麗媛) who is the wife of Xi Jinping(習近平). Photo data of the first ladies became available during the Republic of China and the People's Republic of China periods which were established early in the 20th century. As for the research method, Chinese first ladies' role types were first classified by referring to the classification method of first lady types by Tsai Chih Chiang(蔡子強) who is a political scientist in Hong Kong, and then fashion

⁺This research was supported in 2014 by the MOE(The Ministry of Education), Republic of Korea, under the BK21 plus project (S13HR15D0801) supervised by the NRF(National Research Foundation of Korea).

styles were analyzed focusing on the photos collected from the web sites (www.gov.cn, www.baidu.com, and www.google.com).

3. Results and consideration

1) Chinese first ladies' role types

Tsai Chih Chiang classified Chinese first ladies' role types into the following categories: the highly ambitious type (野心滿滿) who actively participate in politics, the public charity type (公益慈善) who participate in public service activities, the good wife and wise mother type (賢妻良母) who makes sacrifices for her family, and the butterfly type, sucking nectar from flowers (穿花蝴蝶) to utilize fashion. In reference to these categories, the results are as follows, Chiang Soong Mayling (1927-1949) is the butterfly sucking nectar from flowers type. She was very interested in fashion as she was a modern woman who received a western education in the United States of America for almost ten years. She also belongs to the highly ambitious type as she was highly active in the political stage after being married to Chiang Kai-shek. Chiang Ching (1962-1976) was previously an actress. She began political and diplomatic activities after being married to Mao Zedong and took an active part as the leader of the Cultural Revolution (文化大革命). Therefore, she is classified as a highly ambitious first lady. On the other hand, Liu Yongqing(2005-2012) scarcely participated in the political activities. As she sometimes assisted her husband when he made his official trips abroad or in the welcoming ceremonies of government guests, she belongs to the good wife and wise mother category type. Peng Liyuan(2012~) is classified into the butterfly type sucking nectar from flowers type as she utilizes fashion most in the political activities based on her excellent fashion sense and at the same time, she is the first lady of a public charity and has spent much time in public services activities.

2) Chinese first ladies' fashion styles

Chiang Soong Mayling utilized Chinese dress which is similar to male robes. Politically she belongs to the butterfly type sucking nectar from flowers and the highly ambitious type. Therefore, she wore Chinese dress which imitated male robes that were influenced by the social background of the woman's movement early in the 20th century. Also, she created her own style by combining traditional beauty with modern beauty and matching it with jackets, coats, high heels that were influenced by western culture. And jewelry and pearl accessories were used to express one's status and authority. This style shows a butterfly type sucking nectar from flowers and the highly ambitious type image of Soong Mayling.

Chiang Ching was categorized as the highly ambitious type by being the leader of the Cultural Revolution. She sought the styles which symbolized higher status

or authority, but also utilized traditional and humble styles by escaping from the splendid image she possessed as an actor after being influenced by the economical and social age of turmoil during the initial stages of establishing the People's Republic of China. At that time, the Chinese people only wore Mao jackets and military uniforms regardless of age or sex due to economic problems and the social system. Chiang Ching also wore these two clothes exclusively and usually wore pants suits without any accessories. These styles expressed an ambitious female image by suppressing femininity and emphasizing traditionalism.

Liu Yongqing sought traditional and conservative styles as the first lady of the good wife and wise mother type by assisting her husband in official places only. She preferred to wear red which is the Chinese traditional color, and blue clothes which symbolizes peace in the diplomatic stages. And she almost wore skirt suits and often utilized modernized Chinese traditional royal clothes. She often utilized the Chinese items including *duijin*(對襟), knot buttons, traditional patterns, and embroidery shapes in detailed parts of clothes. She wore pearl earrings which symbolizes conservatism. She sometimes wore pearl necklaces and brooches. She created a style which matches her type by adding Chinese elements to the traditional and conservative styles.

Peng Liyuan belongs to the public charity type and the butterfly type sucking nectar from flowers type which utilizes fashion politically. She wears Chinese clothes as her major item, but implements Western clothes together or utilizes the combined Eastern and Western styles which adds Western elements to traditional Chinese clothes. Modernized Chinese dress is her preferred item. She is able to create friendly relations with other countries by wearing their traditional clothes as well as her own country's clothes during the diplomatic stages. She also shows her matrimonial love and improves Xi Jinping's image by wearing similar clothes. By doing this, she makes a great contribution to the improvement of the Chinese image by promoting Chinese culture through the utilization of fashion politically and actively. And Peng Liyuan expressed feminine and soft style with the Chinese dress for a kind image, which was suited to the public charity type.

4. Conclusion

As examined above, Chinese first ladies showed various fashion styles according to their role types. Chiang Soong Mayling and Peng Liyuan were found to utilize fashion politically. Based on this study, a follow up study will try to examine the similarities and differences of first ladies' fashion styles by comparing and analyzing the first ladies' fashion styles including China, Korea, the US, and France.

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The study on simulacre body proportion of fashion design

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1. Purpose of Study

Considering the proportion of the human body to produce clothing were traditional method to do fashion design. But in the era of decentralization, fashion design has been taken a new turn in a variety of aspects with surreal and liberal proportion of human body. The purpose of this study is to redefine the relationship between human body and clothing as a active and independent relation with the study of human proportion in an aspect of philosophical view of 'Simulacre' by Jean Baudrillard. Philosophical perspective redefined the values and types of art. Simulation could be key role to analysis various forms of body proportion in a fashion design, and also this study with a view of Philosophical perspective has the value and significance to seeking and suggest a diverse fashion design development.

2. Methodology

Methods of the study are through the reference research of previous studies and related books for theoretical study of the 'proportion' and the philosophical analysis of the 'Simulacre'. And the substantive research of the fashion design was refer to the fashion magazines and internet. The Period of fashion design research is around the time the fashion design developed with diverse aspects which is since 2000 to now.

3. Results and Discussion

3-1.Body Proportion

The proportion is a yardstick as a basis of formative art. But there is no absolute numeral value of ideal proportional beauty since varies depending on the particularities of the hobby of age, ethnicity, personal, etc. A module is a

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beginning of proportionality determined by the aesthetic norms (canon). Each era has a different module system. Human body proportion has been development from ancient Egypt through Middle Ages to Renaissance, the heyday of it by Dürer. Golden proportion commonly used today is derived from the 19th century. And then there was a module system by Le Corbusier in 20th Century. It is based on a standard British height which is 182.88cm, it is a module to measure everything square, including a desk, and it is being used in the field of various design.

3-2. Simulacre and Body Proportion

After modernization, modernism and an art of Post-Modernism era emphasizes the role as a non-replication creation, and is related to simulacre. And it is not a reproduction of the original but the difference is generated. Simulacre by Jean Baudrillard in 1981 is a created artifacts that does not actually exist. And it has a reality that surpasses the original. Simulation by Jean Baudrillard means do simulacre. It is not a imitation of original, the reproduced images and symbols are transformed and degenerated a form of original images and hides the reality. There is no reality and rather original follows the reproduces ones. Finally it leads to the more real than the reality exceeded (hyper-reality).

Artwork in a principle of simulacre, the relation of Original and copies is same as a human body and clothing in a fashion design. And the clothing has a 'Simulacre body proportion', replicated article, deny the original proportion and organic relation of each part of body. It brings the loss of identities and differences. Unit of the module in the simulacre is from head to toe as a whole since a clothing of a simulacre has a infinite space and create strange structure of the body. A human body as a module is separated with the involvement of the disparate and even have disappeared or in concealment.

3-3. Simulacre Body Proportion and Fashion design

The characteristics of the fashion design has been derived from the simulacre's human body proportion.

1) The segmented body proportion. The segmented body means to divide into parts of objects. The intended structure precisely of the clothing is separated from intimately relating to the human's body. Martin Margiela's top and bottoms are separated between waist and chest. In addition, her cylindrical skirt style should be unchangeable as an absolute invariant form. The spring and summer collection of Viktor & Rolf in 2010 showed the designed separation as the huge lump of the tulle material on the right side. In denying the human's body parts, the tops, the bottoms, and one-piece dresses were reborn a completely different object. Comme des Garçons's jump suit is divided by different two parts of bottom

shape. Asymmetrical structure with different kinds of elements create boundary by itself.

2) A continuous body proportion is that the structure of a single human body is continuous to two or more structure of the human bodies. Through the continuity means being connected from one to the other, there is more continuous structure of the human body but not the garment for one person. In the collection of Comme des Garçons in 2009, two models have moved consecutively and simultaneously while wearing the connected dresses. From the exhibition of Issey Miyake, the shirts on a mannequin clad continuously extended until the ceiling passed through the model's head. It means that the human's body is infinitely continuous.

Hussein Chalayan's laser dress is expanding the area of human body through light. The image from combining material and non-material mixed with space around it. The fashion design using the technology is a change in the way of thinking in a clothing. And it creates human body in a new aspect.

3) Enlarged body proportion is a matter of human body size. Enlarging is to make bigger on shape and volume. In this study 'enlarging' means giant size without consider human body. Yohji Yamamoto's dress is too big to make model walk by herself and need extra device to enable moving. It breaks prejudice and the relationship between body and garment. Coat of Comme des Garçon is also unrealistic size while the structure of the clothing is very ordinary. The opposite type causes illusion of copied image looks like more original image than original. Gareth Pugh's coat is too huge to see model's body even face. There is just one clue of two legs under the coat mention it could be a human. Unrealistic enlarged body proportion clothes is raising uneasy feeling with exaggerated body size and structure.

4. Conclusion

Study on ideal body proportion has a distinctive element by aesthetic point of view and way of philosophical thinking in each era. Greece assumed the beauty of the body as a standard of beauty and they made a drapery garment showing natural human body, and the era of absolute beauty has to be voluptuous made dress with corset to restrict body to make waist tiny and chest bosomy. Fashion design related to the inner body proportion and clothing in 21 century is beyond of complementary relation. Simulacre body proportion make original proportion of the body disappear and create expanded concept of proportion through garment.

Human body is created with a new principle of simulacre body proportion. A simulacre body proportion method is a theoretical approach to try the various

attempts of fashion design. And a subsequent study must be done.

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Study on the Evaluation Dimensions Suitability of the Avatar through 3D Simulation

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1. Purpose of Study

Due to recent developments of computer and convergence technologies, the Augmented Reality technology has been realized widely and many 3D virtual clothing simulation programs using such technology have been developed in the clothing industry accordingly. The 3D virtual clothing simulation programs are frequently used for the purpose of putting on designer clothes to an avatar as the model and determining the suitability of clothes. In order to obtain the highly reliable result from the 3D virtual clothing simulation programs, the avatar sizing system is very important. Therefore, the purpose of this study is to compare and analyze the measurements and sectional shape for each body type using the 3D modeling of body type for male in the 20s presented in 2010 SIZE KOREA and verified the validity of avatar based on the compared result of the 3D modeling with virtual body/avatar).

2. Methodology

Terms Definition 1) 3D Modeling: Scanned real body 2) Avatar: Virtual body on program

Size analysis of 3D Modeling - Compare the body measurements of 3D Modeling data for each body type of male in the 20s (Standard, Inverted Triangle, Big Triangle, Rectangle) presented in 2010 SIZE KOREA to analyze the characteristics of each body type.

Cross Section Analysis - Analyze the sectional shape of 3D Modeling for each body type of male in the 20s using the Rapid Form XOS program.

Avatar Suitability Evaluation - Analyze the outer form of avatar for each body type created by changing the size of avatar to the body measurements of 3D Modeling for each body type of male in the 20s using the virtual clothing

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simulation program 'CLO 3D Modelist Program' and 3D Modeling.

3. Results and Discussion

3D Modeling for each body type (Standard, Inverted Triangle, Big Triangle, Rectangle) of male in the 20s presented in 2010 SIZE KOREA can be used instead of the avatar in the virtual clothing simulation program but there is a restriction in its use since the size cannot be changed. Also, the comparison and analysis result of body measurements between 4 body types presented in 2010 SIZE KOREA and 3D Modeling showed insignificant difference for each body type and the difference of shape in 3D Modeling could be confirmed with the naked eye, so more precise analysis of body measurements was required.

A distant difference for each body type was shown in the sectional polymerization degree analysis using the Rapid Form XOS program for the form analysis of 3D Modeling. The standard body form showed the lowest flatness ratio, and the inverted triangular body type and the rectangular body type showed a high flatness ratio. the large triangular body type showed the excessive abdominal projection.

The sizing result of avatar using 'CLO 3D Modelist Program', the virtual clothing simulation program, showed a significant difference from the body measurements of 3D Modeling presented in 2010 SIZE KOREA and there was no distinct difference for each body types. In case of avatar with no joint point, sizing is impossible, so it is necessary to improve the relevant issue.

4. Conclusion

In this study, the body measurements and sectional shape of 3D Modeling for each body type of male in the 20s presented in 2010 were analyzed and compared with the avatar which could be used in the virtual clothing simulation program. The result of comparison and analysis showed that 3D Modeling could be used instead of the avatar in the virtual clothing simulation program, but the detailed body measurements could not be applied, showing a limitation for using 3D Modeling as the avatar, and there was also a limitation in applying actual body measurements and characteristics to the avatar in the virtual clothing simulation program. Therefore, it is necessary to carry out relevant studies continuously in future.

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A Study On Manufacturing Method of Mink Fur Coats

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1. Purpose of Study

The object of this study is to examine a practical manufacturing method of fur coat and make the results as a basic information applicable for sewing education of fur garments. It would help the design utilizing of fur material by analyzing the sewing mechanism fur material that attracts attention and popularity for casual life style as well as luxurious style.

2. Methodology

In this study, the author investigated the production process by selecting the design of the trendy A-line casual mink half-coat recently. Two fur clothing manufacturers with a history of more than 10 years are selected in order to investigate the actual production of mink coat techniques. The researcher directly visited and investigated in April-May 2014 by examining the production process and technology, including cutting methods, materials and seam allowances treatment. And finally it is presented figures to create and manufacture a fur coat directly.

3. Results and Discussion

The results of examination of manufacturing process and method of mink half-coat are as follows:

First, through a matching operation to produce one fur coat, it should be selected to match the subtle differences in color and texture of fur and the volume of hair. Sheep leather is also selected for matching design part in front.

Second, cutting method for mink is a let-out which is used for high quality furs and cutting longer one fur skins and sewing to create a longer molding. After calculating total lengths, it is cut by V shapes by hand using the knife. It made a

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beautiful line of fur and hair volume abundantly. This is totally different part in woven fabric. It is not needed in woven fabric cutting.

Third, sewing process is a corduroy technique which makes the fabric by leather sandwiched between mink fur skins. The seam allowance is not required for special fur sewing machine and the process is made by coat parts.

Fourth, after sewing, semi-finished fur should be watered and fixed with pins by patterns. This is for preventing the deformation of the fur and maintaining the shape of the clothes. This process is not needed also in woven fabric coat.

Fifth, facing amounts are 5 cm in the front and 1 inch in the body and sleeve hem.

The assembly is attached to the tape in advance in armhole and neckline to prevent be stretched.

Sixth, after the lining is sewn separately to complete and shoulder pad is attached, it is sewn all by hand with outer fur coat. Compared to the woven coat, it is also different.

4. Conclusion

In this study, it was investigated mainly on the mink fur coat manufacturing process and specific difference was not significant in companies. The process of fur coat making has unique cutting and sewing methods compared to woven coat. And it has also additional shape fixing process. More studies will have to be developed with respect to the manufacturing process in the various techniques with different fur materials.

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Research on the Body Types of Obese Korean Women in their 20s and 30s (1)

-Focusing on the Descriptive Statistics of Measured Values of Anthropometric Data-

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1. Purpose of Study

The recent rise of fast food consumption, excessive drinking, and the increasing use of cars have led to a hike in obesity of those in their 20s and 30s. As a result, there are rising voices of the need for social and institutional support.

Despite the increase of younger obese women, most ready-made apparel is manufactured based on the average size for each age group without considering the diversity of obese body types. Meanwhile, plus-size brands that provide apparel for the obese are concentrated on older women in their 40s to 60s, leaving the young obese women with a lack of options when it comes to apparel brands. In order to enhance satisfaction among young obese women who are currently dissatisfied in purchasing properly fitting clothes, research on body types and brands targeting young obese women are necessary.

This research aims to analyze the physical characteristics of young women through the statistical analysis of each body parts of women in their 20s and 30s. It also aims to provide basic data for the improving the fitness through the development of the original form and patterns of apparel for young obese women through comparing normal and obese body shapes.

The ultimate purpose of this research is to provide basic information for designing clothes for obese women by procuring human data such as body size, apparel size standards, and body shapes of overall obese Korea women. As the initial

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step, this research aims to compare and analyze the body size of obese women in their 20s and 30s as a basic study and understand their physical characteristics.

2. Methodology

1) Research Data and Subject

To compare and analyze the body types of obese women in their 20s and 30s, the researchers used the anthropometric data of a total of 1289 women in their 20s and 30s from the 6th Size Korea Survey conducted from March to November 2010.

Among the 139 items measured first-hand during the 6th Size Korea Survey, this research has selected a total of 56 items needed to understand and design apparel for the obese. The 56 items consists the following; 8 items for height, 8 items for breadth, 7 items for depth, 17 items for circumference, 15 items for length, and 1 other item.

2) Method of Data Processing and Analysis

To understand the physical characteristics of obese women in their 20s and 30s, the researchers used the SPSS 20.0 Program, processing the anthropometric data into statistics. Descriptive statistics and t-tests were used as the method of statistical analysis.

The main purpose of this research was to understand the physical characteristics of obese women in their 20s and 30s. To do so, the researchers used the Body Mass Index, or BMI(kg/m²) as the classification standard in selecting obese women. Women were classified into the following five groups: underweight (14-18.4), normal weight (18.5-22.9), overweight (23-24.9), obese (25-29.9), and extremely obese (30-39.9). According to this criterion, a total of 123 women in their 20s and 30s were obese with a BMI of 25 or higher, and 847 were normal weight with a BMI between 18.5 and 22.9. The researchers did an analysis comparing the anthropometric data of the two groups in 56 different items.

To understand the physical characteristics of both normal and obese women in their 20s and 30s, the researchers calculated the average, standard deviation, minimum value, and maximum value of the anthropometric data through descriptive statistical analysis. The researchers calculated the average and the standard deviation of each of the following groups and tested the significance through the t-test to compare the following body types; normal women in their 20s and normal women in their 30s, normal and obese women in their 20s and 30s respectively, and obese women in their 20s and obese women in their 30s.

3. Results and Discussion

1) Results on the Descriptive Statistical Analysis of Anthropometric Data for Each Item of Normal and Obese Women in their 20s and 30s

By conducting a descriptive statistical analysis, the researchers calculated the average, standard deviation, variance, range, minimum value, and maximum value of 56 items of 847 normal women and 123 obese women in their 20s and 30s. According to the calculation, obese women in their 20s had an average height of 160.6cm, bust 96.3cm, waist 83.9cm, hip 101.1cm, and weight 69.2kg while obese women in their 30s had an average height of 158.0cm, bust 96.5cm, waist 86.0cm, hip 99.7cm, and weight 67.4kg.

2) Comparison Results on the Body Size of Normal and Obese Body Types of Women in their 20s and 30s

According to the comparison analysis of the body size of normal body type women in their 20s and 30s, 30 out of the 56 items showed significant differences. Compared to women in their 20s, those in their 30s had greater measures in breadth, depth, circumference, and length, but there were no big difference in the height related items. However, women in their 20s had greater measurements in thighs, knees and calves, and they also had longer arms and upper arms compared to women in their 30s.

The researchers found significant differences in 45 of the 56 items in the comparison analysis between normal and obese women in their 20s. Compared to normal women, obese women had greater figures in breadth, depth, circumference, and length, but there were no big differences in the height related items. However, among the items regarding length, there were no difference in shoulders, arms, and side hips.

According to comparison analysis of normal and obese women in their 30s, 51 out of 56 items showed significant differences. Compared to obese women, normal women in their 30s had greater measurements in height related items, while obese women showed greater figures in breadth, depth, circumference, and length related items. However, no significant difference was shown in their length of shoulders, arms, upper arms, and side hips.

Meanwhile, according to the comparison and analysis of the body size of obese women in their 20s and 30s, 15 out of 56 measure items showed significant difference. Obese women in their 20s had greater measure values than those in their 30s in eight items including height, cervical height, acromion height, axilla height, waist height, hip height, crotch height, knee height, and other items including knee circumference, calf circumference, waist front length, arm length, and upper arm length. However, obese women in their 30s had a greater measure

value in waist depth and waist depth (omphalion).

4. Conclusion

Compared to women classified as normal body type, obese women both in their 20s and 30s had greater figures in breadth, depth, circumference, and length except the height related items, and the difference was more prominent in those in their 30s. Among the normal in both age groups, women in their 30s had greater figures for their upper body than those in their 20s. Women in their 20s had greater figures for the lower body, but there was no significant difference. However, obese women in their 20s and 30s did not show significant differences in all items except the height related items, indicating that it would be reasonable to conduct future body type research for young obese women with an integrated approach rather than separating women into age groups of 20s and 30s.

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A Study On Design Uniform for the Disabled Ice sledge Hockey Player -for players of Kangwon provincial government-

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1. Purpose of Study

Ice sledge hokey is ice hockey for disable people can not skate by being paralyzed from the waist down or having his leg amputated in an accident. Players sitting on sledge instead of skating play the game. The sledge height has to be enough to pass puck between sledge'blades and the stick(pole) has a pick to go sled in a edge and blade to hit puck in the other edge.

Ice sledge hokey is most rapid and violent sports in disable sports and the popular sports in the para olympic. In Korean, population enjoying ice sledge hockey is about 50 including clubs. Of these, 11 persons are players of Kangwon provincial government and members of national team. Although Kangwon provincial government team receives methodical training by government support, they have not supported about uniform(jersey) by sport business. Also, the national team of ice sledge hokey had not supported. They wear the general ice hockey jerseys shape without their motion analysis. They put front hem of jersey into their pants because the jersey hem can drag on ice in playing game. And they prefer the tight shape in sleeve breadth of forearm, because pick of pole was stuck in sleeve. Therefore, pattern of an ice sledge hockey uniform (jersey) must be different to a general ice hockey uniform.

Until now, the research about ice sledge hockey was limited to sledge, and there is no research about its uniform(jersey). The purpose of the research was to design uniform for disabled ice hokey players reflecting on their movement in kangwon provincial government.

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2. Methodology

1. General Uniform design analysis: size chart, pattern, logo
2. Disable palyers' survey (in Kangwon provincial government)

: wearing garment type / fit, inconvenient item, the claims postulated / body size, position

3. protective device type & size measurement
4. player's movement analysis & Design uniform and material selection

Green and blue which emblemize a graceful nature environment and east sea of Kangwondo use to main color of uniform. The jersey surface is soft and matt with a fine mesh.(VE-Mesh / Heavy Duty Mesh)

5. Making up uniform & fitting test

In subjective wearing evaluation, three different postures were evaluated in its fitness, the straight posture with arms relaxed naturally, arms raised in 90 degree toward front and side.

3. Results and Discussion

1. General Uniform analysis

Patterns of the uniform were no different than t-shirt. There are 5 types in neckline: V-neck(wide), V-neck(slim), Y-neck, Laced-collar, T-neck. Sleeve pattern has wide in upper arm and tight in forearm. A jersey's front and back length are same. The goalie's jersey has a slightly different cut from the player's jersey; specifically in the arms only.

Size charts are classified into young size and adult size. Young size has 4~5 size: XXS~L, and Adult Size has 5~8 size: S~5XL.

2. Disable palyer's survey

Player wears functional clothes, protective gears and uniform in game. They complained of dragging jersey hem and broad sleeve breadth. They principally dissatisfied the uniform design. And they answered that jersey doesn't fit well: loosing waist girth, no stretch material, and wide sleeve breadth, gloves have bad durability, and under wears are not sweat absorbent.

3. protective device type & size measurement

Player common: Gloves, Shoulder, Shin Guards & Elbow Pads, helmet, cage & shields, padded shirts, neck guard, mouth guard, wrist guard

Goalie: blocker, chest protector, helmet

Disable player have not needed bottom guards. And they are used to not wear cage & shields, padded shirts, neck guard, mouth guard, wrist guard according to private taste and wear sensation. Thickness and volume of protective gear(shoulder, shin guards & elbow pads) under jersey was calculate by 3D

scanner.

4. Player's movement analysis and Design uniform

Players move their trunk side to side(Max.15°from the ground) in playing game except in going sledding. To hit puck or defend, they keep their forearm and pole alongside of ice link floor. Their elbows bend angle is right 94°and left 93.5°. They put front hem of jersey into pants in game but not back hem. For back wear sensation, vents are made in both side seam between front and back. Straight line sleeve pattern is changed to pot shape pattern which become narrow toward the wrist. Hockey jerseys are decorated with the team logo(Kangwon) on the front, the players last name on the back, and a designated number below.

5. Making up uniform & fitting test

In result of fitting, players prefer the jersey(B) which has side vent and V-neck. They want sleeve to narrow from middle of forearm toward the wrist, but to have ease in shoulder and elbow part.

4. Conclusion

Ice sledge hokey is ice hockey for disable people. It is most rapid and violent sports in disable sports and the popular sports in para olympic. They wear the general uniform(jersey) and put front hem of jersey into pants because the jersey hem can drag on ice in playing game. They keep their forearm and pole alongside of ice link floor to hit puck and defense. And players move their body side to side in playing game. Therefore, pattern of ice sledge hockey uniform(jersey) must be different to general uniform. Therefore the jersey for ice sledge hockey must has side vent and sleeve which is broad breadth from shoulder to middle of forearm and narrows from middle of forearm toward the wrist.

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The Realization of Women's Tailored Collar Jacket Within the 3-D Virtual Clothing Simulation System -Considering the Over C-cup Brassier Sized Women's Bust Circumference Measurement-

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1. Purpose of Study

Jackets are one of the most favorable clothing items for women's wardrobes. For young women in twenties or in thirties want jackets not only for formal occasions but also for fashion styling. Recently, relevant researches indicated that approximately 17% of the women aged between 20-39 have over C-cup brassier sizes. However, most of researches on the jacket patternmaking in Korea have been carried out for the major population of the women, i.e., A and B cup brassier sized women. The study, therefore aims to evaluate the women's tailored collar jacket patternmaking method of experiment through the realization of 3-D virtual clothing simulation of the women's tailored collar jacket specially for the over C-cup brassier sized women.

2. Methodology

Patternmaking methods of the previous study for the tailored collar jacket for Korean women having large breast sizes (Lee, 2013) are based on the bust circumference measurement. However, this method causes fit problems of the neck, arm pit depth, front and back armhole depths parts because of its predictive way of patternmaking. To consider the body measurements of the under and the over C-cup brassier sized women, other body measurements are same but the front bust circumferences are differed. However, most of the jacket patternmaking methods are based on the bust circumference measurement rather than using respective body measurements. The existed patternmaking methods can be appropriate up to the A or B cup sized women but not to the ones having over C cup sizes. To improve the overall fit of the jacket for the large breast

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sized women, the study distinguished between front and back bust circumferences from the total bust circumference measurement and implied each body measurement to drafting processes instead of using predictive equations based on the bust circumference in terms of the jacket patternmaking.

Thereafter, two types of female avatars representing Korean women in the age between 20~24 have been generated within the 3-D virtual clothing simulation system, which have 10cm (i.e. avatar A) and 15cm (i.e. avatar B) differences between bust circumference and under bust circumference body measurements respectively. Two jacket patternmaking methods were, in turn implied to the virtual clothing simulation for these two avatar models, that are the experimental method which adopts respective body measurements for each drafting process and the existed method using several major body measurements and the rest of measurements empirically predicted according to the bust circumference measurement.

The required body measurement items for these jacket patternmaking and the generation of avatar models were bust circumference consisting of front and back bust circumferences, under bust circumference, waist circumference, hip circumference, back neck point to waistline, neck point to breast point to waistline, lateral shoulder length, bust point to bust point, shoulder length, hip length, arm length, shoulder height, axilla height and stature.

3. Results and Discussion

The body measurements of two types of female avatar models A and B were derived from the 5th and the 6th Size Korea data, that are as follows. (1) avatar model A (A-cup brassier sized woman): total bust circumference - 83cm (front bust circumference - 43, back bust circumference - 40), under bust circumference - 73cm, waist circumference - 66cm, hip circumference - 92cm(F:43/B:49), back neck point to waistline - 38.1cm, neck point to breast point to waistline - 39.7cm, neck point to breast point - 25.0cm, lateral shoulder length - 39.4cm, bust point to bust point - 17.3cm, shoulder length - 12.8cm, hip length - 22.2cm, arm length - 53.6cm, shoulder height - 129.4cm, axilla height - 119.9cm and stature - 160.7cm. (2) avatar model B (C-cup brassier sized woman): total bust circumference - 88cm (front bust circumference - 48, back bust circumference - 40), and other body measurements are exactly same to the ones of avatar model A. Regarding to jacket patternmaking, the ease amounts given around hip circumferences are evenly 5cm.

The virtually clothed jacket images from the study highlighted that the existed patternmaking method was suitable only for the avatar model A, which means

ordinary breast sized women and the experimental method was good for the avatars A and B, which means both the ordinary and large breast sized women.

4. Conclusion

Regarding the special body types, such as large breast sized women as dealt with in this study, the existed jacket patternmaking method was not appropriate to the exceptional body features. Thus, jacket pattern drafting must adopt the body measurements in detail for each patternmaking process and consequently each part of the jacket can be constructed in better shape to provide with improved fit. The images of the virtually clothed jackets derived from the study presented the possibility of efficient garment evaluation to lead a better fit of the women's tailored collar jacket.

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The development of uniform designs for the disabled in silver-town

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1. Purpose of Study

It wouldn't be considered an exaggeration to utter that the main issues are currently turning to the population ageing and the growth of senior generation in political, economical, and social points.

Those issues include as well the elongated life span accordingly, and the changed life style ,chasing health and incessant improvement. not just for the well being but for Lifestyle of Health And Substantiality: LOHAS(2006). We are stepping into so called "aged society" stage, as the mature people account for 7% of the population by UN's standard yardstick. Moreover, We are expected seniors to comprise 14.3% in 2022, 19.3% in 2030 of population, by OECD announcement, which will take us to the super aged society with speed(2010).

The Japanese senior people are already the main force for consumption in super aged Japanese society, claiming "Old-people with active life". The senior market business has already nested as the main growth force in advanced countries. A great number of companies with various sizes are rushing to the elderly ventures.

Specially, the senior residence projects (so called 'silver town') are the key in this business, covering 60% of total, which is expected to build from 7 to 8 trillion markets until late 2010. ⁴⁾⁵⁾

Consequently senior clothing industry is prospected to grow along with residential business. The current general uniforms adopted in Silver-towns resemble the hospital gowns, only made up with easy washing fabric. Considering this fact, it is urgent to develop the style of those garments and fabric with reflecting consumer's emotional demands. All this business will boom shortly in Korea like other advanced countries. The clothing demand for seniors has been vigorously changed and formed the specific market separately from other

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grown-up's conventional clothing markets.

The purpose of this study is the development of uniform designs for the disabled in silver-town, the fundamental source of uniform designs which are relevant to high performance and healthy body based on the silver-town uniform preference studies in 2013.

2. Methodology

This study was processed as follows;

First, 56` supervisors who were employed in silver town senior responded this survey. The questions were made to analyze the status of uniform usage and preference, eventually to develop the appropriate uniforms for the disabled .The survey was consist of the list-order, multiple-choice or short answer questions about the actual usage etc and the 5 points likert leveled questions.

Second, These results were obtained from the survey. They are selected by considering the most important functions and the important points in design, the suitable fabric of uniform .

Third, it was developed of uniform designs for the disabled in silver-town residents, based on surveys and analysis. In particular, these are patients who live lay down on the bed.

3. Results and Discussion

Silver town uniform is decided by the owner of facilities, not by the consumers, and the silver town we researched let elderly wore uniforms.

There were differences on degree of severity, and the more staying on bed, the more timing of changing clothes; elderly changed their clothes for laundry every 2 days, consider materials, design, and laundry and convenience. The uniform colors of their were green and blue series.

The qualification is showed by convenience factors, change clothes easily, convenience in secretion, etc. The design of uniform depends on the possible motion ability. The elderly who can walk prefer tow-piece pants type, the elderly who cannot walk and lie on the bed prefer one-piece type, the elderly who can walk but have Alzheimer's disease prefer jump-suit type.

Based on the results of this study, total three style of the uniforms was designed for the disabled;

tow styles of tow-piece pants type and one style of jump-suit type.

4. Conclusion

The uniforms were chosen by the owner and operator, so it cannot be

convenient and stable to the elderly's skin, health and mental. Nevertheless, their's composition for the disabled should be designed functionally and comfortably by taking into consideration their specific physical needs, such as active, they were not applied.

So the uniforms were made of cotton for the protection of the body. Various types of the possible motion ability were demanded. This uniform is designed to make it easier to wear and change clothes considering body of patient, using the zippers.

Korea fashion market of aging society will consistently grow ,considering the point of elderly. Consequently, there should be more research pattern by development of silver uniforms' materials, design, and pattern. This is thought to be out of the operator and manager selective perspective is to be designed and developed in terms wearer researchers occupy a significant volume of aged society in Korea fashion market with silver target uniforms.

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Effect of treatment conditions of eco-friendly fluorinated water-repellent agent and design applications

-Silk fabrics with DTP finishing-

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1. Introduction

Recently, perfluorooctanoic acid(PFOA) raised concerns with regards to the water-repellent finishing in textile industries. It has proven to be harmful to humans through animal testing as possible human carcinogens and neurotoxic material. Thus, US Environmental Protection Agency has gone as far as requiring the material to be eliminated in its entirety by 2015. As a viable alternative to this toxic water-repellent finishing material, the development of C6 products is gaining popularity, which necessitates reestablishment of technologies in a comprehensive manner.¹⁾

We cannot help but consider eco-friendliness in manufacturing process involving printing and, in this respect, the digital textile printing (DTP) method has been attracting popular attentions as a system that can reduce a lot of contaminants arising during traditional dyeing process.²⁾ DTP applied silk fabrics have been gaining consumer interests in terms of their attractiveness, delicate appearance, and inherent touch. The application of PFOA finishing to impart the silk fabrics with added function of water repellency, however, may hamper the delicate appearance and touch. Therefore, in this study, the effects of the water-repellent finishing, by using eco-friendly PFOA, on the silk fabric properties are examined.

2. Methodology

Silk fabrics by printing different colors on them using reactive ink and pigment ink and processing and manufacturing undiluted solution of c6-based eco-friendly fluoric water-repellent and oil-repellent materials and cross-linking agents in different ratios to be applied to all printed samples along with curing at different

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ranges of temperature.

3. Results and Discussion

When it comes to change in physical properties of silk fabrics by cross-linking agent, reactive ink showed higher air permeability and maintained intrinsic stiffness of 4, 8g/l although it became sharply stiff in low concentration. The contact angle that indicates the water repellency was the highest in 8g/l of concentration for all fabrics, and the one with nano pigment showed higher contact angle than that with reactive ink.

On a test to find out if the concentration of water-repelling agent influences the physical property of silk fabrics, I found that the higher the concentration was the higher the K/S value got with the reactive ink and nano agent showing the highest value in 90g/l and 40g/l, respectively.

The water repellency of the fabrics with reactive ink and nano pigment was 100 at 40g/l of concentration and at 10g/l or above, respectively. On a test to find out about the correlation between repeated washing attempts and contact angle, I found that the lower the concentration of water repellent is the earlier the fabric got damp. The fabrics with the reactive ink and nano pigment showed pretty strong resistance against color change in 10 washing attempts at the concentration of 40g/l or above and 10g/l or above, respectively, and the one with the nano pigment showed higher level of contact angel and oil repellency than that of reactive ink.

When we changed the curing temperature, the fabric treated with reactive ink and nano pigment showed changes in color at temperature of 120°C and 180°C, respectively. The fabric with nano pigment showed strong color durability at 120°C of curing. Overall, the fabric with nano pigment showed higher level of contact angle and oil repellency compared to that of reactive ink.

4. Conclusion

The effects of PFOA finishing on the silk fabrics were examined to review needed process parameters for optimizing appearance and functionality of treated silk fabrics. Crosslinking agent affected the black color of reactive ink the most in physical properties. The contact angle reading was the highest in 8g/l of concentration for all fabrics. All the fabric specimens, subjected to the DTP and water repellent finishing, exhibited higher stiffness compared to the untreated specimens, where rayon specimen showed the highest. The results may provide basic information leading to the development of value-added silk fabrics with water-repellency without excessive deterioration of the delicate appearance and

inherent soft touch.

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ICT based Future Textile & Fashion Using Surface Engineering

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1. Purpose of Study

To investigate the feasibility of applying currently available textile techniques such as screen/digital printing, multi-layer laminating, functional chemicals, laser cutting/marking, and surface modification on a variety textile medias in order to develop ICT based smart textile and fashion products. It has been expected that more efficient and consumer friendly wearable device products with enhanced usability by combining those two categories. Most wearable device products currently available in market have suffered from lack of product values such as emotional interaction, high quality interfaces, aesthetical attraction, and thus consumer satisfaction. In the research, a variety of common textile surface technologies have been collectively applied on smart and interactive textile & fashion by being combined with ICT devices of microprocessor, sensor, actuator, and battery.

2. Methodology

The tradition screen printing technique using organic/inorganic functional binders, conductive powers, smart inks, surface modifier chemicals has been applied on order to make pressure sensitive soft switches, light sensitive visual systems, environmental responsive smart surfaces, thermal responsive smart textiles, and finger touch microprocessor fabrics.

The laser cutting and marking system has been utilized in order to maximize the capability of designing the micro ($\sim 10\mu\text{m}$) and smooth surfaces. The inherent characteristic of laser source could reveal itself especially in the case of irregular geometrical surface cutting or micro spatial marking. Extremely detailed geometrical patterns could be successfully configured and finished by laser

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systems without any loss of actual profiles of the design objects. Furthermore, 3D surface effect of "depth" feeling has been considered as another benefit of the method with fast production speed.

Physical computing methods have been intensively applied for making the products with the special focus on triggering of smart materials, sensing of environments, inference of logics, and various types of lighting sources. Those include Arduino board, Atmel[®] microchips, semi-conductive light sensors, UV lights, Heating resistive carbon plate, Li-ion batteries, and conductive threads.

3. Results and Discussion

The 3D textured textiles with different functionalities have been developed by using screen printed puff binders. The functionalities include electrical conductivity, pressure sensitive resistance, UV sensitive appearance, and capacitive sensing compressible soft switches. By changing foaming conditions such as temperature and the pressure applied, wide ranges of functionalities through pore size, porosity, and pore hardness could be achieved in order to meet the requirements under specific situations. The carbon type conductive powders were uniformly mixed with the puff binders so that the resulting pressure sensitive conductive materials could be used in order to make the soft switches as new types user interfaces and experience.

4. Conclusion

Currently available textile techniques such as screen/digital printing, multi-layer laminating, functional chemicals, laser cutting/marketing were successfully combined with physical computing technologies so that more user friendly and enhanced customer attractive wearable products were made without significant sacrifice of crucial functionalities.

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Changes in resistivity of tensile properties with repetitive deformation of silver plated conductive yarn

-The development and test for the wearable device-

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1. Purpose of Study

Smart textiles, especially wearable devices, have become a dominant trend in future development of the textile, and a growing number of designers and researchers have been delving into designing electronic textiles (Buechley & Eisenberg, 2009). The research field of electronic textiles (or e-textiles) seeks to integrate ubiquitous electronic into textiles (Choi, Kim, & Song, 2012; Kim & Kim, 2013; Lee & Kim, 2011). From the textile side, properties and characteristics that can facilitate the interconnection with the electronic devices are an advantage. This paper describes the analysis results and selection of conductive yarns, by experimenting on the resistance value changes corresponding to the tensile deformation, to be used as flexible components in the context of integrating electronics into textiles.

2. Methodology

The fineness of conductive yarn used for an experiment is 270d(Denier), comprising 24 multi filaments twisted up in S direction. Silver(99% purity), 10wt% of the conductive yarn, is metal-plated on the surface of the polyester. It prepared for conductive yarn for 1-ply, 2-ply and 4-ply enshrining together in a state parallel to the laboratory. In order to examine the tensile deformation of the conductive yarn, total extension of the specimen was set to 20mm. Specimens of 1-ply, 2-ply, 4-ply of conductive yarns were prepared. Effective length of the specimen was 8, with the speed of extension 15mm/min. The number of cyclic tensile extension was three. As for the extension rate of conductive yarn for 1ply, 2-ply and 4-ply used by tensile tester and effective sample long 80 mm was the maximum extension to be set to the 20mm, tensile speed was 20ea/sec repeated

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three times.

1. To characterize the mechanical behavior several mechanical tests were performed and Tensile Tester was Universal Tensile Tester, Model Micro 350, Testometric Co. Ltd., U.K.

2. The measurement of electrical resistance of the conductive yarn was carried out using the voltage divider. Conductive yarn samples were surrounded by the aluminum foil (Aluminum foil's resistance value is 0) in order to reduce the error of the contact portion. This experiment was used a fixed resistor and comparison to a 22K resistor. This was called a voltage divider and divides the 5V between the conductive yarn and the resistor. It was measure of how much voltage was conductive yarn using the analog read. The amount of that 5V that each part gets was proportional to its resistance.

3. Result and Discussion

1. The results compared between number of yarn and tensile extension as follows:

As a result of having compared 3 degrees cycle change for the tensile extension, order of the load values were the first> the second> the third, regardless of the number of threads. It showed that the remaining the second and the third tensile extensions were decreased in compared to the first suddenly. A clear difference emerged between the second and the third tensile extension quantity of the comparison but it was not rapid degradation like the first cycle. Therefore tensile extension more was burdened with 4-ply than pulling it 1-ply. It found that it exploded slightly without being returned the back former condition after a thread extension.

2. The results compared between number of yarn and resistance change of the tensile extension as follows:

As a result of having compared 3 degrees cycle change for resistance order of the tensile extension was the first> the second> the third, regardless of the number of threads. At the first low resistance went to up when the deformation was at a maximum height and continued to increase the number of repetitions. At the end of the elongation deformation, the resistance value lowers. However, it does not lower in the same way as an initial value.

4. Conclusion

In this study, the aim was to combine scientific applications and principles of conductive yarns as well as electronic textiles. One of the disadvantages of the experiment was the limited use of the conductive yarn samples. In future

experiments, should also be an additional process for sewing on a fabric. In order to meet the practical needs of people who will wear such clothing, a variety of fabrics should be measured and experimented using different sewing techniques. The significance of this study will provide valuable theoretical and practical contributions to the electronics technical fashion industry and fashion education.

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Characteristics of Japanese Tie-dyeing

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1. Purpose of Study

Shibori is the Japanese word for a process of dyeing fabric that involves stitching, gathering, scrunching and tightly tying the undyed fabric before immersing the fabric in a dye bath. There are over two hundred recognized shibori tie dyeing patterns, some achieved by twisting fabric and stitching with thread. In Japan, masters of the art of shibori are considered "National treasure" whose work is revered in museum and private collections. In this study I wish to investigate the types and characteristics by age of Japanese tie-dyeing.

2. Methodology

This study progressed investigating the Japanese literature and researching about Japanese tie-dyeing fabrics.

3. Results and Discussion

1)The History of shibori in Japan

①Shibori Nara and Heian Period(710~1185)

Prior to the Nara period, shibori-dyed textiles were considered inferior to other textiles, and were used as lining in clothes. In the Heian period, the aristocrats preferred woven rather than dyed clothing, and they enjoyed artistically combing colored garments. The best known ensemble is the juni-hitoe, a twelve-layered kimono, each layer being a different color. This is regarded as the age of woven textiles, although shibori was used quite often in the clothing of the lower classes. In the meantime, the kyokechi(clamped-board resist) and rokechi(wax-resist) techniques declined because of technical constraints and a lack of materials. There are several references to shibori in the literature of the time. In 『 The Tale of Heike』 and the material stories written in the 13th and 14th

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centuries, shibori is mentioned as being used for the clothing of warriors. The technique of shibori progressed and developed and today, several examples of this technique, dating from the Heian period to the beginning of the Muromachi period, are preserved.

② Shibori in Muromachi and Momoyama Period(1186~1602)

Tsujigahana, a technique that rendered patterns by stitch-resist dyeing, was very popular in the Muromachi and Azuchi Momoyama periods. This technique uses many colors and is very pictorial. Tsujigahana also uses a free-hand painting technique, embroidery, gold and silver leaf, the skillful combination which produced elaborate cloth of a very high quality. However, at that time, clothing made by this technique only aimed to render patterns, and the raised and wrinkled surface, characteristic of shibori, was usually flattened out. In the Edo period, when an easier color-resist technique was invented, tsujigahana was completely abandoned and this is one reason why it is still referred to as "illusive shibori."

③ Shibori in Edo Period(1603~1867)

Shibori dyeing greatly developed in the Edo period. Works using this technique are divided into two groups: silk Kyo-kanoko(a generic term for Hitta-kanoko shibori) produced in Kyoto, and the indigo-dyed cotton of other areas. Not even a rough sketch was drawn to make Kyo-kanoko, nor was a special needle used to increase efficiency like one that had been developed elsewhere. All the dots were bound using the sharpened sense of binder's fingers. There are many examples of these types of shibori from the Edo period. In those days, the clothing worn by commoners and even the colors were strictly regulated by the government. Only light and dark blue were acceptable, so by using the shibori technique with indigo-dyed cotton, various gradations of blue became possible, increasing its desirability.

4. Conclusion

Shibori is a type of resist dyeing in which certain areas on the cloth are reserved from dyeing by binding dots, stitching, or clamping and squeezing the cloth between boards. Different from other dyeing techniques, such as yuzen or kata-zome, shibori creates a raised and wrinkled surface on the finished work. The origin of Japanese tie-dyeing technique dates back to the Nara period. In ancient times, it was merely used as lining. After the Muromachi period, as custom changed, this technique became highly developed and diverse in its use. But Nowadays, Kyoto and Nagoya are the only cities where shibori is produced. Kyoto and Arimatsu and Narumi in Aichi Prefecture are well known for production

of shibori dyeing. The shibori dyed silk of Kyoto and indigo dyed shibori cotton of Arimatsu and Narumi are particularly representative of this craft. Shibori is representative of traditional Japanese textiles. Produced in many regions in Japan, it consists of various motifs and techniques. Until the 21th century not many fabrics and shibori dyes were in widespread use in Japan.

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Manufacturing Using 3D printing

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1. Purpose of Study

The biggest problem in the demonstration of industrial or art work is the material and materialization method. Recently, 3D printing method has been in the spotlight since it can drastically reduce prototype production cost and time. If you have a design file created through scanning or programming, you can produce a product right there. It is a method to reduce environmental pollution as it curtails the prototype production process and plastic wastes generated in the process. Because of this, it is expected that 3D printing will revolutionize product production, distribution, and consumption. Wohlers Associates, a US based consulting firm, analyzed that the market share of world's 3D printing is in the order of U.S. at 77%, Germany at 11%, China at 2%, Korea at 2%, and Japan and others at 8%. And it estimated that the size of 3D printing market, which reached 2.2 billion dollars in 2012, will grow rapidly at the annual growth rate of 19.3% and reach 10.8 billion won in 2021¹⁾. This study examines and researches the feasibility of work simplification and manufacturing cost reduction for accessory production and estimates the future of 3D printing.

2. Methodology

The formal name of 3D Printing is Fused Deposition Modeling or FDM. Types of 3D printing includes the following; First, poly jet printer, which is ideal for medical application program; Second, Laser Engineered NetShaping(LENS), which is a metal printer that uses titanium, stainless steel, and metal alloys; Third, Laminated Object Manufacturing(LOM), which forms hard 3 dimensional object by stacking layers. Fourth, Stereo Lithography that uses liquid photosensitive resin and Laser Sintering that uses powder; and Fifth, 3DP that uses various materials, such as glass powder, bone powder, rubber tier, and sew dust, and prints in color²⁾.

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The application areas of 3D printing are diverse including medicine, electronics, space technology, education, fabric production, transportation devices, and architecture.

The prices of 3D printing available in Korea range from 200,000 won for home use to 700 million won for industrial use. To make 3D printing, design software is needed. Design software for 3D printing includes Solid Modeling and Surface Modeling³⁾, and the standard file for 3D printing is Standard Tessellation Language.

In the case of Korea, Intelli Korea has developed a software called CADian 3D that allows the user to design in Korean.

3. Results and Discussion

Currently available 3D printing products include printing of the fetus photo through scanning, and Polymer⁴⁾ as bone replacement and titanium for medical use. Between 500,000 and 700,000 people have implants made from 3D printed teeth and 3D printing is done for 50,000 customized transparent braces everyday. In addition, the application areas of 3D printing are wide including food, such as pizza, military equipment, and space parts, etc.

One of the advantages of 3D Printing is that it can use environmentally friendly materials. 100% spontaneously decomposed material, such as corn starch, can be used and 70% of plastic can be recycled. Moreover, it is possible to produce a die fast or produce products without a die when the cost of die is increasing.

Another advantage is that it allows production of individualized design products in the age of colorful identity that demands more complicated and diversified products and faster product turnover due to reduced product life cycle.

One of the limitations of 3D printing is that it cannot print very complicated design, subtle or diverse materials, or millions of different design surfaces since very large memory is needed. But with the development of 3D printing, its future is expected as follows.

First, when the size, color, and material are set and the Print command is pressed, the product will be produced; Second, the product file can be sent to a manufacturer for production. Third, it will be possible to produce products using 3D printing.

4. Conclusions

Design software is needed for 3D printing but consumers think that they just need to purchase a printing machine and do not recognize that they need to purchase the software.

At present, for the utilization of software, 21 hour education program for

beginners and 16 hour education program for experienced users are available. These programs are in line with Ministry of Science, ICT, and Future Planning's "3D printing industry development strategy' set in April, 2014 and education plan for 10 million creative makers in June. And research and development are underway mainly by research centers and small and medium businesses.

Due to such efforts, design softwares developed in Korea will facilitate communication between consumers and manufacturers and design materials can be accumulated without being restricted by space limitations. Work will be simplified and the number of parts will be reduced, which will lead to the reduction of manufacturing and fabrication costs.

The size of world's 3D printing market is expected to grow to 10.8 billion dollars in 2021 from 2.2 billion dollars in 2012⁵⁾.

To prepare for such growth, prevention of harmful use of 3D printing, such as its use for weapons, environment safety control, prevention of its use for crimes, improvement of regulations, and development of 3D data hacking prevention technology must precede.

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Characteristics of Japanese Ikat

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1. Purpose of Study

Ikat is representative of traditional Japanese textiles. Produced in many regions in Japan, it consists of various motifs and techniques. It is probable that ikat accidentally emerged during the preparation of a loom when the yarns were bound off to determine units for the warp and weft, as well as to prevent the entanglement of the yarns. However complex the figurative ikat patterns may look, they can be reduced to varied warp stripes, weft stripes and checks as long as there are length-wise and width-wise units in the pattern. Ikat is a means of adding interest to plain-weave or satin-weave cloth, and technically can be classified into printed ikat and dyed ikat. In this study I wish to investigate the types and regional features of Japanese ikat.

2. Methodology

This study progressed investigating the Japanese literature and researching about Japanese ikat fabrics.

3. Results and Discussion

1) Okinawa Ikat

Tie-dyeing the yarn before weaving is the technique most widely employed in Japanese ikat. This technique was greatly advanced in inland China and on the island southeast of India. Each of these regions developed ikat that reflected their respective ethnic characteristics. Double ikat, said to be the most intricate technique was developed in India, Indonesia and Japan. Double ikat features distinctive patterns and colors, the strength of the motif being enhanced by complex patterns. The most attractive double ikat with the greatest artistic value was developed in Okinawa.

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2) Royal Ikat and Miezucho

Ayamejin patterns are divided into two regional groups: one collected as levy from the Kume, Miyako, and Yaeyama islands located within the royal territory and the other made exclusively for the royal family. The latter was made from miezu-a full-sized, colored original design by a painter working under exclusive contract with the royal family. A number of miezu designs were bound into a book called Miezucho. Each miezu design bears the year when the order was placed and the name of the person who placed it. Orders for colored ikat using pongee were given to Kume Island, those for indigo blue ikat made with ramie went to Miyako Island, and those for white ikat went to Yaeyama Island. Together with the ikat woven by the female members of the royal family and noble women for their own use, this practice of allocating ikat to different islands lay the ground for Okinawan textiles being known for their distinct regional characteristics. The majority of nunu'uya(female weavers) was exclusively engaged in the production of royal ikat. Even in the post-war years, information on the harsh working conditions of these weavers was available. Ikat for the royal family based on the Miezucho from 1789 to 1835, is regarded as the finest of its kind ever to have been made in Okinawa, in Japan and even in the world. The study of miezu leads to an understanding of the techniques of tie-dyed ikat.

3) Ikat of Mainland Japan

Japanese ikat also can be classified by material, silk, ramie and cotton. Silk ikat of the early modern period include the very special yamamayu ikat of Hiroshima and shike-type ikat used by commoners. Attention should also be drawn to the silk ikat used in men's noshime which was woven in the Nishijin district of Kyoto. The pattern and color tone of this garments show that it is an authentic tiyui ikat. Much good ramie ikat is produced in the Hokuriku and Chubu districts, particularly in the Echigo region. Since the 10th century, the Echigo region produced high quality ramie fabrics. Nevertheless, it was not until the late 17th century that ikat was first made there. It was in this region that the koppa method was invented. A book ikat produced by the koppa method contains 176 colored designs.

4. Conclusion

From the end of the Edo Period through the Meiji Period, a unique indigo dye cotton ikat(kasuri or splashed patterns) with individual, outstanding designs flourished throughout Japan. Among these works, those produced in the western part such as Kurume in Kyushu, Iyo in Shikoku, Hirose, Yumihama and Kurayoshi in the San'in area are especially known for their high quality. Japanese ikat was

developed based on the yarn-dyeing technique called tiyui. As mentioned above, ikat is produced in various parts of Japan. In Okinawa, the birthplace of Japanese ikat, the traditional tiyui technique has been continued. On the other hand, new tiyui methods have been developed by young weavers in the 21st century. Through the efforts of dedicated weavers, new version of Japanese ikat may emerge in the 21st century.

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Impacts of Customer Characteristics on the Beauty Service Quality

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1. Purpose of Study

Under the environmental changes of beauty services industry, the providing of differentiated beauty service quality according to the customer wants and the continuous customer relationship are necessary for a competitive advantage. Therefore, This study explores the dimensional values of beauty service quality according to the customer characteristics such as age, loyalty and hair involvement.

2. Methodology

The questionnaire for an empirical study consisted of questions, based on the experience of beauty shop until quite lately. The measurements of each variable were the beauty service quality, service value, customer loyalty, hair involvement and demographics. The data of 615 adult women in their 20s~50s with the experience of beauty shop were collected through the survey. Respondents were made up of customers in their 20s 25.4%, 30s 24.4%, 40s 25.4% and 50s 24.9%. Statistical analyses were carried out in the forms of frequency, factor analysis, Cronbach's α , and multiple regression of SPSS WIN 21.0.

3. Results and Discussion

First, following the factor analyses, the seven dimensions of beauty service quality were tangibles, reliability, responsiveness, assurance, empathy, expertise and store reputation. The hair involvement was composed of hair fashion pursuit, hairstyle production, interest and enjoyment of hair style and perceived risk.

Second, the multiple regressions were conducted to explore the impacts of

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customer characteristics such as hair involvement, age, loyalty on the beauty service quality. The hair fashion pursuit, hairstyle production, interest and enjoyment of hair style among the hair involvement dimensions had positive effects on all dimensions of beauty service quality significantly. Perceived risk of hair involvement dimensions influenced on store reputation quality. Customer loyalty had positive effects on the tangibles, reliability, assurance, empathy, expertise dimensions of beauty service quality significantly. Age of respondents influenced on the reliability and assurance dimensions of beauty service quality positively.

Third, the regression was conducted to explore the impacts of the beauty service quality on the service value. As a result, the reliability, expertise and store reputation dimensions of beauty service quality had positive effects on the service value significantly.

4. Conclusion

First, Female consumers perceived the detailed dimensions of beauty service quality. That is, the seven dimensions of beauty service quality were classified by tangibles, reliability, responsiveness, assurance, empathy, expertise and store reputation including SERVQUAL model(Parasuraman et al., 1985) and SERVPERF model(Cronin & Taylor, 1992).

Second, the more hair involvement, the more consumers considered all dimensions of the beauty service quality importantly. And, customers had higher loyalty to the beauty store with tangibles, reliability, assurance, empathy and expertise dimensions. Also, as consumers aged, they took account of reliability and assurance quality dimensions significantly.

Third, the beauty store had developed the reliability, expertise and store reputation quality dimensions to enhance the service value against consumers expenses.

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A Study on Curriculum of the Special Makeup in Korean University

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1. Purpose of Study

Special makeup have been used since the early days of film. Such makeup are used increasingly in motion pictures, short-films, TV, photography, advertisements, theatre, shows, events, Halloween, role-playing games and other horror events.

Therefore, it is thought that work to establish creative curriculum in the special makeup field and skill-entered college education as the academic field should continued to be carried out in the future.

So the purpose of this study is to establish academic identity as well as produce human resources that industries need by grasping curriculum of the departments related special effects makeup focusing on Korean university.

2. Methodology

Specific research questions are as follows:

First, This study tries to analyze the subject names of related to special makeup in the Korean University.

Second, this study tries to analyze the contents of Syllabus related to special makeup in the Korean University.

Third, this study tries to suggest that developmental direction of curriculum of departments related to Korean special makeup in the future.

For the research method, the reference peoriod of curriculum in Korean university was from May. 09th, 2014 to Aug.04th, 2014. The investigation method is as follow: First, the curriculum of the departments related to special makeup which were registered in the web site were investigated. Second, the documents were received by Fax and Email from each department after calling it. Third, question and answers were done in reference to majors on the phones. These

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method are intended for 16 Universities. The statistical analysis about data which were investigated like this were done by the frequency analysis.

3. Results and Discussion

The result are as follows; The contents of domestic University are mainly consisted of torn-off finger, bullet holes, Bruised and grazes, artificial beards, peeling skin, bald-cap making and burns.

So, these contents are very simple situation and it need demanding more situation and team-working.

Therefore, this researcher tries to propose developmental direction of the subject of special makeup in the future as follows:

First, The contents of this subject have to complement such as ageing, Monster hands, bones, skull and so on.

Second, I want to suggest that grouping class need expressing on shocking makeup.

4. Conclusion

The purpose of this study is to establish academic identity as well as produce human resources that industries need by grasping curriculum of the departments related special effects makeup focusing on Korean university.

The result are as follows; The contents of domestic University are mainly consisted of torn-off finger, bullet holes, Bruised and grazes, artificial beards, peeling skin, bald-cap making and burns.

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First, The contents of this subject have to complement such as ageing, Monster hands, bones, skull and so on.

Second, I want to suggest that grouping class need expressing on shocking makeup.

This study is expected to be the basic data that the special-makeup field can be utilized in the transition peoriod to establish the academic system.

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A Study on Make-up design from a standpoint of feministic theory

-From 2000 to the present(2014)-

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1. Purpose of Study

The purpose of the study is to analyze Feminism makeup in formative characteristics. This study intends to bring the characteristic of feminism to prove out as to make clear understanding about feminism make-up by analyzing and considering its effect to make-up and tries to predict the correlation of feminism and contemporary make-up.

It is thought that work to establish creative design in the make-up field in the future. This study is to establish academic identity by grasping feminism related makeup focusing on contemporary trend.

2. Methodology

First, Under the theoretical background, I attempt to documentary study the characteristic of feminism from the mid 19th century, when feminism was fired, to the present.

Second, this study tries to analyze feminism makeup in formative aspect with total 180 pieces of picture from 2000 to 2014. At this time, the photos analyses were conducted and selected by two experts(Ph. D holders majored in makeup design)through two times.

And then, I made an analysis the contents, which were on the document, to understand how feminism substantially affected makeup by collecting pictures from professional magazine such as Vogue, Mode et Mode, Collections, etc.

3. Results and Discussion

The result are as follows;

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The free feminism, radical feminism, post-modern feminism are the most affective thought to the contemporary makeup design.

First of all, free feminism, manish appearance was to be required to achieve equivalent right as man and was represented to manish style in makeup such as natural makeup and man-like makeup.

Secondly, erotic makeup was represented because radical feminism unfolded its logic stressing sexual characteristic; admission of sexual differences such as red-lip, glossy lip, smoky eye-shadow and so on.

Finally, post-modern feminism has been represented by disregarding or intergrating the existed rule as refusing sexual discrimination.

It has been represented in makeup as a endrogynous makeup, unisex natural makeup, formal change of makeup design.

4. Conclusion

The purpose of the study is to analyze Femisism makeup in formative characteristics. Under the theoretical background, I attempt to documentary study the characteristic of feminism from the mid 19th century, when feminism was fired, to the present.

This study tries to analyze feminism makeup in formative aspect with total 180 pieces of picture. At this time, the photos analyses were conducted and selected by two experts(Ph. D holders majored in makeup design)through two times.

The free feminism, radical feminism, post-modern feminism are the most affective thought to the contemporary makeup design.

As above, feminism has made an great influence in contemporary makeup design.

Study of feminism is required to study continually to predict makeup trend of future.

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