O-8

A Physiological Study in Fabric Handle

In-ryu Choi†

Dept. of Clothing and Textiles, Sungshin Women's University

Ⅰ. Introduction

Recently, markets are leaded to consumer centered market from supply centered market. Consumer's needs are rising on their products are of comfort and value. It is important to understand the consumer's preference, emotion, physiological and physical characteristics. To analyze and to evaluate the emotion and tactile, we have to establish the test method first. The Test method are thesised as below. To measure the preference, emotion and physiological factors is to use the interdisciplinary approach such as applied open man-machine system and human factors engineering. To synthesize the result, we have to use the advanced high technology. Also we have to mention and interpret the various bias problems. And after we have to find out how to evaluate and measure own sensible characters more objectively.

Our physiological responses are summarized as follows. A verbal expression could be different up to their own experience and their psychological state. And there is a limit to measure their emotion and experience objectively. But physiological responses are hard to change up to our own interest. It is more reliable to measure the physiological responses than using subjective verbal association. Physiological respons are controlled under central nerve system.

Physiological responses are tested using electroencephalogram(EEG). When using EEG result, textile product would be sensible and it will satisfy the consumers, and also improve the practical design. When we can quantitate the EEG, the physiological response as EEG, we easily design the textile products what would be appropriate for end-use.

This paper tried to find out how 5 males and 5 females of age 25 respond to the samples. Samples are silk and ramie.

Ⅱ. Experiment

Sensorial tests were executed to find the sensibility and emotion brought about by the hand evaluation of 2 kind of fabrics. Ramie and Silk were chosen as test specimen. Generally silk represent the soft materials and ramie did the stiff materials. Subjects are of 5 males and 5

† E-mail : ichoi@cc.sungshin.ac.kr

females age of 25. The physiological responses employed in this study was electroencephalogram(EEG). Experiments were recorded through Electroencephalograph(Nihon Kohden 21 channel). Experiments were carried out in the local clinics. Subjects lie down and relax for an hour, and EEG was tested. Subjects rubbed silk and ramie against the skin for 70 seconds each. It repeats 3 times.

Ⅲ. Results and Conclusions

The results obtained as belows. When the subjects rubbed groups touched the woven silk, they responded and showed more slow alpha wave than the woven ramie. The slow alpha wave raised when the sample groups felt comfort and relax. The fast alpha wave were more in the woven ramie, it raised when the people felt the tension and the anxiety. There was no significant difference between the male and the female. Woven silk has the soft and smoothness it causes comfort. It is hard to measure the hand objectively. Many papers mentioned that of mechanical properties and physical properties of the hand. We make mention of hand though quantitative measurement objectively using EEG.

References

1) Y. Na, G. Cho (2001). "Sensorial Evaluation Tests for Fabric Sound Using Sementic Differential Method" *J of the Korean Fiber Society* 38(11):603-613.

2) Y. Na, O. Kwon (2000). "Characteristics of Domestic Textile Desings and Trend Sensibility for Women's Apparel" *J Kor Soc Cloth Ind.* 2(3):198-204.

3) J. Lee (1998) "A Study on Textile Design in View of the Science of Human Emotion and Sensilility" *Fiber Technology and Industry* 2(4):433-438.

4) J. Kim (2000). "Brainwave measurement and analysis".

5) M. Park, J. Cho, G. Cho (2002). "Evaluation of Rustling Sound of Silk by Analysing Physiological Signals" *J of the Korean Fiber Society* 39(1):116-124.

6) K. Kim, M. Lee (1998). "The Comparison between Subjective Evaluation and Objective Evaluation of Fabric Hand" *J of the Korean Fiber Society* 35(9):592-598.

7) S. Park, H. Ryu (1999). "The Study on the Hand of Bast Blended Fabrics" *J of the Korean Society of Clothing and Textiles* 23(8):1194-1205.