

A Study on Human Sensitivity in Design of Men's suit 신사복 디자인의 감성에 관한 연구

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Abstract

신사복 정장은 일상의 관습으로 착용되는 가장 중요한 항목으로서, 사무직, 관리직, 전문직 등의 정신 노동자들에게 폭넓게 수용되는 매우 중요한 의복항목이다. 따라서 소비자의 감성에 부합되는 신사복 개발을 위해 신사복 디자인에 대한 감성연구가 필요하다. 이에 본 연구에서는 신사복 상의 디자인 개발을 위해서 소비자의 감성에 적합한 신사복 상의를 적절하게 표현해 줄 수 있는 감성어휘를 추출하고 그 인자를 분석하였다. 요인분석결과, 7개의 요인과 67개의 감성어휘가 채택되었다. 선택된 감성어휘는 인자별로 대별하여 7개의 요인으로 묶어서 대표적인 요인명을 붙인 결과, 요인 1은 품위성 요인. 요인 2는 매력성 요인. 요인 3은 실용성 요인. 요인 4는 체형성 요인. 요인 5는 외관성 요인. 요인 6은 남성미 요인. 요인 7은 활동성 요인이라고 하였다

Key words: human sensitivity ergonomics, factor analysis, men's jackets, sensitivity term, item/category; 감성공학, 요인분석, 신사복상의, 감성어휘, 아이템/카테고리

I. Introduction

Since people have come to pursue a variety of appearances or functions owing to economic growth and technical innovations, today is known as "the Age of Variety". This era can also be termed "the Age of Sensitivity" due to the desire among customers to want goods only for themselves¹⁾.

Sensitivity is a high state of psychological experience, which arises from human spirit. It is caused when our sense or perception change due to external physical stimulus and leads to complicated feelings such as pleasantness,

fineness, displeasure, discomfort, etc.²⁾

The fashion industry is the field of understanding consumers' sensitivities well and applying this sensitivity in the actual design. When consumers choose their suits in accordance with their sensitivities, they are affected by age, sex, and life-style. Recently³⁾, on account of social and economic change, men have developed more interest in their appearance and understood the design of men's suits⁴⁾. They are especially interested in how men's suits affect the business and success of men.^{5,6)}

Men's suits have been customarily worn and they were well received by mental workers as

clerical, managerial, professional workers and so on. Therefore, it is essential to focus on the sensitivities of consumers in men's suits design. This study attempts to identify the sensitivity term which best expresses with regards to men's jackets, and it also analyzes the factors needed for the design development.

It is not easy to express and measure the sensitivity by physical standards because the sensitivity is the inner emotion of the human through the perception. Many researchers have analyzed sensitivity induced by stimulus through verbal expressions in human sensitivity ergonomics.

Barthes⁷⁾ addressed 'adjectives' speaks for human sensitivity as an expression of image to connote psychological distinction. Therefore, sensitivity and image have an interaction and integrated psychological parts. So, 'adjectives' speaks for a state of mind.

In the field of clothing, there is a lot of research concerning the image of clothes to understand sensitivity of consumers and affect the actual design^{8, 9)}. Delong and Lants¹⁰⁾ classified sensitivity factor structure into evaluation, activeness, complication, practicality, and functionality on the study of impression of a person to put on through the stimulus of a picture. Ishizaka Junko¹¹⁾ classified sensitivity factor structure into evaluation factor, functionality factor, light weight factor, and warmth factor on the study of put-on image. Kagau Seziko¹²⁾ classified silhouette image into sense factor, style factor, and times factor on the study of silhouette image and influence of body shape. Lee⁸⁾ classified silhouette image into attractiveness, practicality, dignity, comfort, and hardness. Park¹³⁾ classified image- structural factors into capacity, evaluation, activeness, and flexibility. However, these studies have focused on

women's suits but men's suits have rarely been studied.

It is inferred that observers would feel the difference of sensitivities between men's and women's suits because of the sex difference, color, pattern, material quality, and design. Since the studies on men's sensitivity have not been carried out so far, it is essential to determine usable sensitivity term and understand the factor structure for the design of men's wear. This study analyses the sensitivity term to distinguish the men's suits and defines the factor structure.

II. Method

1. The stimulus

Based on pictures of exhibits in the department, pictures in literature, and pictures in catalogues, leaflets, and magazines, item/category for the design of men's suits have been fixed for the stimulus which could select the sensitivity term.

The stimuli, 10 men's jackets, based on the Table 1. were manufactured and the material was 100% wool.

The subject of this study was a person who has an average body shape based on the National Physical Standard Research among the people between the age of twenty five and thirty nine. The basic measurements for the jacket were established according to his physical measurements. The basic measurements are as follows:

2. Collecting the sensitivity term

A Total of three hundred eighty sensitivity terms have been collected below. It includes dialogue between the consumer and salesperson, and terms printed in catalogues, leaflets, magazines and past research.

Forty evaluators were selected including people

Table 1. The stimuli of jackets

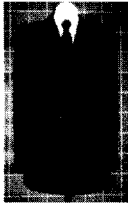


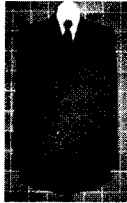

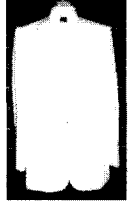

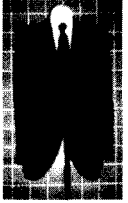

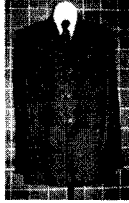
model	No.1	No.2	No.3	No.4	No.5
item/category					
Color	Blue tone	Gray tone	Brown tone	Blue tone	Brown tone
Textile pattern	Solid-color	Glen check	Solid-color	Stripe	Gunclub check
Silhouette	Italian	British	European	British	British
Collar	Notched	Notched	Peaked	Peaked	Sports
Opening	Single	Single	Double	Double	Single
Pocket	Flap	Flap	Slant	Flap	Scrap flap
model	No.6	No.7	No.8	No.9	No.10
item/category					
Color	White	Gray tone	Black	Green tone	Purple tone
Textile pattern	Solid-color	Stripe	Solid-color	Herring - bone	Window-pane
Silhouette	American	Italian	Italian	European	American
Collar	Standing	Shirts	Shawl	no	Peaked
Opening	Hidden-opening	Double	Single	Zipper	Single
Pocket	Jetted	Slant	Jetted	Jetted	Patch

Table 2. Subject's body size for pattern

unit=cm

Basic items	Height	Chest Girth	Waist Girth	Hip Girth	Sleeves Length
Measurement of subject's body	172	94	83	96	60
Mean measurement of body 25-39 age*	170±4	90.9±5.9	80.4±6.6	93.1±4.9	54.7±2.6

* National anthropometric survey of Korea 1997

engaged in the men's suit business, graduate students majoring in clothing, and undergraduates majoring in fashion. They selected fifty terms related to men's wear among three hundred eighty terms individually. One hundred

ninety six terms were checked more than one time.

The SD(Semantic Differential) method was used to select the more appropriate terms among them. The SD method is composed of a five-point scale. The opposite terms to the selected ones were

composed of "functional" vs "nonfunctional", "authoritative" vs "unauthoritative" to prevent confusion of terms.

3. Evaluators and Term and Method

Twenty undergraduates of department of clothing from all of the country were selected as evaluators. They evaluated the stimulus for two days, August 23rd, 24th, 1999.

Table 3. The Composition of Evaluators

Division	Sex	Male	Female
	Age		20-25
The number of people		10	10

The subject, who had average body shape, put on 10 different kinds of suits and took his position three meters away from the evaluators.

4. Data Analysis

The collected data was analyzed with the factor analysis of the SPSS package program for the analyses of men's suit sensitivity terms and the factor. More than 1.0 of eigenvalues and varimax rotation were used¹⁴.

In order to analyze the difference per factor for ten suits of men's wear, F-test and Duncan test have been used.

III. Results and Considerations

1. Selecting result of sensitivity term

122 sensitivity terms, scored more than SD mean 3.0, were selected to measure appropriate words for evaluation of men's wear among 196 sensitivity terms through SD method.

80 sensitivity terms, scored more than factor loading 0.5, were selected through the first and the

second factor analysis.

67 sensitivity terms, scored more than valuable 3 among factor loading 0.5 and more, were selected through the third factor analysis

Sensitivity terms of women's wear such as beautiful, feminine, erotic, and sexy have been excluded from evaluating men's wear.

This means there would be a significant difference between the evaluation standard of men's wear and women's.

2. Sensitivity Factor Analysis

The selected sensitivity terms can be classified into main seven factors. The conclusion is as follows:

As you can see in Table 4., factor 1 is dignity. It scored highly in terms such as solemn vs unsolemn, gentle vs ungentle, full-fledged vs unfull-fledged.

Factor 2 is attractiveness. It scored highly in terms such as polished vs unpolished, charming vs uncharming, stylish vs unstylish.

Factor 3 is practicality. It scored highly in terms such as practical vs unpractical, realistic vs unrealistic, reasonable vs unreasonable.

Factor 4 is jacket shape. It scored highly in terms such as exuberant vs anti-exuberant, wide vs unwide, voluminous vs unvoluminous.

Factor 5 is appearance. It scored highly in terms such as easy vs uneasy, balanced vs ill-balanced, proportional vs unproportional.

Factor 6 is masculinity. It scored highly in terms such as straight vs unstraight, angled vs unangled, manly vs unmanly.

Factor 7 is activeness. It scored highly in terms such as powerful vs unpowerful, healthy vs unhealthy, lively vs unlively.

Considering cumulative variance, dignity factor indicate 16.47%, attractiveness factor 13.46%,

Table 4. Sensitivity factor of men's wear

Factor	sensitivity term	factor loading	Factor	sensitivity term	factor loading
F1 Dignity	solemn - unsolemn	.81	F2 Attracti- veness	polished - unpolished	.77
	gentle - ungentle	.79		charming - uncharming	.77
	full-fledged - unfull-fledged	.79		stylish - unstylish	.74
	dignified - undignified	.77		new-style - non-new-style	.72
	virtuous - unvirtuous	.74		original - unoriginal	.68
	normative - unnormative	.74		peculiar - unpeculiar	.64
	courteous - uncourteous	.72		personal - unpersonal	.67
	grave - ungrave	.74		dramatic - undramatic	.67
	conservative - unconservative	.70		good designed - bad designed	.65
	formal - unformal	.71		sensible - unsensible	.65
	stiff - unstiff	.71		unique - ununique	.64
	mature - unmature	.69		impressive - unimpressive	.63
	quiet - unquiet	.66		sharp - unsharp	.61
	intellectual - unintellectual	.67		urbane - unurbane	.61
	faithful - unfaithful	.66		modernistic - unmodernistic	.60
	calm - uncalm	.62		challenging - unchallenging	.58
	self-possessed - unself-possessed	.59		sensuous - unsensuous	.58
	noble - unnoble	.59		shapely - unshapely	.54
	classic - unclassic	.57		eigenvalue: 10.77 variance: 13.46	
	sincere - unsincere	.56	F3 Practica -lity	practical - unpractical	.80
wealthy - unwealthy	.55	realistic - unrealistic		.75	
high-class - unhigh-class	.55	reasonable - unreasonable		.72	
open - unopen	-.54	substantial - unsubstantial		.69	
dispassionate - passionate	.53	simple - unsimple		.58	
youthful - unyouthful	-.51	agreeable - disagreeable		.57	
free - unfree	-.50	eigenvalue: 4.75 variance: 5.93			
eigenvalue: 13.17 variance: 16.47					
F4 Jacket shape	exuberant - anti-exuberant	.81	F5 Appear -ance	easy - uneasy	.67
	wide - unwide	.78		balanced - ill-balanced	.64
	voluminous - unvoluminous	.75		proportional - unproportional	.62
	broad breasted - unbroad breasted	.66		well-matched - ill-matched	.56
	affluent - unaffluent	.59		secure - unsecure	.55
well-fitting - ill-fitting	-.55	eigenvalue: 3.65 variance: 4.57			
eigenvalue: 3.98 variance: 4.97					
F6 Mascul -inity	straight - unstraight	.86	F7 Active- ness	powerful - unpowerful	.77
	angled - unangled	.79		healthy - unhealthy	.52
	manly - ummanly	.77		lively - unlively	.52
	eigenvalue: 2.82 variance: 3.52			eigenvalue: 2.03 variance: 2.54	

practicality factor 5.93%, jacket shape factor 4.97%,
appearance factor 4.57%, masculinity factor 3.52%,

and activeness factor 2.54%.

It indicated that 7 sensitivity factors in the design

of men's jacket occupied 51.46 % of cumulative variance. I have come to understand that dignity factor and the attractiveness factor play an important part in design of men's jacket.

3. Sensitivity differences in men's jackets

In order to study the sensitivity differences in 10 pieces of men's jackets, this study has analysed sensitivity difference in accordance with seven factors. The result are shown in Table 5.

The Sensitivity difference indicates significant difference as the factor of dignity, attractiveness, practicality, jacket shape, and masculinity is $p < 0.001$

The factor of dignity indicates relatively high-item value in model numbers 1, 2, 4, and 8, which accordingly blue, gray, and black color, notched and peaked collar, Italian and British silhouettes, etc. are the designs used nowadays. Model 2 shows that dignity scored the highest, which accordingly gray tone, glen-check pattern, British silhouettes, notched collar, single opening, and flap pocket have been the common men's jacket. Since

dignity indicates the high percentage among total variance, the present design has usually been focused on dignity. Model numbers 5 and 9. were indicated relatively low-item value in the factor of dignity. Model numbers 5 and 9 have been designed using sports collar, no collar, zipper-opening and scrap-flap-pocket. It is said that these designs have hardly been seen on men's jackets.

The factor of attractiveness indicates relatively high-item value in models 6 and 8. Model 6 is considered the most attractive design. It consists of white tone, solid color, American silhouette, standing collar, hidden opening, and jetted pocket.

Model numbers 1, 2 and 4 indicated relatively low-item value in the factor of attractiveness, contrastively which indicated relatively low-item value in the factor of dignity. It is said that Model numbers 1, 2 and 4 have a high dignity but low attractiveness.

The factor of practicality indicates relatively high-item value in model number 9. Model 9 has the most practical design. It has green tone, herringbone pattern, European silhouette, no

Table 5. Sensitivity difference in ten men's jackets

	1	2	3	4	5	6	7	8	9	10	F-value
Dignity	0.661 c	0.804 c	-0.154 b	0.475 c	-0.848 a	-0.131 b	-0.024 b	0.679 c	-1.125 a	-0.303 b	13.484***
Attractiveness	-0.675 a	-0.647 a	0.279 b/c/d	-0.404 a	-0.206 a/b/c	0.855 d	-0.078 a/b/c	0.788 d	0.347 c/d	-0.292 a/b	7.885***
Practicality	0.400 d/e	0.415 d/e	-0.325 a/b/c	-0.058 b/c/d	0.507 d/e	-0.375 a/b/c	-0.422 a/b	-0.927 a	0.602 e	0.203 c/d/e	6.266***
jacket shape	0.027 b/c	-0.369 b	-1.213 a	0.407 c/d	0.020 b/c	0.742 d	0.610 d	-0.025 b/c	-0.935 a	0.736 d	14.962***
Appearance	0.102 a/b	0.215 b	0.153 b	-0.087 a/b	0.204 b	-0.157 a/b	-0.178 a/b	-0.097 a/b	-0.575 a	0.229 b	1.305
Masculinity	0.353 c	-0.036 b/c	-0.054 b/c	0.549 c	-0.077 b/c	-0.332 a/b	0.501 c	-0.796 a	-0.008 b/c	-0.083 b/c	3.558***
Activeness	0.036 a/b	-0.195 a	-0.244 a	0.539 b	0.114 a/b	0.004 a/b	0.278 a/b	-0.176 a	-0.192 a	-0.162 a	1.296

*** $p < .001$ ** $p < .01$ * $p < .05$

collar, zipper opening, and jetted pocket. Easiness in zipper -opening might be considered as a practical design. Model numbers 8 has low practicality. It can be usually seen costumes for wedding or concert.

The factor of jacket shape indicates relatively high-item value in models 6, 7, and 10. Model 6 has the most suitable design for jacket shape. It has white tone, solid color, American silhouette, standing collar, hidden opening, and jetted pocket. It is considered that model numbers 3 and 9 have low jacket shape because of European silhouette that is quite fit for body.

The factor of masculinity indicates relatively high-item value in models 1, 4 and 7. Model 4 has the most masculine design. It has blue tone, stripe pattern, British silhouette, peaked collar, double opening, and flap pocket. It is the most marketable as a model 2. It is considered that model number 8 has low masculinity because of feminine shawl collar.

IV. Conclusion

1. sixty seven sensitivity terms and seven factors were selected.

2. sixty seven sensitivity terms were classified into seven factors largely. Factor 1 turned out to be dignity, while factor 2 would be attractiveness, factor 3 practicality, factor 4 jacket shape, factor 5 appearance, factor 6 masculinity, factor 7 activeness.

3. Sensitivity difference in ten pieces of men's jackets indicates significant differences in the factors of dignity, attractiveness, practicality, jacket shape, and masculinity. Accordingly the most common and marketable designs of men's jackets have reflected dignity and masculinity and have had a little attractiveness.

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