

The Design Harmony in the Necktie with Dot Pattern

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Abstract

This study aims at clarifying the influence that color, tone, dot size, the combination of area ratios exercise on the harmony in dot necktie, and revealing the harmony differentiation according to the cues of various factors for pattern design. The conclusion is drawn as below, in the result that the cues which can exercise influence on the harmony of dot necktie, was analyzed by 54 stimuli. In the result of analysis of variance in order to clarify the influence which color, tone, dot size, and color area ratio exercise on dot necktie harmony, color and dot size operate appeared to be independent cues which exercise significant influence with main effect. In the result of the harmony difference analysis on color, tone, dot size, and color area ratio combination by multiple comparison, the cyan color in vivid tone was estimated to be most inharmonious in the analysis by color and tone. Viewing the harmony difference according to color and dot size, the dot size of 0.5cm in cyan was perceived to be most harmonious. Viewing the harmony difference according to color and color area ratio combination, both magenta and cyan were estimated to be positive, regardless of area ratio combination, and particularly, the case that the background was in cyan and the dots were in grey was perceived more harmonious compared to the contrary case. Viewing the harmony difference according to tone and dot sizes, the case when the dot sizes were 0.5cm, was perceived to be most positive, regardless of tone. Viewing the harmony difference according to color area ratio combination and tone, the case that the chromatic colors, cyan, magenta, and yellow was used as background, was estimated to be more harmonious, compared to the case that the achromatic color, grey was used as background. Viewing the harmony difference according to dot size and color area ratio combination, in case that the dots were in chromatic color and the background was in grey, the harmony showed difference by dot size, and the case of the dot size of 0.5cm was estimated to be most harmonious.

Key Words : harmony, dot necktie, color, dot size

I . Introduction

According that the consumers` taste gets diversified and subdivided, more numbered various looks and trends co-exist in fashion section increasingly, as time passes. As the fashion goes toward the tendency to think much of individual characteristics and differentiations socially, and people enjoy the fashion in coordination of respective costume items, deviating from the past fashion styling of one set suit concept in which the perfectness of the entire unit of a suit is considered importantly, a new fashion look comes into the world in a moment and it becomes the social trend often. In addition, the extra factors else than the costume itself, are also considered in more weight, the styling concept as a total fashion in which the overall harmony is regarded importantly, becomes necessary¹⁾.

In case of men`s fashion, in order to form the meaning of one set of harmonious costume, the combined wearing of units, one set of shirts from the shirts paradigm, one set of trousers from the trousers paradigm, and a jacket, a vest, one set of shoes, and accessories from the respective paradigms should be performed. However, a necktie has different characteristic unlike other accessories as a fashion item in that it has customary concept that it should be worn necessarily, rather than it may be worn optionally by individual selection, comparatively²⁾.

The reason why a necktie is prominently seen in men`s fashion, is that it`s color is visually distinctive in common compared to that of suits and dress shirts comparatively, even except that it is hung on the center part of human body which tends to attracts eyesight easily³⁾. The colors of a neckties has the characteristic to signify implicative individual inclination and

psychological property even in aesthetic realm on top of the realms of physics and physiology.

Necktie pattern design also acts as a symbol to transfer meanings. Necktie pattern designs appear various shapes such as stripes, checks, dot pattern, all-over pattern, paisley pattern, motive pattern, floral pattern, and geometric pattern, of which the visual impression is decided by the psychological association with the physical operation or imaginary symbolization of the design pattern. Among the design patterns, dot pattern is counted as one which fits for upgrading men`s prestige and inscribing refined impression to counterpart and it has been surveyed that it is preferred as one of the most favorite patterns among the politicians of global activity. For an entrepreneur who is destined to attend to an important meeting overseas, a necktie with a dot pattern on the base color of dark blue might fit in priority. In case of dot patterns on dress, the proportional relation between factors is available, by the adjustment of dot numbers and intervals, hence, variation can be made on the pattern design by differently creating the scale and area of the space between dots⁴⁾.

Based on these results, this study set the dot pattern design which is basically preferred, regardless of vogue change through eras, among necktie pattern designs.

For the color arrangement of dot patterns, the combinations of numbered chromatic and achromatic colors, are selected as the study object, based on the previous studies⁵⁾. For the combination of chromatic and achromatic colors, the combination in which the three chromatic colors, magenta, cyan, and yellow manufactured in the three tones, vivid, light, and dark respectively, are combined to the achromatic color grey in medium brightness, is selected for

study object.

In order to grasp the different visual effect according to the dot pattern size, market survey is conducted as well as previous studies⁶⁾, and the related professional group (professors and graduate school students) opinions are researched, primarily. Subsequently, based on these results, individual pattern design objects of which the sizes are varied in 0.2cm, 0.5cm, 1cm, respectively, are generated.

Accordingly, this study aims at clarifying the influence that color, tone, dot size, the combination of area ratios exercise on the harmony in dot necktie, and revealing the harmony differentiation according to the cues of various factors for pattern design.

II. Theoretical Background

For a men's formal suit, the margin to make variation in costume itself is limited as the costume design is simple, compared to female costumes, the men's fashion may be the representative fashion section for total fashion styling by the coordination with shirts, neckties, socks and shoes. It's because shirts, trousers, jackets, vests, shoes, and other accessory sorts are worn with formal suits commonly. Here, a necktie belongs to the accessory paradigm. Accessory means supplementary object or adjunct object which takes the role of concluding and enhancing completion of costume fashion, and is a critical part of fashion coordination as it helps image presentation.

The vogue for neckties are largely influenced by textile material, design pattern, color, and silhouette, however very often, color acts as the decisive factor for vogue booming, and some times, neckties of different color arrangement of

one same pattern design, come in vogue, season by season. People tend to judge the image of counterparts whom he or she meet in face for the first time by the image sent forth from the costume color because all the visual image is primarily performed through color. Likewise, color acts as the most critical factor in fashion communication. That is, color exercise influence a lot for self expression and feeling, as it enables to be seen by other people, to be warm, cool, vivacious, dismal, refined, or sprightly.

According to the previous studies⁷⁾, generally wearing a necktie in the same interrelationship colors makes the impression of modesty, self possessedness, and refinedness and performs intelligent atmosphere, on the contrary, wearing a necktie in opposite interrelationship colors exercise the effect of overwhelming counterpart people sending out the impression of self-confidence and sensitiveness.

A necktie occasionally have solid, however, mostly have a pattern. The pattern includes the design element titled line, space, form, and color. Therefore, The harmony of necktie also large influenced by pattern.

A necktie with even and consistent dot pattern design may be the basic one of basic ones among neckties, which can be recommended to possess for the first time to a person with no necktie, as the pattern expresses traditional prestige as much as to be widely mentioned as it is the first pattern design that humans created. Besides, dot pattern has the visual effect of being individual, attractive, graceful, and gentle⁸⁾, as a circle generates easy and smooth motion sense in contrast to the sense of sharp and tense kinetic movement of a perfect square.

The result of Kang Kyungja and Lim Jiyoung⁹⁾

titled the effects on the image of men's suit by color and pattern of necktie consisted of 4 image dimension of charm, potency, uniqueness, and tenderness. The color and pattern of necktie had the significant effect on the formation of men's suit image.

III. Study Method

1. Study Items

The specific study items of this study are like below.

Study Item 1. Clarifying the influence that color, tone, dot size, and area ratio combination exercise on the pattern design harmony.

Study Item 2. Clarifying the difference of harmony of a dot necktie according to color, tone, dot size, and area ratio combination.

2. Measuring Tool

1) Stimulus Selection

The stimulus used for the test in this study is the photo of a real size dot pattern necktie. The photo is made so that the appearance of wide cloth terminal side of a necktie might show well, and the photo size is limited within 30 cm. Based on the theory that the feeling of viewing a pattern design is decided by the lines and shapes of the motif which is the basic unit constituting a pattern design, the size of motif, the area ratio between motif and background, and the arrangement between the color of motif and background, in this study, the stimuli are manufactured in variation on the size of dot pattern, the area ratio between pattern coloring and background coloring, and the arrangement method of pattern and background color with

the pattern is controlled by dot, first.

For the color combination, the combination that the three primary colors of coloring stuff, magenta, cyan, and yellow are mixed respectively to the grey color in medium brightness among achromatic colors, which exercises little influence on other colors, are utilized. For tone, light and dark colors of which the brightness is in variation, with the vividness and chroma are limited within medium grade, are selected.

For dot pattern size, the three ones, 0.2cm, 0.5cm, 1cm sizes are selected, considering the sizes of market selling dot pattern designs for neckties, though the dot pattern sizes over all the fashion sorts were found to be more various such as 0.3cm, 0.5cm, 0.8cm, 1.2cm, 1.5cm, 1.8cm, 2cm, 2.5cm, 4cm, 5cm, 8cm, 10cm, and so on in the result of market survey.

The area ratio between pattern and background were searched applying the regulative diamond arrangement mode in which the area ratios vary in regular proportion according to the pattern size, referring to the market survey and a previous related study¹⁰⁾.

And the area ratio between dot pattern as motif and the background were calculated by two cases of color contrast between dots and background, that is, by separating the cases of dot/background, and background/dot, specifically, by separating the cases of chromatic color dot/grey background, and chromatic color background/grey dot.

The colors and tones used as the test stimulus for necktie pattern, based on Korean Standard Color Book, is as in Table 1.

<Table 1> Tone and color of stimuli

color \ tone	vivid	light	dark
magenta	7.5RP4/12	7.5RP8/4	7.5RP2.5/12
cyan	5PB5/12	5PB8/4	5PB54/4
yellow	5Y8.5/12	5Y9/6	5Y3/4

<Table 2> stimulus

Color Tone	Area-ratio Size	Pattern/Background			Background/Pattern		
		0.2	0.5	1	0.2	0.5	1
Magenta	light						
	vivid						
	dark						
Cyan	light						
	vivid						
	dark						

<Table 2> stimulus (continued)

Area-ratio Size		Pattern/Background			Background/Pattern		
		0.2	0.5	1	0.2	0.5	1
Yellow	light						
	vivid						
	dark						

The stimulus is manufactured by combining selected pattern, sizes, colors, and area ratios to be different diversely, and by conducting pattern layout on the necktie image in which the wide cloth terminal side of a necktie is illustrated in real size, using CAD Texpro 10.0 Program.

Subsequently, the stimulus image is corrected on the basis of Korean Standard Color Book, and the photo of the stimulus is printed out in 10×30cm which is the size of a real necktie using Epson R210 printer(Table 2).

2) Test Designing

The test of this study is constituted by 4 dimensional factorial designing (3×3×3×2) composed of 3 necktie colors (magenta, cyan, yellow), 3 tones (vivid, light, dark), 3 pattern size (0.2cm, 0.5cm, 1cm), and 2 area ratios (dot/background, background/dot) which are independent

variables, and by between-subject designing. Totally 54 stimuli combined by 4 sorts independent variables, was made into 27 test groups, that is, 12 test subjects were randomly arranged to a respective test group.

3) Harmony Scale

In this study, the subjective response of evaluators, which is related to the aesthetic extent which the persons feel empirically and sensually, is evaluated using the adjective pairs of 'harmonious to inharmonious', and 'proper to improper', in order to clarify the harmony degree of stimulus, based on the previous studies¹¹⁾. To quantify the data, harmony scale is expressed by points as the positive adjective located in the left side of the medium standard adjective is given 3 points, and the negative adjective located in the right side is given -3 point. The credibility of harmony scale for stimulus

appeared to be as Cronbach's α coefficient .929 by judging internal consistency.

4) Data Collection and Analysis Method

The test subjects of this experiment are composed of 324 students who major in beauty, design, and clothing and textile related studies residing in Gyeongnam Province, Korea. The data collected in a classroom between June and July, 2008. Here, The hours of this survey were from 10:00 to 15:00. The data acquired from this study were statistically treated by SPSS program for analysis. To grasp the cues which exercise influence on the harmony of dot pattern necktie, analysis of variance (ANOVA) method was utilized, and multiple comparison analysis method was conducted for post-hoc test.

IV. Study result

1. Cues Influencing on Dot Necktie Harmony

The result of conducting analysis of variance (ANOVA) in order to reveal the influence which color, tone, dot size, and area ratio combination exercise on dot necktie harmony, is as in Table 3.

A test to clarify the influence which color, dot tone, dot size, area ratio combination variation exercise on dot necktie harmony, was conducted applying to the entire test respondents. In the result, color and dot size appeared to act as independent cues which exercise significant influence on dot necktie harmony, and to exercise main effect. This result supports the

<Table 3> The influence which color, tone, dot size, and area ratio combination exercise on dot necktie harmony

Source	Type III Sum of Squares	df	Mean Squares	F	Sig.
corrected Model	193.140a	53	3.644	1.358	.053
Intercept	7962.319	1	7962.319	2968.237	.000
color	36.245	2	18.123	6.756	.001
tone	8.981	2	4.490	1.674	.189
dot size	38.066	2	19.033	7.095	.001
area ratio	4.974	1	4.974	1.854	.174
color*tone	16.758	4	4.189	1.562	.183
color*dot size	3.183	4	.785	.292	.883
color*area ratio	13.045	2	6.523	2.432	.089
tone*dot size	7.502	4	1.876	.699	.593
tone*area ratio	8.591	2	4.296	1.601	.203
dot size*area ratio	2.001	2	1.000	.373	.689
color*tone*dot size	9.594	8	1.199	.447	.892
color*tone*area ratio	17.544	4	4.386	1.635	.164
color*dot size*area ratio	12.207	4	3.052	1.138	.338
tone*dot size*area ratio	5.925	4	1.481	.552	.698
color*tone*dot size*area ratio	8.156	8	1.019	.380	.931
Error	1303.699	486	2.683		
Total	9481.750	540			
corrected Total	1496.838	539			

a. F Squared = .129(Adjusted R Squared = .034

previous study result of Choi Hyejung and Ryu Sukhee¹²⁾ who reported that dot size exercise a big influence on the image of the fashion with dot pattern design. It is also revealed that color itself is also an important cue which exercises influence on dot necktie harmony in parallel with dot size, in the test result.

The result of conducting multiple comparison between groups in order to elucidate on color and dot size, which exercise significant influence on dot necktie harmony as main effect, in detail, is as in Table 4-5.

Viewing the comparison between colors used in dot neckties, as in Table 4, for harmony perception, magenta resulted in lower effect than cyan by .4784 in average, but higher effect than yellow by .1198 in average. Cyan showed higher effect than magenta by .4784 in average,

and than yellow by .5982 in average, for harmony perception, and these difference appeared to be significant in the range of $p < .05$. After all, showing higher effect than both magenta and yellow for harmony perception in the comparison between colors, cyan appears to be the most favorite color for a dot necktie, in the test.

Viewing the comparison between dot sizes in dot neckties as in Table 5, the dot size of 0.2cm is lower than that of 0.5cm by .5829 in average and than 1cm by .356, in harmony perception. The dot size of 0.5cm resulted in higher effect than that of 0.2cm by .5829 in average, and than that of 1cm by .5472 in average. The difference appeared to be significant in the range of $p < .05$. In the result, the dot of medium size was perceived to be most harmonious.

<Table 4> Comparison between colors used in dot neckties

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
magenta	cyan	-.4784*	.17131	.021	.0579	.8990
	yellow	.1198	.17155	.784	-.5410	.3014
cyan	magenta	.4784*	.17131	.021	-.8990	-.0579
	yellow	.5982	.17250	.003	-1.0217	-.1747
yellow	magenta	-.1198	.17155	.784	-.3014	.5410
	cyan	-.5982*	.17250	.003	.1747	1.0217

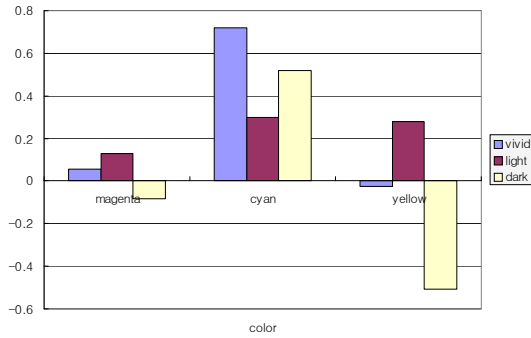
*. The mean difference is significant at the .05 level.

<Table 5> Comparison between dot sizes in dot neckties

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0.2cm	0.5cm	-.5829*	.17130	.003	.1623	1.0034
	1cm	-.0356	.17202	.979	-.3867	.4580
0.5cm	0.2cm	.5829*	.17130	.003	-1.0034	-.1623
	1cm	.5472*	.17202	.007	-.9696	-.1249
1cm	0.2cm	.0356	.17202	.979	-.4580	.3867
	0.5cm	-.5472*	.17202	.007	.1249	.9696

*. The mean difference is significant at the .05 level.

2. Harmony Difference According to Cues

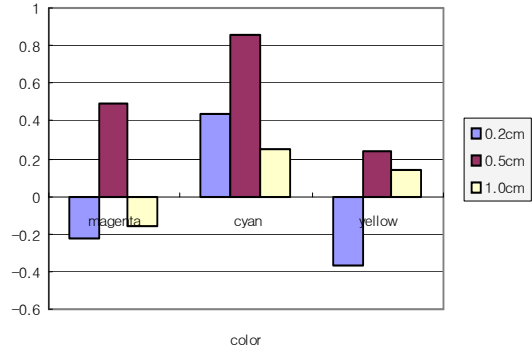


<Figure 1> Harmony difference according to color and tone

The analysis result for the harmony difference by color, tone, dot size, color area ratio combination is as in Figure 1-6.

Viewing the harmony difference according to color and tone first as in Figure 1, in case of magenta, vivid, light tones were perceived to be positive, on the contrary, dark tone, to be negative. However in case of cyan, all three tones were perceived to be positive, hence a dot necktie in cyan color was identified to be the most effective for harmony perception. The color yellow is perceived to be negative in vivid and dark tone, and to be positive in light tone, and particularly light tone acted to be positive with all the colors. Overall, a dot necktie of cyan color in vivid tone was perceived to be most harmonious, while that of yellow color in dark tone was estimated most inharmonious. Overall, a dot necktie of cyan color in vivid tone was perceived to be most harmonious, while that of yellow color in dark tone was estimated most inharmonious.

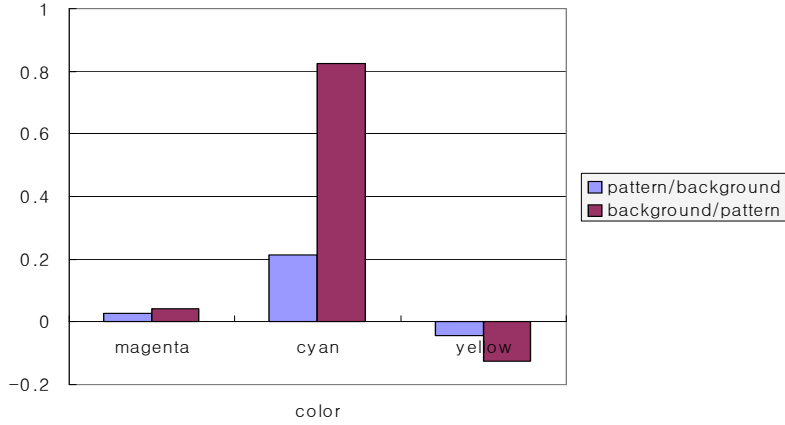
Viewing the harmony difference by color and dot size as in Figure 2, in case of magenta color, the dot size of 0.2cm, and 0.1cm were estimated to be negative, but 0.5cm to be positive.



<Figure 2> Harmony difference according to color and dot size

In case of cyan, all the dot sizes were estimated to be positive, and the dot size of 0.5cm was perceived to be most harmonious among the sizes. In the result, a necktie of cyan color was estimated to be harmonious, regardless of tone or dot size. As in case of yellow color, the dot size of 0.2cm was estimated to be negative, while 0.5cm and 0.1cm to be positive, and in case of magenta and cyan, 0.5cm was also perceived to be harmonious, it is revealed a dot necktie of 0.5cm dot size are harmonious regardless of colors. That is, a dot necktie of cyan color with 0.5cm dot size appeared to have highest perception in harmony estimation.

Viewing the harmony difference according to color and color area ratio combination, magenta and cyan were estimated to be positive regardless of area ratio combination, but yellow was perceived to be negative. Viewing the harmony difference according to the color area ratio combination composed of the color of dot which is the theme pattern, and the color of background, in case of magenta color, the case that background is in magenta and dots are in



<Figure 3> Harmony difference according to color and area ratio combination



<Figure 4> harmony difference according to dot size and area ratio combination

grey, was estimated to be higher by a minute difference, compared to the contrary case. For cyan color, the case that background was in cyan and dots were in grey was perceived to be more harmonious, compared to the case the dots were in cyan and the background was in grey. In the two cases above, magenta and cyan showed clear difference in harmony perception on color area ratio combination. On the contrary, for yellow color, the case that the

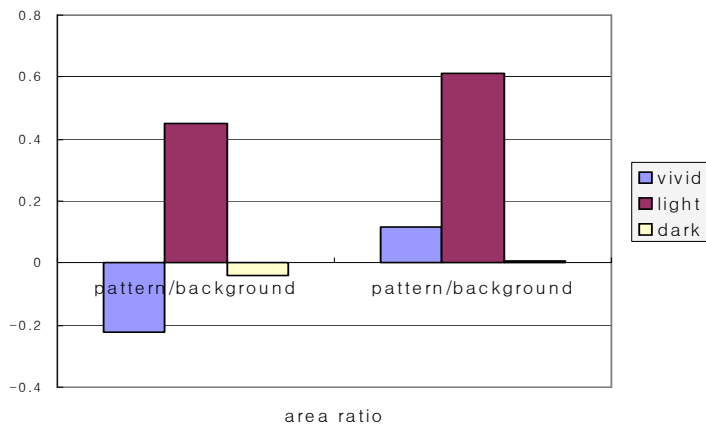
dot were in yellow and the background was in grey, was perceived to be less harmonious, compared to the case the background was in yellow and the dot was grey, that is, the case that the ratio of yellow takes larger area, was perceived to be more inharmonious. Likewise, as the harmony difference is also generated in the estimation, by color area ratio combination, for the sake of harmonious performance of a dot necktie, color area ratio combination also should

be importantly considered.

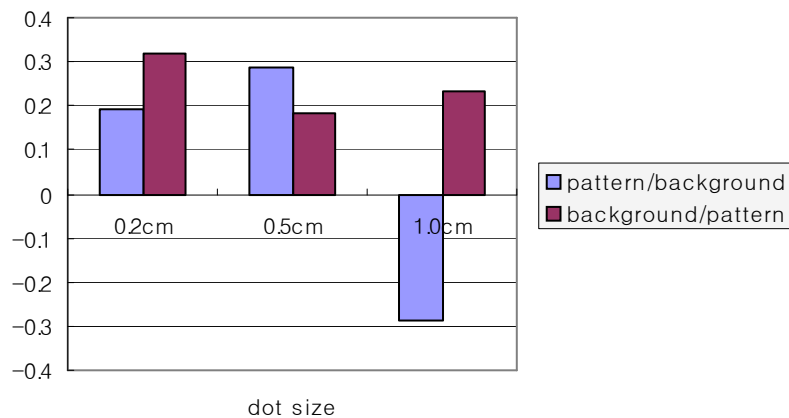
Viewing the harmony difference according to area ratio combination and dot size as in Figure 4, in vivid tone, the dot size of 0.2cm was perceived to be negative, while the dot size of 0.5cm and 1.0cm to be positive. Particularly, among the combinations of tone and dot size, it was perceived that when the tone was vivid and the dot size was 0.5cm, the tone and dot size fit best each other. In light tone, the dot size of 0.2cm and 0.5cm were perceived to be positive,

while the dot size of 1.0cm to be negative. That is, in light tone, the dot size of 0.2cm and 0.5cm appeared to be harmonious. In dark tone, while the dot size of 0.2cm and 1.0cm were perceived to be negative, the dot size of 0.5cm was perceived positive. Overall, regardless of tone, when the dot size was 0.5cm, the combinations of tone and dot size were estimated to be most positive.

Viewing the harmony difference according to color area ratio combination and tone as in Figure



<Figure 5> harmony difference according to area ratio combination and tone



<Figure 6> harmony difference according to dot size and area ratio combination

5, the light tone was perceived to be positive, regardless of color area ratio combination. In case that dots were in chromatic color and the background was in grey color, light tone was perceived to be positive, on the contrary, vivid tone and dark tone to be negative. Particularly, the case that dots were in vivid tone was estimated further lower even compared to the above case, and appeared to be inharmonious at all. In case that the background was in chromatic color and the dots were in grey color, the combinations were all estimated to be positive, and among the combinations the case when the background was in light tone, was perceived to fit best each other. Overall, the case when the background was in chromatic color and the dots were in grey color, was perceived to be more harmonious than the opposite case when the dots were in chromatic color and the background were in grey color. That is, the case that the chromatic colors, cyan, magenta, or yellow take larger area than the achromatic color of grey, appeared to be more harmonious.

Viewing dot size and area ratio combination as in Figure 6, in case that the dot size was 0.6cm, all the occasions were perceived to be positive, and the case that the background was in chromatic color and the background was in grey color was perceived to be more harmonious compared to the opposite case that the dots are in chromatic color and the background was in grey color. In case that the dot size was 0.5cm, the occasion that the dots were in chromatic color and the background was in grey color was perceived to be more harmonious, compared to the contrary case, and in case that the dot size was 1.0cm, the occasion that the dots were in chromatic color and the background was in grey color, was

perceived to be negative, and the occasion that the background was in chromatic color and the dots were in achromatic color, to be positive. Overall, in case that the dots were in chromatic color and the background was in grey color, the occasions showed harmony difference according to the dot sizes, but in case that the background was in chromatic color and the dots were in grey color, all the occasions were perceived to be positive, regardless of dot sizes. However, even in the occasions above, the harmony extent was perceived differently by individual occasion according to dot sizes, which means the color area ratio between the dots, that is, the theme pattern and the background, makes the harmony difference in dot neckties.

V. Conclusion

This study selected color, tone, dot size, and color area ratio combination as variables in order to grasp the factors which exercise influence on the harmony of dot neckties and the extent. The conclusion is drawn as below, in the result that the cues which can exercise influence on the harmony of dot necktie, was analyzed by 54 stimuli.

In the result of analysis of variance (ANOVA) in order to clarify the influence which color, tone, dot size, and color area ratio exercise on dot necktie harmony, color and dot size operate appeared to be independent cues which exercise significant influence with main effect. In the result of comparison between groups in order to clarify the cues which exercise influence on dot necktie harmony, in more details, in the comparison between colors, cyan appeared to be higher in harmony extent than

both magenta and yellow, that is, to be most harmonious among the colors. In the comparison of dot sizes, the dot size of 0.5cm, the medium size, was estimated to be most harmonious.

In the result of the harmony difference analysis on color, tone, dot size, and color area ratio combination by multiple comparison, the cyan color in vivid tone was estimated to be most inharmonious in the analysis by color and tone. Viewing the harmony difference according to color and dot size, the dot size of 0.5cm in cyan was perceived to be most harmonious. Viewing the harmony difference according to color and color area ratio combination, both magenta and cyan were estimated to be positive, regardless of area ratio combination, and particularly, the case that the background was in cyan and the dots were in grey was perceived more harmonious compared to the contrary case. Viewing the harmony difference according to tone and dot sizes, the case when the dot sizes were 0.5cm, was perceived to be most positive, regardless of tone. Viewing the harmony difference according to color area ratio combination and tone, the case that the chromatic colors, cyan, magenta, and yellow was used as background, was estimated to be more harmonious, compared to the case that the achromatic color, grey was used as background. Viewing the harmony difference according to dot size and color area ratio combination, in case that the dots were in chromatic color and the background was in grey, the harmony showed difference by dot size, and the case of the dot size of 0.5cm was estimated to be most harmonious.

This study may be utilized as a basic data usefully for necktie color planning and act for the sake of direction proposition, as it is an

analysis on the harmony of dot necktie according to color, tone, dot size, and color area ratio combination.

The fact that the respondents for the test, are limitedly and randomly selected among the college students who reside in Gyeongnam Province, and the harmony perception on dot necktie according to the respondents sorted by age, gender, and seasonal factor was not measured, is the limitation of this study. Hence, for the extended interpretation of this study, careful consideration is needed. Studies on color assignment method and the related variables, and the shaping of diverse necktie sorts, which was not treated in this study, are hoped to be performed on various dimension, forwardly.

Reference

- 1) Cho Wooyung (2004), "A Study on the Fashion Styling in Fashion Magazines—Focusing on the Fashion Photographs in VOGUE(Italy)—", A Master's Thesis, Hongik University.
- 2) Kim Hyunjin · Chae Keumseuk (2003), "A Study on Symbolism in Neckties", *The Korean Society of Fashion & Beauty, Journal of Winter Conference*, pp. 33–38.
- 3) Kang Kyungja · Lim Jiyoung (1996), "The Effect of Necktie Color and Patterns on the Image Formation of the Men's Suit", *Journal of the Korean Society of Clothing and Textiles*, 20(5), pp. 753–768.
- 4) Kim Sunmi · Jung Sujin (2008), "A Study of the Changes in Dress Wearers' Images in Relation to the Changes in the Size and Area Ratio of Polka Dots Relative to Coloration", *Journal of the Korean Society of Costume*, 58(6), pp. 66–67.

- 5) Kang Kyungja · Moon Juyung (2004), "A Study in the Perception of the Harmony of Coloration in Traditional Korean Dress of Korean and American Students(PartIII)-On the Chromatic and Achromatic Colors-", *Journal of the Korean Society of Clothing and Textiles*, 28(7), pp. 962-973.
- 6) Choi Eunyoung (1995), "A Study on Visual Effect According to Size, Arrangement and Value Harmony of Motive-On the Check and Dot Pattern-", *Journal of the Korean Society of Costume*, 24, pp. 193-203.
- 7) Kim Wulsoon · Kim Unhee · Lee UnYoung (2004), *Total Fashion Coordination*, Yerim.
- 8) Choi Sukoung · Jung Sujin (2008), "A Study on the Necktie Image Followed by Coloration, Size and Area-ratio of Dot Pattern" *The Korean Society of Design Culture*, 14(4), pp. 501-509.
- 9) Kang Kyungja · Lim Jiyoung (1996), " The Effect of Necktie Color and Patterns on the Image Formation of the Men's Suit", *Journal of the Korean Society of Clothing and Textiles*, 20(5), pp. 753-768.
- 10) Lee Yujin (2005), "The Effect of Textile Design(Color and Pattern) of Clothing on Visual Image", *Journal of the Korean Society of Color Studies*, 19(1), pp. 37-46.
- 11) Choi Sukoung · Jung Sujin (2007), "The Effect of Color Coordination of Makeup and Clothing on Harmony", *Journal of the Korean Society of Color Studies*, 21(4), pp. 9-19.
- 12) Choi Hyejung · Ryu Sukhee (2007), "The Influence of the Interval of Polka Dots on the Image of Clothes-Focused on One-Piece Dress-", *Journal of the Korean Society of Clothing Industry*, 9(3), pp. 278-285.

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