

Impression Formation Based on Female Facial Shape and the Sex of Perceiver*

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I . Introduction

The belief that character can be read by the face has a long and marked history. Ancient philosophers like Aristotle described at length the signs of strength and weakness, genius and stupidity, timidity and boldness in his work. And Shakespeare frequently used a physiognomic description in his works because he believed that the face revealed the inner person as well as his confidence that his readers would understand these correspondences.(Berry & McArthur, 1986).

In modern times, the belief in facial cues to character seems to be quite widespread and it is well documented that people form reliable and robust impressions of stranger's personality traits on the basis of facial appearance (Berry & Wero, 1993). Berry(1990) found that our perception of people's character is strongly tied to their facial appearance. Liggett's study in 1974 revealed that over 90% of college students believed that a person's facial appearance is a valid source of information about one's character(Berry & wero, 1993). As shown here, a face is a part of the human body that displays the personal characteristics, viewed in the social psychology as a factor in studying the physical appearance in the correlations between physical attractiveness and social culture as well as studied in the fashion design as one of the influencing factors of clothing(Moon, 2000).

It is well documented abroad that facial structure exerts strong and consistent effect on a person perception(McArthur, 1982). For example, people who have similar facial configurations are thought to possess similar personalities, and different traits are attributed to individuals with dissimilar facial qualities(Berry, 1991). Berry and McArthur(1985) found that angular male faces were perceived as less warm, less honest and more masculine. In Korea, the facial shape has been one of the main subject matters in the fashion design as it is significantly related with the fashion design elements such as the neck-line and the shape of collars. (Lee, 1992; Lee & Lee,

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1999; Moon & Kim, 1997)

In spite of facial shape's importance in person perception, the study in this field has been avoided for a long time because of the complexity of the face as stimulus (Goldstein, 1983 in Cunningham, 1986). Recently, however, with the development of computer graphic program, the techniques of composite faces using computer graphic have received attention both home and abroad (e. g., Langlois & Roggman, 1990; Langlois, Roggman, Musselant, Action, 1991; Lee & Lee, 1999; Lee & Lee, 2000; Perrett & Yoshigawa, 1994)

Langlois and Roggman (1990) proposed some of the advantages of using the computerized technique of composing faces ; 1) the more precise average image than superimposed by hand; 2) the standardized lighting and contrast, and the precise image enhancement procedures on all of the faces equivalently.

Recently, in our country, stimuli which were created using computer graphic program have been often used in researches that closely examine relation with clothing and impression formation or face and clothing design (Lee & Lee, 1999 ; Lee & Im, 2000). In most researches, nothing but faces has been handled by one integrated factor connected with clothes or impression formation, however, each aspect of face was not handled by independent of other factor. Therefore research which has examined the influence of each aspect of face, in relationship with clothing design or impression formation, is very insufficient.

As we live in a society in which most clothing, other than the face, hide the body, people can easily recognize a face than clothing. So, a face may act the most important factor in forming an overall impression of a person. The face shape, in particular, plays the key role in forming the overall facial impression just as the silhouette of a dress forms the overall image of the cloth.

The self is not only observed but also an observer. Therefore, it is important to look at characteristics of individuals as both sender (observed) and receiver (observer) in appearance communication. Identity-linked characteristics such as gender, age, social class, occupation, and ethnicity are among the perceiver variables studied by researchers (Kaiser, 1990). Most of the existing research focuses on gender differences in perceiver's evaluations of female's appearance. Less has been known about the meaning of males' appearances in general. Although, in his study of the effect of appearance cue on observational accuracy, Hamid (1972) found that the female were more accurate in the overall observations than the males (Kaiser, 1985), much less have been studied about difference in perceiver's evaluations of males as a function of gender. (Kaiser, 1990)

The purposes of this research are two folds ; first, to identify if people form different impressions when the facial shape of a same female face changes into having different facial shapes but other features of face are identically same using an Adobe

Photoshop program, and also if there are any difference between male and female subject judgments; second, to assess whether specific facial shape will be more influenced on specific category of impression formation.

Two hypotheses to be tested are as follows ; first, the sex type of subjects and the facial shape of female will influence judging the impression of female personality ; second, specific facial shape will be more influenced on specific category of impression formation.

II . Theoretical background

1. Assumed Similarity

Many of the differences among perceivers to judge others appear to be due to their cognitive processing. In addition to it, individual variations on the basis of demographic characteristics such as sex, age, or race, and others that may be related to different socializing experiences. Cognitive complexity is another trait that strongly influences a perceiver's inferences. Some individuals are better able to differentiate among people and make finer distinctions when evaluating others(Kaiser, 1985)

In addition to perceiver differences, Tagiuri(1969) mentioned that there were various factors that tend to affect the accuracy of inferences about others. Assumed similarity is one of them and also affects the way people see others. It may cause people to project their own perceived attributes on others(Kaiser, 1985). That is, people tend to reflect their own emotion to another person. Therefore, people judge more exactly in case of the judgment target person's age, race, nationality, social level is similar with their own(Gang, 1984).

2. Kernel-of truth Hypothesis

The propensity to judge character from the face is typically thought to reflect cultural beliefs about mythical relations between aspects of facial appearance and personality(Wero, 1990). Cultural stereotype hypothesis of this kind exists in our country, too. For example, in the case of woman, it is 'stubborn if extent becomes angle' or 'a large-eyed person is a coward'.

Regardless of geographical location, Orient or West, cultural stereotype hypothesis about relationship with impression and face does not satisfy questions such as 'why is it that a particular facial shape gives dominate impression consistently, whereas another is reliably identified as looking submissive?' because it provides no explanation for the origins of the specific links that are reliables perceived between facial appearance and

personality.

The kernel of truth hypothesis has a long history at the anecdotal level. This hypothesis undoubtedly been tainted by its perceived association with the physiognomists of the 1700s and 1800s in West, who proposed the existence of mystical links between character and appearance. However, they eventually fell into dispute because their assertion were not based on scientific observation. Along with it, skeptical attitude of modern psychologists about that this was partially accurate led researchers to neglect studying the effects of variables such as physical attractiveness on social experience for many years(Berry, 1990; Berry and McArthur, 1986; Berry and Wero, 1993).

Despite such contradictory sights exist, it posits that there are, in fact, reliable associations between certain aspects of facial appearance and certain dispositional qualities, and that social perceivers are sensitive to those covariations(Berry & Wero, 1993; Berry and Brownlow, 1986). In latest, scientific researches that support these possibility announced (e.g. Alley, 1988 ; Berry, 1990 ; Berry & Wero, 1993 ; Cunningham, 1986 ; McArthur & Berry, 1987) .

3. Relationship between face and impression formation

Researches that get into theoretical guide for face perception are very insufficient. But, there are some theoretical conceptualizations that warrant attention. 'Self-fulfilling prophecy effect' is one of these theories which is referred often when explain relation of facial appearance and character(Berry & Wero, 1993). According to this, people can do action such as recognized own face aspect actually. That is, people with certain facial features actually behave in distinctive ways because others expect them to and, consequently, interact with them in a manner that elicits the expected behavior (Berry & McArthur, 1986). Snyder and his co-workers have documented evidence for such an effect in 1977. In their study, people expect physically attractive individuals to be more socially adapt than unattractive people, and that social interaction with attractive people elicits the very behaviors that were expected.

After this 'Self-fulfilling prophecy effect' is caused, answer of question for "has some facial special quality guided self-fulfilling prophecy effect to perceivers?" and "why do perceivers have these reaction to begin with?" etc. can be explained by theoretical models presented by theory of Secord(1968) and ethologists' researches.

Secord(1968) proposed three general principles such as functional association, metaphorical association, and temporal extension that could account for perceivers' reactions to particular facial qualities.

Functional association is caused when the perceiver infers that some aspect of the object person does function by specific way, from this the perceiver assumes that the individual possesses an associated attribute. For example, research results of Thorton

(1943, 1944) that people who wearing glasses are more intellectual than people who do not wearing glasses may derived from associations to the functional properties of glasses. That is, glasses becomes help to read a book and this kind of action associates intelligence. Metaphorical association makes abstract generalization on analogical inference between some notable special quality of target and characteristic attribute. For example, the stereotype that people whose hair color is red are excited well that reflect metaphor that done image is "hothead", because the hair on their heads is a fiery color. Temporal extension is caused when the perceiver regards from temporal quality of the persons to enduring attribute. For example, smiling face temporarily may create that the person has the more permanent traits of friendliness and a good sense of humor. McArthur(1982) presented generalization of such temporal extension principle, for example, people with large mouth may perceived as friendly because smiling mouths are large(Berry & McArthur, 1986).

The writings of ethologists provide second conceptualize perceivers' reactions to particular facial qualities. Based on evidences that is worth believing, morphological characteristic of infrahumans may convey social message to conspecifics, ethologists have speculated that certain morphological characteristics may act by social signals among humans(Berry and McArthur, 1986). For example, Lorenz(1943) has suggested that variables of appearance such as big eyes and wide forehead, small and round nose and jaws, soft skin etc. that are found in both human and animal infants are different from those of adults. As these infant's appearances signal cuddliness, helplessness and a non-threatening nature, these make adults to react infants with positive affect, protection, and a decreased likelihood of aggression. Therefore, the opportunity of infant survival can be increased(Cunningham, 1986). Guthrie(1976) did reference about variable of appearance that display person's social status. He argues that as it is general rule among vertebrate that dominate persons tend to be experienced large, older males, dominance is signaled by qualities that are associate with size, age, and sex(Berry & McArthur, 1986) .

III. Methods

1. Subjects

One hundred thirty male undergraduates and one hundred twenty four female undergraduates volunteered to participate in the study. Volunteers were randomly solicited various departments that the person of stimulus picture was belonged was excluded.

Research executed at December, 1998 to most students, and because woman's

number to take part in this research was less than men, data collection executed in addition at May, 1999. As impression estimation about facial type does not change by latency factor's effect during short time, additional data collection was conducted by investigator judgment that would not cause systematic difference between subjects.

The average age of male was 22.4 years and female volunteers was 21.4 years.

2. Instrument

1) Stimulus Material.

4 color photographs that were used as stimuli in this research produced via following process : first, filmed a female student's front side face. Photographed individual was 22 years of age at the time of photographing September, 1997. She was taken photograph with full front view and neutral facial expressions. After developed the picture, it was scan and changed into having different facial shapes - long, oval, round and square shape - but other features of face were identically same using an Adobe Photoshop program.(Picture 1). These four facial types were the most commonest types in the women of our country(Moon & Kim, 1997).

All the other features of face such as skin texture and any other facial conditions and background and so on of photographs tried to keep equally at process that change facial shape. Although did best to modify only on facial jaw line part, facial ratio control compelled to enforced in very low level that did not look awkward. Modified 4 pictures used finally as stimuli because more than 90% of 31 undergraduate subjects could not identify which was original or modified.



<Square shape>

<Round shape>

<Oval shape>

<Long shape>

<fig. 1>

2) Questionnaire

Impression formation categories that were included on questionnaire were chosen through next processes: first, selected 42 impression formation vocabularies by precede researches in impression formation(Conner, Peters & Nagasawa, 1975 ; Hamid, 1969 ; Johnson, 1990).; Next, 45 respondents who were consisted of undergraduate students and assistants etc. selected 19 words from 42 words, which were used most often when they referred about woman's facial impression.; Third, 58 undergraduates were given a list of 19 adjectives and asked to check which ones they most frequently used on regular basis to describe the impression of female face and asked to give any other adjective lists in case they could not find no more suitable words in the list. Also, required to add brief explanation about them.

According to order of occurrence, following 8 words selected finally : "Feminine", "Intelligent", "Noble", "Characteristic", "Kind-hearted", "Good-natured", "Arrogant", "Warm".

In order to prevent them from making too subjective interpretation, the term definitions of eight words, which were done based on explanations of respondents and dictionary, were provided. This was done to minimize error that can be happened by difference about meaning analysis between subjects.

3. Procedure

After reviewing the set of four photographs, subjects were asked to separately evaluate eight impression measurements of the target in each of the photographs. Subjects were required to assign numerical values from 5(highly agree) to 1(highly disagree) based on their judgment. No Number of times that the same level of rating could be chosen for one category of impression formation.

4. Data Analysis

According to applying a repeated research design in this study, every participants received all treatment levels. The repeated design allows a researcher to reduce error variance as a result of holding the experimental units exactly same. This blocking process can isolate undesired sources of variation.

Repeated measures ANOVA was employed for testing hypotheses about the effects of sex and facial shapes on eight impression categories. The significant level on the F test was jointly controlled by the Bonferroni method. This means that the overall significance level for testing set at .05 for the group of 8 impression categories. Therefore, the null hypothesis for each category was rejected only when the *p*-value was lower than or equal to .006.

IV. Results and Discussion

Tab. 1 presents the result of testing the mean differences on eight traits among facial types by sex in impression formation.

<Tab. 1> Effects of facial types and sex on impression formation: F values of repeated measures ANOVA.

Dependent Var. Effects	Feminine	Intelligent	Noble	Good-Hearted	Arrogant	Kind-Hearted	Warm	Charac-teristic
Main effect								
Sexa	17.65**	12.70**	.001	.10	1.89	.11	.68	.40
facial typesb	206.43**	64.74**	85.79**	21.31**	9.89**	23.46**	26.67**	15.34**
Interaction Effect								
sex by facial typesb	6.52**	1.06	2.65**	5.81**	2.04	5.76**	8.26**	4.32*

* : p < .005 ** : p < .001 a : F(1, 252) b : F(3, 756)

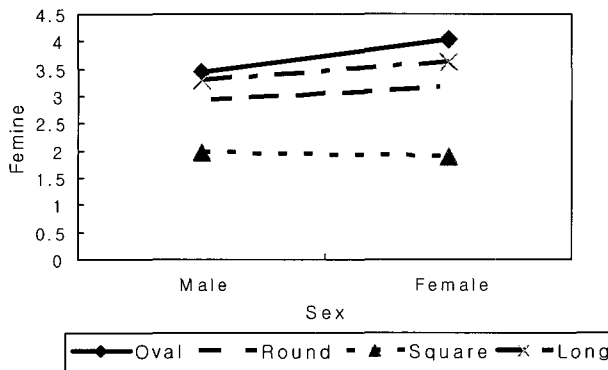
1. Feminine impression

Tab. 1 shows that there was a significant interaction effect of facial types and sex as well as facial types main effect and sex main effect on perception of feminine trait, controlling the significance level by Bonferroni method. That is, there was a significant mean difference between male and female student groups.

Also participants seemed to perceive femininity in a different manner on the basis of the facial types.

However, the main effects did give us little information because there were the joint effect of sex and facial types on the perception of femininity. The interaction

Figure1. Differences in impression formatio 'Feminine' across facial shapes by sex

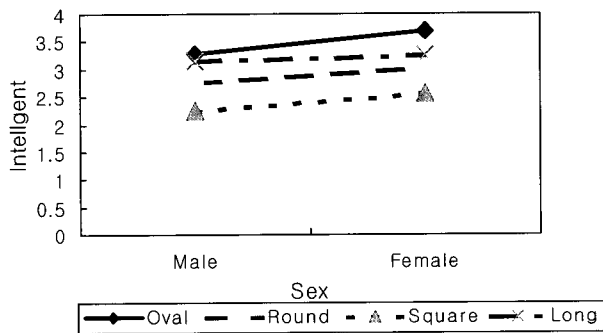


means that the sex effect on feminine trait perception is not the same for all facial types. Fig. 1 significantly shows that the mean differences of feminine trait perception among facial types were various between male group and female group.

2. Intelligent impression

Tab. 1 shows that there was a significant sex main effect and facial types main effect on perception of intelligent trait, controlling the significance level by Bonferroni method.

Figure 2. Differences in impression formation of 'Intelligent' across facial shapes by sex



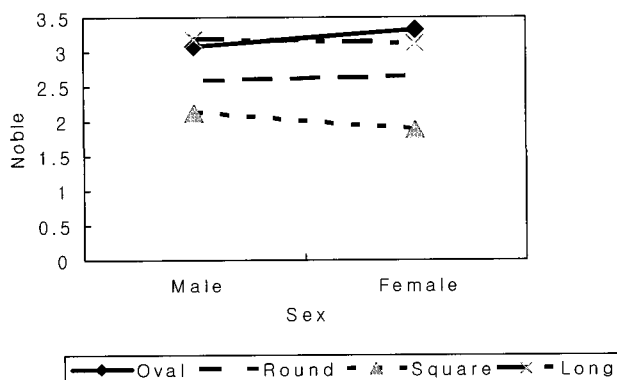
facial types in male group are similar to the differences among them in female group ($p = .365$).

As shown in Fig. 2, male and female groups evaluated the oval shape as the most intelligent ($M_{\text{male}} = 3.28$, $M_{\text{female}} = 3.68$), then the long shape ($M_{\text{male}} = 3.15$, $M_{\text{female}} = 3.26$), the round shape ($M_{\text{male}} = 2.76$, $M_{\text{female}} = 3.01$) and the square shape ($M_{\text{male}} = 2.25$, $M_{\text{female}} = 2.56$) facial shape in this order.

While, in average, both male group and female group similarly evaluated the long shaped face as intelligent, but female group perceived other facial types as more intelligent than male group.

3. Noble impression

Figure 3 Differences in impression formation of 'Noble' across facial shapes by sex



Regardless the facial types, participants seemed to differently form intelligent impression of female faces as the function of their sex. Also they likely evaluated a woman as more intelligent or less intelligent on the basis of the facial types.

But, there was no interaction effect of sex by facial types. It means that the differences of intelligent trait perception among

According to result of ANOVA analysis, there was a significant interaction effect of facial types and sex as well as facial types main effect and sex main effect on perception of noble trait, controlling the significance level by Bonferroni method (See Tab. 1). The interaction effect of sex by facial types can be distinctively recognized in Fig.

3.

Male group evaluated the long shape ($M_{\text{male}} = 3.18$) as the noblest, followed by the oval shape ($M_{\text{male}} = 3.09$) without much difference while the female group shows that the oval shape ($M_{\text{female}} = 3.33$) is perceived as the noblest, followed by the long shape ($M_{\text{male}} = 3.13$).

Both the male and female group formed less noble impression by order of the round shape ($M_{\text{male}} = 2.59$, $M_{\text{female}} = 2.64$), the square shape ($M_{\text{male}} = 2.12$, $M_{\text{female}} = 1.89$). The female group perceived the square-shaped face as less noble than the male group.

4. Good-natured impression

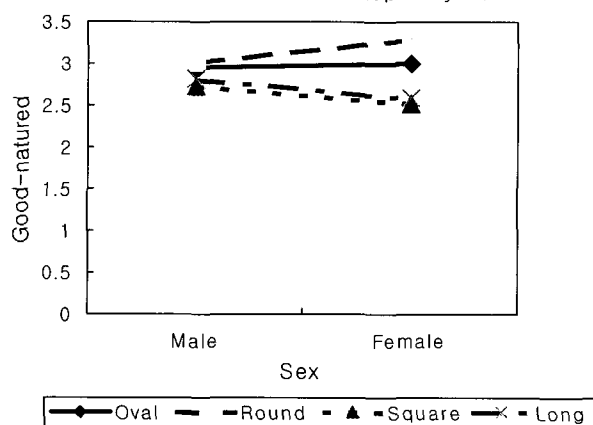
Tab. 1 shows that there were a significant interaction effects of facial types and sex as well as facial types main effect on forming good-natured impression. But there was no sex main effect on good trait perception ($p = .750$), while controlling the

significance level by Bonferroni method (see Tab. 1).

The male and female groups evaluated the round shaped face as the most goodnatured, followed by oval shape, long shape and square shape in that order.

Fig. 4 clearly displays that there was a significant difference in evaluating the facial shapes between the two subject groups. While male student group shows no big difference of judgment in each facial type, but female

Figure 4. Differences in impression formation of 'Good-natured' across facial shapes by sex



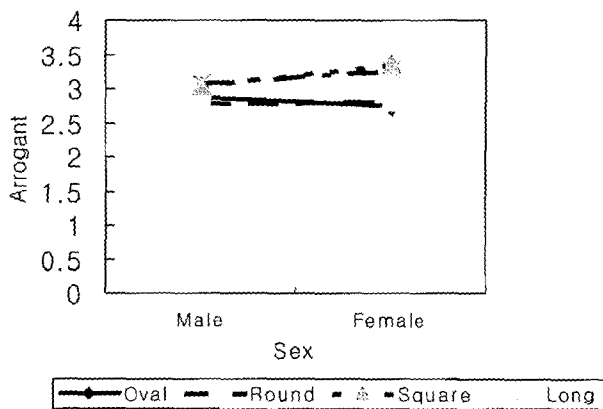
student group perceived the facial types sensitively, in terms of good-natured trait, especially between the round facial type ($M_{\text{male}} = 3.02$, $M_{\text{female}} = 3.30$) and the square facial type ($M_{\text{male}} = 2.73$, $M_{\text{female}} = 2.51$). Female group likely associated the round facial type and the oval facial type ($M_{\text{male}} = 2.95$, $M_{\text{female}} = 3.00$) with more good-natured trait, but the square facial type and the long facial type ($M_{\text{male}} = 2.81$, $M_{\text{female}} = 2.59$) with less good-natured trait than the male group.

In other words, female group tended to implicitly assume that the good trait assigned to a woman on the basis of the facial types are more interrelated than the male group did.

5. Arrogant impression

As the result of repeated design ANOVA test, there were no sex main effect ($p=.170$) and interaction effect of sex by facial types ($p= .106$). Only facial types significantly influenced on the arrogant trait perception (see Tab. 1).

Figure 5. Differences in impression formation of 'Arrogant' across facial shapes by sex



Regardless of participants' sex, they tended to significantly distinguish the facial types in terms of the arrogant trait. In Fig. 5, the square facial type ($M_{male} = 3.04$, $M_{female} = 3.36$) and the long type ($M_{male} = 3.08$, $M_{female} = 3.27$) were likely perceived as more arrogant than the round type ($M_{male} = 2.79$, $M_{female} = 2.81$) or the oval ($M_{male} = 2.88$, $M_{female} = 2.74$).

6. Kind-hearted impression

There is no sex main effect ($p = .746$), however, significant facial types main effect and the interaction effect of sex by facial effect (see Tab. 1) on evaluation of kind-hearted trait. That is, a pattern of the mean differences in kind trait perception across facial types in the male group is significantly inconsistent with the mean differences in the female group.

Figure 6. Differences in impression formation of 'Kind-hearted' across facial shapes by sex



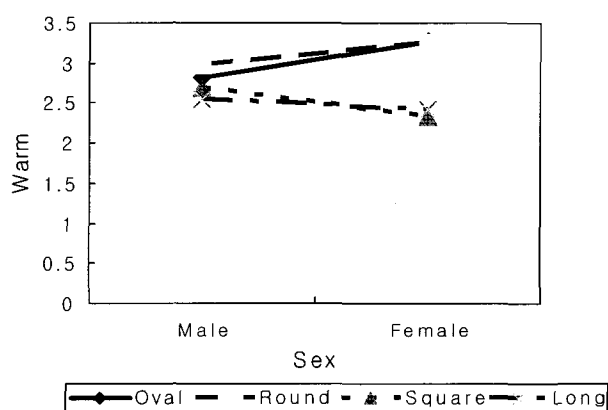
Fig. 6 depicts the interaction effect of sex by facial types. The male group tended to evaluate the oval facial type ($M_{male} = 3.00$) or the round facial type ($M_{male} = 3.05$) as more kind-hearted than the square facial type ($M_{male} = 2.75$) or the long facial type ($M_{male} = 2.77$). The female group showed the similar pattern to the male group, but the mean difference between

the round facial type and the square facial type is larger ($M_{\text{oval}} = 3.29$; $M_{\text{round}} = 3.19$; $M_{\text{square}} = 2.54$; $M_{\text{long}} = 2.45$). While female group received more kind-hearted impressions from oval and round type's face than male group, they evaluated the square facial type and the long as less kind-hearted.

7. Warm impression

Tab. 1 shows that there is no sex main effect ($p = .409$), but the facial types main effect and the interaction effect of facial types effect by sex, controlling the significant level by Bonferroni method.

Figure 7. Differences in impression formati 'Warm' across facial shapes by sex



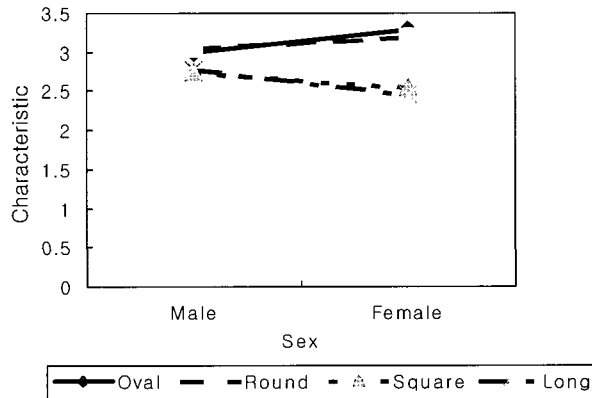
In Fig. 7, the male group averagely evaluated the round facial type as the warmest ($M_{\text{male}} = 2.97$), followed by the oval facial type ($M_{\text{male}} = 2.81$), the square facial type ($M_{\text{male}} = 2.68$) and the long facial type ($M_{\text{male}} = 2.55$), in the order. The female group evaluated the oval facial type as the warmest ($M_{\text{female}} = 3.27$), followed by the round facial type with a little difference

($M_{\text{female}} = 3.24$), the long facial type ($M_{\text{female}} = 2.41$), and the square facial type ($M_{\text{female}} = 2.32$) with a relatively large difference. In the male group, the mean differences among the facial types were smaller than the female group. The female in this study may categorize others based on facial shapes and use stereotypes to develop inferences about the others' warm trait, comparing to the male.

8. Characteristic impression

The last column in Tab. 1 presents the ANOVA results for testing effects of sex and facial types on the characteristic trait perception. There was no mean difference of evaluating the characteristic trait between the male and female participants. But, there were significant mean differences among facial types. Also there was the interaction effect of facial types by sex. It means that the mean differences across the facial types were various between sex (see Fig. 8). The round facial type ($M_{\text{male}} = 2.71$, $M_{\text{female}} = 2.51$) and the oval facial type ($M_{\text{male}} = 2.78$, $M_{\text{female}} = 2.57$) were perceived as the least characteristic, regardless the participants' sex. While the male group thought that

Figure 8. Differences in impression formation of 'Characteristic' across facial shapes by sex



the square facial type ($M_{\text{male}} = 3.02$) is the most characteristic, followed by the long facial type ($M_{\text{male}} = 2.95$) with little difference, the female group perceived square facial type ($M_{\text{female}} = 3.38$) as much more characteristic than the long type ($M_{\text{female}} = 2.78$).

In other words, female perceivers tend to judge a woman with a square face as strongly characteristic than male perceivers, in comparing to women with other facial types.

V. Conclusion & Discussions

A primary objective of this study was to determine whether it is true that the facial type of a female and the gender of the perceiver have an influence in the perceiver's developing an impression of a female's face. This hypothesis has been found true by the result of the study of 'repeated measures ANOVA'. The study discovered that the facial type of the perceived female had a significant influence in the perceiver's judgment in all the eight factors of forming facial impressions. It was also found that the facial type of the perceived female had helped the perceivers of different genders develop significantly different impressions on the same facial type in six factors of facial impression except for the factors, 'intelligent' and 'arrogant'. The study found that the male perceivers developed rather distinctly different impressions on different facial types in only three of the eight factors of facial impressions, whereas the female perceivers formed different impressions on different facial types in all of the eight factors of facial impressions. In other words, females have been found to develop more distinctly different impressions than males on the facial types.

These findings can be explained by the assumed similarity. As the perceived objects were females at the age of 21, presumably helping the females of the same age group make more delicate and accurate judgments than the males of the same age group. Also these results support the study of Hamid(1972) that mentioned the female were more accurate in the overall observations than the males. It can be also assumed

that females are more sensitive than males to exposure and response to appearances, making more delicate and detailed decisions on facial types.

The second objective of this study was to identify if any specific facial type, among others, has more influences on the perceiver's developing an impression. A comprehensive analysis of graphic charts of interactive effects among *dynamic factors* showed that there was a specific facial type that had more influences than the other facial types in the perceiver's developing an impression. It was found that the oval-type face gave the perceiver strong impressions of feminine, noble, intelligent and good-natured as well as kind-hearted and warm. The long face was found to show noble and arrogant impressions as well as the least kind-hearted and warm. The round-type face had similar patterns of impressions including warm, and good-natured and kind-hearted less arrogant or characteristic. The square-type gave the perceivers impressions of the most arrogant and characteristic while being viewed the least feminine and noble. The square-type also shared with the long face the impressions of less good-natured, less kind-hearted and less warm. These findings support, in part or in whole, the 'kernel-of-truth' hypothesis, that says the face and the personality may have correlations, the study on the correlations between the face and the impression development by Secord(1968) and other studies on similar subjects by human personality experts. For example, the oval type has been perceived to be the most feminine, while the square type to be the least feminine and the oval type being perceived more noble, intelligent, and good-natured as well as strongly kind-hearted and warm than any other facial types. These findings support the study of Berry and McArthur(1985) that argued males with the square-type face, with larger and more sharply curved chins than other types of faces while the oval face has the smallest and least sharply curved chin, looked more masculine, less warm and more aged than those with other facial types. These results also support the study of a human personality expert(Guthrie, 1976) that contended it is generally believed among vertebrates that dominant features are larger and more aged than others in the group. Meanwhile, the round type, with a more round chin than the long face, was perceived to be less feminine than the long face, which is presumably because the round type's short face and rich cheeks give an impression of a child, leading to a lack of mature, feminine impression. The round-type face was perceived to be generally favorable, presumably due to a combination of a stereotype in the Korean society and a metaphorical association, "the beauty is good". (Berry & Wero, 1993, p.498) which stems from the western perception that a beauty receives positive appraisal from the society, the associates, the opposite sex and in social interactions (Cunningham, 1986; Berry & McArthur, 1986; Kaiser, 1993). The findings that the female with the square type face was perceived to be the most arrogant and characteristic and that the round type, like the oval type, was found to be warm, kind-hearted and good-natured, can be

interpreted to come from the Korean physiognomic judgment of a character, that says a female with a sharp chin is stubborn while a female with a round face is generous, nice, comfortable and good for the wife of the first son, or from a metaphoric association with such a stereotype. In the meantime, the perceivers in this study said the oval type looked more intelligent than the long face, defying the physiognomic judgment of a character that says the long face looks intelligent.

It is expected that the findings of this study will be useful for the image control and making of persons who are supposed to develop impressions on others based on a limited amount of clues gathered in a short time. Also be used for the variety of academic disciplines, especially more useful for the study of correlations between the face and clothing such as study on influence of the neckline shape of dress on impression formation of face or study of relationship between the face and the shapes of shirts collar.

It must be admitted, however, that incomplete control over all the factors of a face except for the facial type may have impacted the perceivers' judgment.

More advanced studies may require studies from a variety of angles and contexts. Clearer differences in developing facial impressions on different facial types will be found by a combination of various studies on other aspects of a face impacting the facial impressions and a statistical control over intermediary factors of the facial type judgment such as the level of appearance perception and the preferences of certain facial types. On top of that, a comparative study on findings from other cultures and a measurement of body attractiveness based on the facial type will deepen the findings of this study.

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