Creating Characters Based on the Portrait Paintings of the Chosun Period and the Death Records of the “Chosun-dynasty Sillok”

Sun Hee Jang
Department of Industrial Design
Sungshin W. University, Seoul, Korea

Yu Mi Kwon
Department of Industrial Design
Sungshin W. University, Seoul, Korea

ABSTRACT

This study investigates the portrait paintings of the Chosun period and the Death Records of the Chosun-dynasty Sillok in an effort to find new methods to apply to character design. The basis of this study were 42 figures from a group of portrait paintings from the late Goryeo period to the Chosun dynasty of the 25th King, Chul-Jong. First, Chinese letters illustrating the personalities in the Death Records were classified into five groups based on the Big Five theory, which divides personalities into the Big Five Personality Traits of extraversion, agreeableness, conscientiousness, neuroticism, and openness. Secondly, a representative facial image was created through a morphing technique after extracting the portraits using a method that relied on the high frequency of the appearance of specific Chinese letters related to each personality type.

Keywords: Character Design, the Portrait Paintings of the Chosun Period, Big 5 Personality Traits, the Death Records of the “Chosun-dynasty Sillok”.

1. INTRODUCTION

Portraits from the Chosun period are rare in that they attempt to describe their subjects faithfully as who they were. The classical scholars who painted the portraits attempted to portray subjects with realistic expressions because they thought that even if the hair was different, the subject’s appearance would not be as it really was. These artists intended to reproduce the figure of the subject as well as expressing the manner of thinking and personality of the subject. Therefore, the facial characteristics of the portraits of the Chosun period can be assumed to reveal the personality of the subject.

Chosun-dynasty Sillok’ refers to a book of the Chosun period which contains 28 types of chronicles of 25 successive kings over a span of 472 years, from Tae-Jo to Chul-Jong. These chronicles contain the Death Records and overall estimations of individual lives, from birth to death, of the civil officers in Chosun era. The Death Records are not wholly positive regarding the information they contain about people. Sometimes they contain negative information, such as ‘He is mean-spirited.’ The Death Records are, however, reliable materials with which to grasp the character of a person.

We may learn more about the relationship between the facial characteristics and the personality when we concurrently review the portraits of the Chosun period, where the temper of the subject is visually expressed with the written information pertaining to the subject in the Death Records. The results of such a review can be applied to the character design using related cultural content. Therefore, this research purposes to find a new means of creating characters by reviewing the portraits of the Chosun period revealing their personality as visual information and the Death Records as documentary information.

First, to perform such a task, 42 figures from a group of portrait models from the late Goryeo period to the Chosun dynasty of the 25th King, Chul-Jong, were studied. The figures in the portraits are mostly men in their prime or in old age. As the young were considered as impossible to describe as their study, cultivation, experience and knowledge were not yet built. Therefore, the portraits of the Chosun Dynasty portray the major characteristics of the personality of a person. The crucial point of the representation was whether or not they showed the true spirit of that person. This coincides with the purpose of this study, that is, the creating characters which represent the personality, from a fundamental perspective. The research on

\* Corresponding author: E-mail : sunjang@sungshin.ac.kr
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portrait paintings was conducted after gaining authorization to duplicate some of the collections of the Academy of Korean Studies and the National Museum of Korea.

Second, Chinese letters illustrating the personalities in the Death Records were classified into five groups based on the Big Five Theory, which divides personalities into the Big Five Personality Traits of extraversion, agreeableness, conscientiousness, neuroticism, and openness.

Finally, a representative facial image was created through a morphing technique with Abrosoft FantaMorph after extracting the portraits using a method that relied on the high frequency of the appearance of specific Chinese letters related to each personality type.

2. DESCRIPTION OF THE PERSONALITY IN THE DEATH RECORD

Among the portrait models from the late Goryeo period to the Chosun dynasty of the 25th King, Chul-Jong, 42 of the subjects were described in the Death Record. The following is a list of the subjects, their personality description in the Death Record, and the Chinese letters illustrating the personalities in the description.

| Subject     | Description of the personality in The Death Record | Chinese letters for personality | Summary in English |
|-------------|---------------------------------------------------|--------------------------------|-------------------|
| S. Lee      | 智明睿，學問精博，秉心寬恕，處事詳明，為宰相，務遵成憲，不喜紛更，為文章，操筆即書，辭意精到，平生無疾言遽色，油油然處之不及亂，襟懷灑落，言動從容。 | 明 睿，精 學，寬，詳，宰 相，遵，不 紛，文 章，操，書，精，無，不，油，言，不，襟，言，從 | He was smart and wise; his education was thorough and broad. His work was detailed and clear; he was so poised that his words and deeds were calm. He was not worn out by the world; he was pure and generous; his words and deeds were quiet. |
| B. Jo       | 聰慧，裕達，正直亢慨，事親事君一出於誠，所操不可奪。 | 聰，達，正，直，誠，操 | He was smart and wise. He was lively and righteous; he was indignant with injustice; he loved giving and performed good deeds. |
| H. Whang    | 自少留心禪法喜施，有宰相識度，豐姿魁偉，聰明絕人，治家儉素，喜怒不形，雖細字亦讀之不憚。 | 施，识 度，魁，偉，絕，素，不，形，不，細，讀 | He was generous, virtuous, and lively. |
| S.J. Shin   | 宽厚，博洽經史，議論常持大體，不苛細，處大事，斷大義如江河之決，撫親戚以恩待寮友，皆有恩義。 | 命 言，博，經，史，議，大，體，不，苛，細，事，義，如，決，撫，恩，恩，義 | He was generous, virtuous and lively. |
| S. Son      | 為人醇謹有吏幹，性至孝，皆以淸勤稱。 | 醇，謹，吏，性，孝，淸，勤 | He was simple, honest and careful, and devoted to his parents. He was upright and diligent. |
| S.B. Joo    | 孝誠純至，處心寬和，和而寬，處大事決大疑不動，處其宜。 | 孝，誠，純，處，和，和，處，事，決，疑，不，處，其，宜。 | His mind was generous and mild. He had a pure and extreme devotion to his parents. |
| S.H. Lee    | 慧悟，及長深中多數外若愚鈍機權之際變弄如神，數，機，變，弄，如，神。 | 慧，及，數，機，變，弄，如，神。 | He was wise and smart. His mind was deep and he had so many tactics that his ability to adapt to different circumstances was extremely skilled, although he seemed to be stupid and dull outwardly. |

Table 1. Description of the personality in The Death Record
Sun Hee Jang: Creating Characters Based on the Portrait Paintings of the Chosun Period and the Death Records of the "Chosun-dynasty Sillok"

| G. Jo | W.I. Lee | G. Yu | H.B. Lee | G. Lee | G. Lee | M. Huh | S.Y. Song | J.S. Yun | S.B. Lee | M. Huh | S.Y. Song | J. Lee |
|-------|----------|-------|----------|-------|-------|-------|-----------|---------|---------|-------|-----------|-------|
| **事繼母至孝** | **為人剛正** | **有不廉之譚** | **豪俠有風度** | **慷慨** | **為人簡而不刻柔而能正又不好黨** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **英毅剛果 傲氣節操** | **事繼母至孝** | **時在相位諸人之所及也** | **敎雅好古 文章高簡** | **秉承武威 崇高節操** |
| **其清名直節 華世所仰** | **剛正身清苦** | **不廉之譚** | **有不廉之譚** | **慷慨** | **為人簡而不刻柔而能正又不好黨** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **英毅剛果 傲氣節操** | **事繼母至孝** | **時在相位諸人之所及也** | **敎雅好古 文章高簡** | **秉承武威 崇高節操** |
| **事孝** | **為人剛正** | **不廉** | **豪俠有風度** | **慷慨** | **為人簡而不刻柔而能正又不好黨** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **英毅剛果 傲氣節操** | **事繼母至孝** | **時在相位諸人之所及也** | **敎雅好古 文章高簡** | **秉承武威 崇高節操** |
| **力於父喪，勇於擔負。** | **人年高而才氣可透鐵石** | **其清名直節，非一時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **事繼母至孝** | **時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **事繼母至孝** | **時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **秉承武威 崇高節操** |
| **力於父喪，勇於擔負。** | **人年高而才氣可透鐵石** | **其清名直節，非一時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **事繼母至孝** | **時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **英毅剛果 崇高節操** | **事繼母至孝** | **時在相位諸人之所及也。** | **敎雅好古 文章高簡** | **秉承武威 崇高節操** |

His clean reputation and righteous integrity drew the respect of the world.

He was upright, righteous and incorruptible.

His appearance was gallant but was unbiased.

He was indignant about injustice. Sometimes he angered and blamed high officials; the king blamed him several times for scolding high officials but he could not correct his behavior.

He was generous, easy to get along with, and soft but righteous.

He was dignified, generous and prudent. When he dealt with what must be done, he proceeded with unsparing words, even if they unnerved the king.

He had excellent talent and strong will, and was upright and decisive. He was too strong and strict to have mercy or pity.
| Name | In the World | Character | Description |
|------|--------------|-----------|-------------|
| Sun Hee Jan | | Member of the Royal court. | He was upright and frugal. He was proper when he presented a memorial to the throne and he spoke what others dared not say; when he dealt with personnel affairs, people dared not make a personal request to him. However, he liked to boast and was prone to frivolousness; he was stubborn while he was deceived by others and sometimes he behaved badly after having done something wrong in a fit of anger; although people were aware of these shortcomings, they could not challenge his virtue. |
| B.S. Min | Less英俊, 風儀爽拔 | 英俊, 風儀爽拔 | Since his youth, he was smart and handsome; his appearance and behavior were cool and outstanding. |
| B.H. Hong | | 俊傑復自用 | As an underdog who gained nobility, he yielded a cruel and fastidious temper. |
| H.M. Jo | 連奪劍直 | 俊傑 | His nature was scrupulous and resolute. He liked to believe that he was always right, although he was ignorant of broad pictures regarding his work. |
| J.J. Lee | 爲人忠厚 | 忠厚 | He was loyal, virtuous and peaceful. |
| M.S. Park | | | He never failed to make jokes whenever the king and court officials gathered for study and discussions; the jokes were wild and coarse. |
| C.B. Lee | | 靜安 | He was upright, incorruptible and calm. |
| G. Yun | | | Some people said that his words were too strict; however, he had integrity and was unwavering about loyalty, reason and fidelity. |
| J.H. Kim | | 聾聰 | He was smart and he had a very good memory. Sometimes he behaved unreservedly, but people could not criticize him. |
| C.B. Lee | | 介安 | He was upright, incorruptible and calm. |
| Y.Y. | 爲人坦爽純 | 坦爽純 | He was calm, pure and upright. He was eager for fame. |

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3. BIG FIVE PERSONALITY TRAIT

Big Five Personality Trait is a theory of personality that has gained in popularity through studies which were done in the past ten to twenty years. The basic concept of this model is that the human personality is determined by the following five factors: openness, conscientiousness, extraversion, agreeableness, and neuroticism. Extraversion is characterized by positive emotions, surgency, and the tendency to seek out stimulation and the company of others. Other synonyms for surgency include dominance, self-confidence, competitiveness, outgoingness, decisiveness, and talkativeness. Agreeableness is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. Conscientiousness is a tendency to show self-discipline, act dutifully, and aim for achievement. Neuroticism is the tendency to experience negative emotions, such as anger, anxiety, or depression. Openness is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience.

3.1 Revised Interpersonal Adjective Scales to BIG 5

The Interpersonal Adjectives Scales-Revised is a taxonomy of 64 adjectives, each descriptive of an interpersonal trait (e.g., "crafty"; "cheerful"; "iron-hearted"). Generally used as a self-report measure, these adjectives are rated for how accurately they describe a subject, on a 1 (Very Inaccurate) to 8 (Very Accurate) scale. They are then combined to form eight scales that equidistantly span the circumference of the interpersonal circle, ordered around the dimensions of control and affiliation.

| B5 Personality Trait | Interpersonal Adjectives |
|----------------------|--------------------------|
| Surgency/extraversion| Dominant, Assertive, Domineering, Forceful, Self-confident, Self-assured, Firm, Persistent |
| Agreeableness        | Tender-hearted, Gentle-hearted, Soft-hearted, Kind, Tender, Charitable, Sympathetic, Accommodating |
| Conscientiousness    | Organized, Orderly, Tidy, Neat, Efficient, Planful, Systematic, Thorough, Self-disciplined, Reliable |
| Neuroticism          | Worrying, Tense          |

The five-factor and circumplex models of personality were developed in different research contexts and have been used by different groups of investigators. The five-factor model was developed in the factor-analytic tradition of Cattell and Eysenck and has been implemented mainly by psychometricians and personality psychologists working within that tradition. The circumplex model was developed in a clinical context, within an explicit neo-Freudian framework, and its applications have mainly focused on clinical problems, although not exclusively so.

Wiggins and Trapnell suggested that although the five-factor and circumplex models originated in different research traditions, were directed toward different substantive issues, and were guided by different structural models, they should be regarded as complementary rather than competing models of personality.

The Extension of the Interpersonal Adjective Scales was developed to include the Big Five Dimensions of Personality that additionally measured the three dimensions of the Big Five factors of personality unaccounted for by the Interpersonal Circle: neuroticism, openness to experience and conscientiousness.

The five-factor model provides a larger framework in which to orient and interpret the interpersonal adjectives, and the interpersonal adjectives provide a useful elaboration on the aspects of the B5 personality traits.

Table 2. The summary results of the Principal-Components Analysis of IASR-B5 items.
## 3.2 Classification of Chinese Letters in the Death Record

Based on these studies, Chinese letters illustrating the personalities in the Death Records were classified into five groups. Within the five groups, the level of similarity among the Chinese letters in terms of meaning was assessed.

The meaning of each adjective was found in the ‘Dong-A Prime Korean-English Dictionary,’ and the synonyms for those meanings were found in the ‘The Standard Korean Language Dictionary’ developed by the National Institute of the Korean Language. These search results were compared with the representative meanings for the Chinese letters which appeared in the death records.

The following is a list of Chinese letters with a meaning similar to each adjective.

### Table 3. Interpersonal Adjectives and Chinese letters

| Personality Trait | Interpersonal Adjectives | Chinese letters |
|-------------------|--------------------------|-----------------|
| Extraversion      | Dominant                 | 峻 厲 喬 侀 伏 |
|                   | Assertive                | 剛 快 僅 哥 河 |
|                   | Domineering              | 儅 慢 自 夾 名 |
|                   | Forceful                 | 豪 氣 決 義 不 依 直 無 聲 不 細 執 |
|                   | Self-Assured             | 等 介 氣 健 戀 守 柔 |
|                   | Firm                     | 硬 介 態 健 探 守 柔 |
| Agreeableness     | Tender-hearted           | 善 孝 仲 陽 朴 扰 厚 |
|                   | Gentle-hearted           | 和 無 張 聲 聲 態 事 賢 |
|                   | Soft-hearted             | 眾 不 集 素 麗 撲 醇 素 濤 |
|                   | Tender                   | 柔 |
|                   | Charitable               | 恩 寬 態 無 度 態 厚 |

### 4. REPRESENTATIVE FACIAL IMAGES

#### 4.1 Representative Subjects

The number of Chinese letters for each subject was counted for each personality type to determine the personality of each subject.

### Table 4. Representative Subjects

| Personality Trait | Chinese letters | Subject       |
|-------------------|-----------------|---------------|
| Extraversion      | 峻 厲 嘉 拆 厚 養 | Song, S.Y.   |
|                   | 剛 態 自 賢 首 | Kim, C. I.   |
|                   | 拆 厚 絲 | Lee, S. W.   |
| Agreeableness     | 和 位 賢 陽 朴 厚 | Yun, J.  |
|                   | 愛 和 悅 至 純 厚 | Joo, S. B.  |
|                   | 誠 厚 厚 人 | Shin, S. J.  |
|                   | 素 厚 厚 | Whang, H.  |
|                   | 和 願 柔 厚 | Jeng, T.   |
|                   | 和 厚 厚 | Kim, U. H. |
For the representative facial image of extraversion, the portraits of S.Y. Song, S.W. Lee, and C.I. Kim were morphed together.

In terms of extraversion, S.Y. Song, S.W. Lee, and C.I. Kim had the greatest number of Chinese letters expressing traits from ‘dominant’ to ‘forceful’. For agreeableness, J. Yun, S.B. Joo, T. Jeng, U. H. Kim, H. Whang, S.J. Shin and J. Yun were morphed together.

**Openness to experience**

| Neuroticism | Openness to experience |
|-------------|------------------------|
|             |                        |

For the representative facial image of conscientiousness, the portraits of S. Lee, H. M. Jo and M. J. Jung were morphed together.

4.2 Representative Facial Image

Five representative facial images was created through a morphing technique with the portraits of representative subjects(table 4).

For the representative facial image of extraversion, the portraits of S.Y. Song, S. W. Lee, and C. I. Kim were morphed together.

| Extraversion | Agreeableness |
|--------------|---------------|
|              |               |

For the representative facial image of conscientiousness, the portraits of S. Lee, H. M. Jo and M. J. Jung were morphed together.
For the representative facial image of neuroticism, the portraits of H. M. Jo, B. H. Hong and G. Lee were morphed together.

| Neuroticism          | Portraits         |
|----------------------|-------------------|
| Jo, H. M.           | Hong, B. H.       | Lee, G.          |

For the representative facial image of openness, the portraits of H. Whang, B.J. Yun, S. Lee, and J. H. Kim were morphed together.

| Openness to experience | Portraits |
|------------------------|----------|
| Whang, H.             | Yun, B.J. | Lee, S.          |

4.3 Characterization

The characterized images were created by intact morphing without any weight on a given portrait despite the major variations in the representative facial image (Figure 4.2 above), and the results were expressed substantially with lines.
5. CONCLUSION

This study began from the idea that a survey of the portrait paintings in the Chosun period could uncover representative facial images, as the portrait paintings in the Chosun period were based on a realistic trend that attempted to describe the spirit of the figure in the portraits. Therefore, the author analyzed personality descriptions of figures described in the death records of the ‘Chosun-dynasty-sillok’ on the basis of the Big 5 theory in an effort to determine the actual personalities of the figures in the portrait paintings.

The results of this study can be divided into two major areas: representative facial images and characterizations of these. First, regarding the representative facial images, the figures selected to represent the personality trait of agreeableness were too different from one another. In contrast, the extraversion personality trait was a somewhat homogeneous facial image in the selected figures. Therefore, it was difficult to convert these results into a certain facial image according to personality traits with concrete data. In other words, it was not proper to conclude knowledge of factors such as what the eyes were like or how long the nose was. However, this study gained some new insight into character design, in that the personality can cause variations in facial images. That is to say, an agreeable facial image could be more diverse than an extraverted facial image. We expect that further study may verify this by reviewing the variations of the personality traits through facial images of real people.

In terms of characterization, the facial images of each trait had clearly different shapes, it was not easy to explain the distinctive peculiarity in those images. In other words, except the extraversion character and the neuroticism character, the characters of agreeableness, conscientiousness and openness had little difference in their shapes. However, among the figures selected for each personality trait, S. Lee belonged to two different categories simultaneously, specifically conscientiousness and openness; H. M. Jo was in the conscientiousness and neuroticism categories, while H. Whang was in the agreeableness and openness categories. This example illustrates that the human personality does not consist of one exclusive personality trait but all five personality traits, which mingle to different degrees. The comparison of how the facial images of three individuals changed for each different personality trait made the difference in each personality trait more conspicuous. Therefore, the result of this study can be a method and a reference for character creation, so as to give a character a personality rather than as a final work of character design.

| Table 5. A Character Comparison according to Each Personality Trait |
|---------------------------------------------------------------|
| Trait 1 | Trait 2 |
| Conscientiousness | Lee, S. | Openness |
| Conscientiousness | Jo, H.M. | Neuroticism |
| Agreeableness | Whang, H. | Openness |

Two major questions arise when using the results of this study. First, the range of the materials is limited because only civil officials in the Chosun Dynasty had privilege to be recorded in portraits or the Death Records. However, this study is based on the contention that people of all personality types co-exist in one group irrespective of class, even if there is a difference in the number and distribution of personality types within each class.

Second, the number of subjects in this study is relatively small to obtain a general result. When we create a character, we usually take two approaches. One of them depends on the designer’s inspiration and talent. The other depends on the researcher’s standard, which was established by investigating multiple samples. However, this study does not take any of these approaches. This study tries to look at the materials in a different way and make connection between them to get insights. Thus, the process of this study alone makes its own contribution to the character design process.

Considering the range of practical and cultural utilization, the representative facial image, which is one of the research results can be applied for planning and developing animation characters and avatars and can be useful materials for casting actors fitting the personality of roles in movies or soap operas. Moreover, it is anticipated that the results can contribute to the encouragement of further studies of research fields that need various attempts, including digitalization of Korean historical and cultural contents, and open opportunities for people to have interests in and affection toward traditional topics.

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Sun Hee Jang
She received the B.F.A. in industrial design from Seoul National University, Korea in 1992 and also received M.F.A in visual communication design from Kookmin University, Korea in 1996, M.P.S in interactive telecommunication program from New York University, USA in 2000. She has taught at the School of Media and Information and Industrial Design department, Sungshin Women’s University since 2002. Her main research interests include Information Design and Design Education.

Yu Mi Kwon
She received the Ed.M. in computer science education from Sungshin Women’s university, Korea in 2006. Her main research interests include industrial design education.