Original Article

Analysis of the Relationships Between Sasang Typology, Holland's Vocational Typology, and Myers-Brigg's Types Among Undergraduate Students at the College of Oriental Medicine

Soo-Jin Lee¹, Suzanne-H. Park², Jung-Hyeok Im³, Ye-Sul Sin³, Hyon-II Ha³, Sang-Woo Shin⁴, Young-Kyu Kwon⁵, Han Chae⁴

¹Dept. of Psychology, Yonsei University, Seoul, Korea  
²Dept. of Psychiatry, NYU-Bellevue Hospital Center, NY, NY  
³College of Oriental Medicine, Daegu Haany University, Daegu, Korea  
⁴School of Oriental Medicine, Pusan National University, Busan, Korea  
⁵Dept. of Physiology, College of Oriental Medicine, Daegu Haany University, Daegu, Korea

Objectives: The present study investigated the integrative relationships between Sasang typology, Holland's vocational typology, and Myers-Brigg type.

Methods: The sample was composed of 83 sophomores at the College of Oriental Medicine, Daegu Haenny University (56 men, 27 women; ages 19 to 39, mean age ± S. D. = 24.38 ± 5.28) and was carried out with the QSCC II, Holland inventory, and MBTI. SPSS 12.0 was employed for statistical analyses.

Results: The Sasang types of the subjects were as followed: 21 Soyangin (10 men, 11 women) (25.3 %), 20 Taeumin (18 men, 2 women) (24.1 %), and 42 Soeumin (28 men, 14 women) (50.6 %). There were no significant differences in the mean scores of Realistic, Investigative, Artistic, Social, Enterprising, or Conventional scale between the 3 Sasang types, but in the mean scores of Realistic, Investigative, and Artistic scale between the 4 MBTI combinations (Sensing-Thinking, Sensing-Feeling, Intuition-Thinking, and Intuition-Feeling type): F (3, 73) = 3.11, p < .05 in Realistic scale, F (2, 73) = 3.70, p < .05 in Investigative scale, and F (2, 73) = 5.60, p < .01 in Artistic scale.

Conclusions: The present study discovered that the first preference for vocational aptitude of undergraduate students at the College of Oriental Medicine was Investigative and the second preference was Artistic, which fitted Holland’s vocational codes as Investigative/Artistic or Investigative/Social scale. The personality traits underlying Sasang typology play an important factor in making career decisions.

Key Words: Sasang constitution, Holland vocational typology, MBTI, personality traits

Introduction

Although there have been a number of advertisements, newspaper articles, and internet sites¹² assessing relationships between Sasang typology and occupation based on personality traits and physical traits, few evidence-based studies about those relationships have been reported: Yoon & Kal³ have found the characteristics of those who worked for the manufa-
cturing industry based on Sasang typology and Sul and Kim\(^4\) have uncovered a link between Sasang typology and occupational aptitude using KIPAT and KAT-A. Therefore it is premature to generalize relationships between Sasang types and vocational types due to the paucity of relationship studies between them. In the present study, we aimed to match the characteristics of Sasang types to vocational types based on Holland's theory.

Holland's six dimensional vocational model\(^5\) is premised on a match between individuals and occupations. He proposed that a good match between a person's interest and occupational type is the critical concept underlying career satisfaction and longevity. Holland referred to this matching process as person-environment congruence or fit. This concept has transcended the vocational psychology field, and is now the dominant model underlying theories of organ-

<table>
<thead>
<tr>
<th>Table 1. A Brief Description of the Holland Vocational Typology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational type</td>
</tr>
<tr>
<td>Attribute</td>
</tr>
<tr>
<td>Requires</td>
</tr>
<tr>
<td>Demands and rewards the display of</td>
</tr>
<tr>
<td>Values or personal styles allowed expression</td>
</tr>
<tr>
<td>Occupations and other environments involve</td>
</tr>
</tbody>
</table>

izational behavior\textsuperscript{6}).

Holland identified six personality types or themes that represent characteristics of the work environment, personality traits, and interests of working people: Realistic, Investigative, Artistic, Social, Enterprising and Conventional or RIASEC, respectively. Table 1 shows the brief description of the Holland's 6 vocational types.

There are quite a few correlation studies between Holland aptitude test and MBTI\textsuperscript{7} as well as between Questionnaire for Sasang Constitution Classification II (QSCC II) and Myers-Briggs Type Indicator (MBTI)\textsuperscript{8,9}.

Myers-Briggs type theory is that people tend to have differential preferences for certain modes of coping and developing, which they have to exercise in order to do well and feel well in their work and life situations. She suggested that individuals fall into four dichotomous personality types (Introversion/Extroversion, Sensing/Intuition, Thinking/Feeling, and Judging/Perceiving). She also maintained that Sensing/Intuition and Thinking/Feeling combinations are the most important factors for career choices: Sensing-Thinking (ST), Sensing-Feeling (SF), Intuition-Thinking (NT), Intuition-Feeling (NF). Table 2 shows the characteristics of such combinations.

Park and Kang\textsuperscript{7} found that the Introversion preference of MBTI was significantly positively correlated to the Conventional scale, and negatively correlated to the Artistic and Enterprising scales of vocational preference inventory. Five of Holland's scales (Realistic, Investigative, Artistic, Social, and Conventional, except Enterprising) showed significant differences in Jung's four psychological functions: ST, SF, NT, NF. In the Artistic scale, NT and NF combinations were more common than any other MBTI combination: NT and ST in the Investigative scale, ST and SF in the Conventional scale, SF in the Social scale, and NT and ST in the Realistic scale.

Chae and his colleagues\textsuperscript{8} substantiated that the Soyangin was more extroverted than the Taeumin, who in turn was more extroverted than the Soeumin, and the Soeumin was found to be more judging than both the Soyangin and the Taeumin using Myers-Briggs Type Indicator (MBTI).

Choi and her colleagues\textsuperscript{9} discovered that the Soeumin showed more preference for Introversion, the Taeumin for Sensing and the Soyangin for Intuition and Perceiving.

\begin{table}
\caption{Characteristics of the 4 MBTI Combinations}
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
 & ST & SF & NT & NF \\
\hline
Attention & Fact & Fact & Possibility & Possibility \\
Processing & Objective analysis & Subjective values & Objective analysis & Subjective values \\
Inclination & Practical, realistic & Empathetic, friendly & Logical, creative & Compassionate, insightful \\
Representative areas & Applied science, business, administration, accounting law; production, construction & Medicine, service, teaching, supervision, religion, sales, office work & Science, research, managing, computer, law, engineering, technical service & Social science, research, literature, music, religion, medicine, psychotherapy, teaching \\
\hline
\end{tabular}
\end{table}

The purpose of the present study is to investigate the integrative relationships between Sasang typology, Holland's vocational typology, and MBTI and to shed light on the generalization of relationships of Sasang type and vocational type.

**Methods**

1. **Participants**
   The sample was composed of 83 sophomores at the College of Oriental Medicine of Daegu Hanny University aged 19 to 39 (56 men, 27 women; mean age ± S. D. = 24.38 ± 5.28). All participants gave oral consent for the full assessments.

2. **Instruments**
   1) **QSCC II.**
      QSCC II is a Sasang typology-based inventory, which was developed by the Department of Sasang Medicine at Kyung Hee Medical Center (Seoul, Korea) in 1993 and revised in 1996, and has been used in clinical studies. The revised edition is based on 1366 subjects (668 males, 678 females). Ages ranged from 10 to 60 years and 68% of subjects had educational levels over 12 years. It has been also validated using 265 subjects from the Department of Sasang Constitutional Medicine or Oriental Medicine & Western Medicine Cooperative Health Examination Center, Kyung Hee University Medical Center. The QSCC II is composed of 121 forced-choice items. The internal consistency (Cronbach a) of this inventory is as follows: Taeyangin is .57, Soyangin is .57, Taeumin is .59, and Soeumin is .63.
      
      The Sasang type of an individual was determined following two procedures. First, the raw scores for the Sasang types were acquired with the QSCC II. After standardizing the raw scores based on their age and gender-specific norms, these scores were computed into discriminants to differentiate the Sasang types of individuals. A paper-and-pencil self-report form of the QSCC II was used, and the Sasang type was determined using PC-based software (Win QSCC II 99 version; Ssord Medicom & Ssord OMS, Seoul, Korea).

   2) **Holland inventory**
      The Holland aptitude test in Korea was developed by Ahn in 1996 and based on the Self-Directed Search. Its contents consist of personality, activity preference, competency, values, occupation, and global evaluation and its reliability is .92-.94 in Realistic scale, .90-.93 in Investigative scale, .91-.94 in Artistic scale, .90-.92 in Social Scale, .89-.92 in Enterprising scale, and .84-.89 in Conventional scale. The form used in the present study was occupation preference test S type, which is based on Holland's theory, from the Korea Employment Information Service, the government internet site for those seeking information for careers and jobs. The raw scores of RIASEC were used for the analysis in the present study and the Holland type of an individual was determined by the highest raw score of each RIASEC scores.

   3) **MBTI.**
      The MBTI is a paper-and-pencil self-report form composed of 95 forced-choice items first developed by Meyers and Briggs and translated into Korean by Sim. It is a psychometric instrument designed to assess normal personality traits. This inventory has been geared toward assessing differences that result from the way
people perceive information and how they prefer to use that information\(^6\). The MBTI individual categorical dimensions (i.e., Extroversion/Introversion) were also presented as standardized continuous preference scores (i.e., below 100 is Extroversion and above 100 is Introversion). The continuous preference scores of ST, SF, NT, and NF were used for the analysis in the present study.

3. Data Analysis

The relationships between Sasang typology and Holland typology were analyzed first: the Sasang type and the raw scores of each of Holland's RIASEC scales. Next, the relationships between Myers-Briggs type and Holland typology were analyzed: the continuous preference scores of ST, SF, NT, and NF and the raw scores of each of Holland's RIASEC scales in order to find the underlying personality characteristics relating to Sasang type and vocational type. The statistical analyses here were conducted using SPSS 12.0 (SPSS Inc., Chicago, IL).

Results

1. Sasang typology and Holland typology

The Sasang types of the subjects were 21 Soyangin (10 men, 11 women) (25.3 %), 20 Taeumin (18 men, 2 women) (24.1%), and 42 Soeumin (28 men, 14 women) (50.6%). The vocational scales of the subjects were 6 Realistic scale (7.2 % 1 Soyangin, 3 Taeumin, and 2 Soeumin), 31 Investigative scale (37.3 % 8 Soyangin, 7 Taeumin, and 16 Soeumin), 16 Artistic scale (19.3 % 3 Soyangin, 3 Taeumin, and 10 Soeumin), 13 Social scale (15.7 % 2 Soyangin, 3 Taeumin, and 8 Soeumin), 5 Enterprising scale (6.0 % 4 Soyangin and 1 Taeumin), and 6 Conventional scale (7.2 % 1 Soyangin, 2 Taeumin, and 3 Soeumin). There were 5 Investigative/Social scale (6.0 %) and 1 Investigative/Enterprising scale (1.2 %), which means they scored the highest score of Investigative/Social scale and Investigative/Enterprising scale at the same time, respectively. The 5 Investigative/Social scale comprised 1 Soyangin, 1 Taeumin and 3 Soeumin and the 1 Investigative/Enterprising scale was Soyangin. The values of mean and frequency of 5 Investigative/Social and 1 Investigative/Enterprising scale were excluded in the present analyses to avoid the distortion of data and therefore the values of 77 subjects were included in the present analyses. Table 3 shows the mean scores of RIASEC scale for each Sasang type.

Age did not differ significantly (F (2, 71) = 1.98, p > .05) between Sasang types but gender ratio did differ significantly between Sasang types ($x^2 (2, N=77) = 7.71, p < .05$). The previous Holland typology studies did not divide subjects based on gender and therefore we did not distinguish the participants based on the gender.

<table>
<thead>
<tr>
<th>Type</th>
<th>R</th>
<th>I</th>
<th>A</th>
<th>S</th>
<th>E</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>So-Eum(N=39)</td>
<td>22.59±11.32</td>
<td>36.13±11.02</td>
<td>27.00±14.74</td>
<td>29.67±11.41</td>
<td>22.62±11.51</td>
<td>27.97±11.32</td>
</tr>
</tbody>
</table>
There was significant difference in the frequency of R, I, A, S, and C scale in Soeumin ($x^2(4, N=39) = 16.51, p < .01$), but the frequency of R, I, A, S, E, or C scale in Soyangin and Taeumin did not differ significantly: $x^2(5, N=19) = 11.00, p > .05$ and $x^2(5, N=19) = 6.58, p > .01$, respectively.

There were no significant differences in the mean scores of R, I, A, S, E, or C scale between the 3 Sasang types: $F(2, 74) = 2.10, p > .05$ in Realistic scale, $F(2, 74) = .56, p > .05$ in Investigative scale, $F(2, 74) = .86, p > .05$ in Artistic scale, $F(2, 74) = 2.02, p > .05$ in Social scale, and $F(2, 74) = .84, p > .05$ in Conventional scale.

### 2. Myers-Briggs type and Holland typology

The Myers-Briggs types of the subjects were 34 Sensing-Thinking (ST) type (44.2 %), 18 Sensing-Feeling (SF) type (23.4 %), 16 Intuition-Thinking (NT) type (20.8 %), and 9 Intuition-Feeling (NF) type (11.7 %).

The vocational scales of the subjects were Realistic scale (5 ST type and 1 SF), 31 Investigative scale (14 ST type, 2 SF type, 11 NT type, and 4 NF type), 16 Artistic scale (3 ST type, 7 SF type, 3 NT type, and 3 NF type), 13 Social scale (5 ST type, 5 SF type, 1 NT type, and 2 NF type), 5 Enterprising scale (3 ST type, 1 SF type, and 1 NT type), and 6 Conventional scale (4 ST type and 2 SF type). The 5 Investigative/Social scale comprised 2 ST type, 1 SF type, 1 NT type, and 1 NF type and the 1 Investigative/Enterprising scale was ST type. Table 4 showed the mean scores of RIASEC scale for ST, SF, NT, and NF combinations.

Age and gender ratio did not differ significantly between MBTI combinations: $F(3, 70) = .69, p > .05$ and $x^2(3, N=77) = 2.40, p > .05$, respectively.

There was significant difference in the frequency of R, I, A, S, E, and C scale in ST type and NT type ($x^2(5, N=34) = 15.41, p < .01$ and $x^2(5, N=16) = 17.00, p < .01$, respectively), but the frequency of R, I, A, S, E, or C scale in SF type and NF type did not differ significantly: ($x^2(5, N=18) = 10.00, p > .05$ and $x^2(5, N=9) = .67, p > .05$, respectively.

There were significant differences in the mean scores of R, I, and A scale between the 4 MBTI combinations: $F(3, 73) = 3.11, p < .05$ in Realistic scale, $F(2, 73) = 3.70, p < .05$ in Investigative scale, and $F(2, 73) = 5.60, p < .01$ in Artistic scale. Tukey’s post hoc test was performed: SF and NF were significantly different in Realistic scale, NT and SF were significantly different in Investigative scale, and ST and SF as well as ST and NF were significantly different in Artistic scale.

### Table 4. Mean Scores of the RIASEC Scale for Each S/N and T/F MBTI Combination

<table>
<thead>
<tr>
<th>S/N: Sensing/Intuition, T/F: Thinking/Feeling</th>
<th>R</th>
<th>I</th>
<th>A</th>
<th>S</th>
<th>E</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST (N=34)</td>
<td>22.50±11.22</td>
<td>35.18±9.76</td>
<td>20.47±12.73</td>
<td>27.41±11.35</td>
<td>23.38±12.20</td>
<td>29.26±12.05</td>
</tr>
<tr>
<td>SF (N=18)</td>
<td>20.11±11.85</td>
<td>31.89±9.85</td>
<td>33.28±12.72</td>
<td>33.50±9.60</td>
<td>23.11±9.71</td>
<td>26.89±11.73</td>
</tr>
<tr>
<td>NT (N=16)</td>
<td>27.19±8.86</td>
<td>41.44±9.88</td>
<td>30.06±13.11</td>
<td>29.56±11.57</td>
<td>28.31±15.33</td>
<td>26.38±12.63</td>
</tr>
<tr>
<td>NF (N=9)</td>
<td>32.33±12.19</td>
<td>42.22±12.00</td>
<td>35.11±14.02</td>
<td>30.67±7.67</td>
<td>26.56±13.26</td>
<td>22.11±12.29</td>
</tr>
</tbody>
</table>
Analysis of the Relationships Between Sasang Typology, Holland's Vocational Typology, and Myers-Brigg's Types Among Undergraduate Students at the College of Oriental Medicine

Table 5 shows the correlations between Myers-Briggs types and RIASEC scales and their results were as follows: Extroversion/Introversion was correlated with in I, S, and E, Sensing/Intuition was correlated with R, I, and A, Thinking/Feeling was correlated with A, and Judging/Perceiving was correlated with R, I, and A.

Namely, vocational types were able to be differentiated by MBTI types rather than by Sasang types, suggesting underlying personality traits did play an important role in career decisions.

Discussion

The purpose of the present study was to find out the characteristics relating Sasang types to vocational types and the result was that personality traits are a more important factor than Sasang type itself to influence making a career decision. The present study also confirmed that Sasang type could be distinctively and reliably classified by a modern personality theory, suggesting that if you want to improve the success rate of your career, you had better utilize the individual personality traits information underlying Sasang typology. The present study also displayed the fact that the first preference for vocational aptitude of undergraduate students at College of Oriental Medicine was Investigative and the second preference was Artistic, which fitted Holland's vocational codes as Investigative/Artistic or Investigative/Social scale. However, for more detailed and informative conclusion, you are advised to look up information about psychological traits as well as physical traits. The concept of Holland inventory that fits between self and environment matters matches that of the Sasang typology emphasizing the harmony in social life and developing one's character.

Further research will be necessary to elaborate on the fact that correlations between MBTI and Sasang typology should consider essential characteristics such as Sensing/Intuition and Thinking/Feeling types, which seem more directly related to occupation and personality inventory than Extroversion/Introversion and Judging/Perceiving types. Such integrative attempts of MBTI and Sasang typology would embrace the Sasang typology as more comprehensive medicine.

Finally, we must discuss the limitations of the present study and the implications for further research. First, the classification of Sasang type should be produced from various assessments based on physical, pathological, psychological, and pharmaceutical characteristics. The Sasang type of the present study was drawn only from the QSCC II self-report, therefore further studies should consider the various informants for the diagnosis of Sasang types.

Second, the small sample size makes it difficult to divide subjects by sex and two-digit occup-
ational codes. In the Holland test, two-digit codes (e.g., IA, IS) are actually used in research and clinical areas, but the present study only focused the single code because if we divided the sample based on the two-digit codes, data interpretation would be more difficult and complicated. Therefore, a larger sample size would be needed for generalization of the results.

Third, the Sasang types seem to have a sex difference because the Sasang typology is based on biological as well as social grounds. Further studies should focus on a possible sex difference with a larger sample size and people of varying social status in order to evaluate the relationships between psychological characteristics and vocational aptitude of Sasang typology.

References