Personality Types of Chinese Dental School Applicants

Shengjun Wu, Ph.D.; Danmin Miao, Ph.D.; Xia Zhu, Ph.D.; Zhengxue Luo, Ph.D.; Xufeng Liu, Ph.D.

Abstract: This article reports the findings of a study conducted to investigate the personality types of Chinese dental school applicants. The Chinese version of the Myers-Briggs Type Indicator (MBTI) (Form G) was used to assess the personality styles of 332 dental school applicants from the mainland of China. The results of the MBTI for Chinese dental school applicants were compared with a previous study of applicants from the U.K. A higher percentage of this group of Chinese applicants scored higher for Introversion (I) than Extroversion (E); both Chinese and English applicants preferred Judging (J) to Perceiving (P). The dominant personality types in Chinese applicants were ISTJ, ESTJ, and ISFP. The findings suggest that the personality types of Chinese dental students may be somewhat different from the personality profiles exhibited by dental students from other nations. The findings may be of value to individuals who desire to investigate personality type differences among dental students with different cultural backgrounds.

Dr. Wu is Teaching Assistant; Dr. Miao is Professor; Dr. Zhu is Associate Professor; Dr. Luo is Associate Professor; and Dr. Liu is Associate Professor—all at the Department of Psychology, Faculty of Aerospace Medicine, Fourth Military Medical University, Shaanxi, China. Direct correspondence and requests for reprints to Dr. Danmin Miao, 17 West Chang-Le Road, Department of Psychology, Faculty of Aerospace Medicine, Fourth Military Medical University, Xi’an 710032, Shaanxi, China; 86-29-84774814 phone; 86-29-84774814 fax; psyfmmu@126.com.

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The personality types of dental school applicants, dental students, and even dentists have been discussed in previous articles, but most of these studies were conducted in Western nations.1-6 Morris found that the most dominant personality types of dental school applicants from the United Kingdom were ESFJ and ESTJ.7 Another study in the United States suggested that the most common personality types among first- and second-year undergraduate dental students were ISTJ, ESTJ, ESFJ, and ISFJ.8 However, minimal research on the personality types of Chinese dental school applicants has been done.

The interest in dental careers has increased dramatically in China in recent years; there are more and more individuals who desire to apply to dental schools. Under the present system in the mainland of China, the information available to aid in the selection of dental students for colleges relies heavily on the applicants’ scores on the National College Entrance Examination (NCEE), which does not take into account the personality types of the applicants. Previous research indicated dental students exhibited different personality characteristics when compared to students in other professional disciplines,9 and other studies also demonstrated that applicants’ academic scores have limited correlation with their ultimate success in dental school.10,11 Some studies have demonstrated the importance of faculty understanding and acknowledging different student personality types as a way to initiate improvement of dental education, promote student motivation, and allow for an expression of learning style preference.8 The possible association between personality types and dental school performance has also underscored the importance of counseling students before they entered dental school.12 The objective of this study was to explore the personality types of Chinese dental school applicants using the Myers-Briggs Type Indicator to investigate trends in personality that can assist researchers and educators who are interested in cross-cultural education.

The Myers-Briggs Type Indicator (MBTI) is a forced-choice, self-disclosure instrument developed by Myers and McCaulley.13 The MBTI is designed to measure four dimensions of an individual’s preferences, which combine to form an individual’s personality type. These four MBTI dimensions are
Extroversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perception (J-P). Following is a review of the key characteristics of each of these dimensions.

Extroversion-Introversion (E-I) measures the source of an individual’s energy (either internally—from themselves—or externally—from others) and whether they focus attention on the inner world of their own thoughts or on the outer world of ideas through interaction with other people. Extroverts (E) derive their energy from external sources, the overall environment in which they exist, and the desire to interact with other people. Introverts (I) get their energy by concentrating on their own thoughts and emotions.

The Sensing-Intuition (S-N) dimension is related to the type of information that individuals prefer. Sensing (S) types tend to focus on the facts, but people who score high on Intuition (N) focus on meaning and possibilities. The Thinking-Feeling (T-F) dimension focuses on the way individuals make decisions. Thinkers (T) tend to be objective, prefer logical analysis of problems, and are calm and deliberate in decision making. Feeling (F) types tend to be more comfortable with subjective assessment of situations, are tactful and considerate when dealing with people, and desire to learn the perceptions of others. The Judging-Perception (J-P) dimension focuses on how an individual deals with the outside world and approaches the tasks of daily life. Judging (J) types like to make decisions and plan; they prefer a great deal of structure and control over their personal lives. Judging types are also willing to critically evaluate (make judgments) the beliefs and work of others, which is a key factor in the judging personality profile. Perceiving (P) types are curious and flexible; they tend to be open to the ideas of others, actively seek out the opinions of others, and are comfortable functioning in environments that are not overly structured.

The MBTI was constructed for classification of subjects into “types” based on the personality theories of Carl Jung. In his theory, individuals have four basic “mental attitudes” and four basic “mental functions.” Each of these attitudes and functions consists of opposites, or dualities; an individual’s preference for one or the other of these opposing dimensions, such as thinking versus feeling, collectively creates a personality profile for that person. Opposing mental attitudes include extroversion (prefer to deal with the outside world and interact with other people) and introversion (prefer to deal with their own inner world of personal thoughts), as well as judging (organized, decision maker) versus perceiving (flexible, adaptive). Opposing mental functions include sensing (realistic, cautious) versus intuition (imaginative, creative), as well as thinking (logical, analytic) versus feeling (perceptive, sympathetic). These mental attitudes and mental functions combine to yield sixteen “types” that form the MBTI’s basic classification system of personality (see Table 1).

### Methods

The Chinese version of the MBTI (Form G) was used. The MBTI has many versions, of which the MBTI (Form G) was revised in 1987 and contains 126 items.

After the MBTI was introduced into China, the Chinese version of the MBTI (Form G) was developed, and systematic studies have been conducted that utilized this version.

The Chinese version of the MBTI (Form G) has ninety-four items (twenty-one E1, twenty-six S1, twenty-three T1, and twenty-four J1). Pilot-testing to evaluate the psychometric properties of this test confirmed that it has reliability and validity that are similar to the English version. In mainland China, the Chinese version of the MBTI has been used in many fields.

The cross-cultural validity of the Chinese version MBTI (Form G) has also been studied.

For this study, 332 high school seniors who applied for admission to the Department of Dentistry at Xi’an Medical University were invited to participate; 317 completed the Chinese version of the MBTI (Form G). The response rate was 95.5 percent. Of the subjects, 134 were females, and 183 were males, and the age range was between eighteen and twenty-three years. All participants were assured that the completed questionnaires would remain anonymous and would have no influence on their selection in the admission process. The MBTI personality information of English dental school applicants was derived from Morris’s research and data.

Chi-square (χ²) values were calculated to determine whether there were any significant differences between the Chinese and English dental school applicants with respect to different personality profiles.
Table 1. Distribution of preferences/types in Chinese and English dental school applicants

<table>
<thead>
<tr>
<th>Preference/Types</th>
<th>China</th>
<th></th>
<th>England/UK</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>percent</td>
<td>n</td>
<td>percent</td>
<td></td>
</tr>
<tr>
<td>Mental attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>137</td>
<td>43.2%</td>
<td>252</td>
<td>84.3%</td>
<td>$\chi^2=111.49$, df=1, $p=0.00^*$</td>
</tr>
<tr>
<td>I</td>
<td>180</td>
<td>56.8%</td>
<td>47</td>
<td>15.7%</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>202</td>
<td>63.7%</td>
<td>280</td>
<td>93.6%</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>115</td>
<td>36.3%</td>
<td>19</td>
<td>6.4%</td>
<td>$\chi^2=80.92$, df=1, $p=0.00^*$</td>
</tr>
<tr>
<td>Mental function</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>205</td>
<td>64.7%</td>
<td>169</td>
<td>56.5%</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>112</td>
<td>35.3%</td>
<td>130</td>
<td>43.5%</td>
<td>$\chi^2=4.28$, df=1, $p=0.39$</td>
</tr>
<tr>
<td>T</td>
<td>177</td>
<td>55.8%</td>
<td>137</td>
<td>45.8%</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>140</td>
<td>44.2%</td>
<td>162</td>
<td>54.2%</td>
<td>$\chi^2=6.18$, df=1, $p=0.13$</td>
</tr>
<tr>
<td>Temperament</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NF</td>
<td>43</td>
<td>13.6%</td>
<td>82</td>
<td>27.4%</td>
<td></td>
</tr>
<tr>
<td>NT</td>
<td>69</td>
<td>21.8%</td>
<td>48</td>
<td>16.1%</td>
<td>$\chi^2=14.68$, df=1, $p=0.00^*$</td>
</tr>
<tr>
<td>SJ</td>
<td>136</td>
<td>42.9%</td>
<td>166</td>
<td>55.5%</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>69</td>
<td>21.7%</td>
<td>3</td>
<td>1.0%</td>
<td>$\chi^2=60.58$, df=1, $p=0.00^*$</td>
</tr>
<tr>
<td>Personality type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESTJ</td>
<td>38</td>
<td>12.0%</td>
<td>67</td>
<td>22.4%</td>
<td></td>
</tr>
<tr>
<td>ESFJ</td>
<td>22</td>
<td>6.9%</td>
<td>70</td>
<td>23.4%</td>
<td></td>
</tr>
<tr>
<td>ENFJ</td>
<td>23</td>
<td>7.3%</td>
<td>37</td>
<td>12.4%</td>
<td></td>
</tr>
<tr>
<td>ISTJ</td>
<td>46</td>
<td>14.5%</td>
<td>20</td>
<td>6.7%</td>
<td>$\chi^2=9.64$, df=3, $p=0.02^*$</td>
</tr>
<tr>
<td>ISFJ</td>
<td>30</td>
<td>9.5%</td>
<td>9</td>
<td>3.0%</td>
<td></td>
</tr>
<tr>
<td>INTJ</td>
<td>21</td>
<td>6.6%</td>
<td>8</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>INFJ</td>
<td>7</td>
<td>2.2%</td>
<td>7</td>
<td>2.3%</td>
<td>$\chi^2=3.65$, df=3, $p=0.30$</td>
</tr>
<tr>
<td>ESTP</td>
<td>7</td>
<td>2.2%</td>
<td>2</td>
<td>0.7%</td>
<td></td>
</tr>
<tr>
<td>ESFP</td>
<td>11</td>
<td>3.5%</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>ENTP</td>
<td>12</td>
<td>3.8%</td>
<td>3</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>ENFP</td>
<td>9</td>
<td>2.8%</td>
<td>10</td>
<td>3.3%</td>
<td>$\chi^2=8.42$, df=3, $p=0.04^*$</td>
</tr>
<tr>
<td>ISTP</td>
<td>17</td>
<td>5.4%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>ISFP</td>
<td>34</td>
<td>10.7%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>INTP</td>
<td>13</td>
<td>4.1%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>INFP</td>
<td>12</td>
<td>3.8%</td>
<td>3</td>
<td>1.0%</td>
<td>$\chi^2=13.31$, df=3, $p=0.00^*$</td>
</tr>
</tbody>
</table>

E/I=Extrovert/Introvert, S/N=Sensing/Intuition, T/F=Thinking/Feeling, J/P=Judging/Perceiving
%: percent of total Chinese or English dental school applicants who fall into this type/preference.
$^*$Significant at $p<0.05$.


Results

In the mental attitude pair of characteristics, Introversion (I) was favored by Chinese applicants (56.8 percent) over Extroversion (E) (43.2 percent), but the English subjects preferred Extroversion (E) (84.3 percent) to Introversion (I) (15.7 percent); statistically significant differences were found between the two groups ($p<0.01$). Both Chinese and English applicants preferred Judging (J) (63.7 percent and 93.6 percent, respectively) over Perceiving (P) (36.3 percent and 6.4 percent, respectively). A higher percentage of English applicants were classified as Judging (J) than Chinese subjects, and the difference between the two populations was statistically significant ($p<0.01$) (see Table 1).

In the mental function pair of characteristics, a higher percentage of Chinese dental school applicants were classified as Sensing (S=64.7 percent) than In-
tuitive (N=35.3 percent), and a higher percentage of Chinese applicants also preferred Thinking (T=55.8 percent) over Feeling (F=44.2 percent). Their English counterparts also preferred Sensing (S=56.5 percent) over Intuition (N=43.5 percent), but in contrast Chinese applicants preferred Feeling (F=54.2 percent) over Thinking (T=45.8 percent). However, the overall differences between Chinese and English applicants for mental function were not statistically significant, as indicated in Table 1.

The percentages of Chinese and English dental applicants who were classified into the four MBTI temperament types (NF, NT, SJ, and SP) are also shown in Table 1. NT was favored by Chinese applicants (21.8 percent), but the English subjects preferred NF (27.4 percent) and these differences between the groups were statistically significant (p<0.01). Both Chinese and English applicants preferred SJ to SP. However, the SP group, which was almost nonexistent in the English applicants (1.0 percent), accounted for 21.7 percent of the Chinese subjects, and the differences between the two groups reached a statistically significant level (p<0.01).

The most common personality types of Chinese dental school applicants were ISTJ, ESTJ, and ISFP, while among the English subjects, they were ESFJ, ESTJ, ENFJ, and ENTJ. For the Chinese applicants, the three most frequent personality types accounted for 37.2 percent of all subjects; for the English applicants, the four most frequent personality types accounted for 79.0 percent of all individuals in that group. A comparison between the Chinese dental school applicants and their English counterparts revealed significant differences in distribution in three of four groups of personality types (ESTJ/ESFJ/ENTJ/ENFJ, p=0.02; ESTP/ESFP/ENTP/ENFP, p=0.04; ISTP/ISFP/INTP/INFP, p=0.00), but no significant difference in the distribution was found in ISTJ/ISFJ/INTJ/INFJ (p=0.30). No ISTP, ISFP, and INTP and few ESTP and ESFP personality types were observed among the English dental school applicants.

**Discussion**

In our study, Chinese applicants preferred Introversion (I) to Extroversion (E) in contrast to their English counterparts. This is an interesting and not unexpected result. Extroverts (E) tend to be more competitive, expressive, and open-minded, while Introverts (I) may be quiet and more contemplative. In Western culture, individuals are encouraged to express their own opinions openly and to be independent, while in China and other parts of the Eastern world, people are instructed to be unpretentious and to obey their elders’ words, so they are more likely to have an introspective, quiet, and conservative personality. These findings have a bearing on the future education of prospective dental students. Because of the introversion of Chinese students, they may not freely answer questions or propose their own viewpoints in discussion. Chinese educators should thus show more patience in their educational pedagogy and in the design of undergraduate courses and provide more encouragement but not less criticism in dealing with dental students.

Judging (J) types generally focus on the objective of the educational experience; they have a preference for order, planning, and to be constructive, but they tend to be inflexible. Perceiving (P) types are more willing to modify their behavior and can adapt to different environments in an open style. The Chinese and English applicants both preferred Judging (J) to Perceiving (P), but the percentage of Judging (J) among English applicants was higher than among Chinese candidates for dental school. In the Western countries, some studies found a marked preference for the Judging dimension in health service professionals, including dentistry, medicine, pharmacy, and nursing.

Sensing (S) types tend to focus on the details, emphasize reasoning, prefer to obtain tangible results, and are content with routine jobs. Intuition (N), on the contrary, attaches importance to imagination and inspiration. Thinkers (T) tend to pursue objective criteria and are good at analyzing errors. Feeling (F) types like to communicate with others in a compassionate style. In the distribution of mental function, both Chinese and English dental school applicants showed a similar tendency, which might reflect the cross-cultural similarity.

Each of the four temperament groups has unique abilities that allow them to use specific styles of learning. The NT type is described as visionary, curious, and argumentative. A high percentage of NT is usually found in architects and managers. NF types are active, outgoing, helpful, and like to interact with others. There is a high frequency of NFs among consultants, reporters, and clergy. In our study, NT was favored by Chinese applicants over NF, while English subjects preferred NF to NT. The results might reflect the social changes and educational requirements that are occurring in developing countries.
such as China. Nowadays, there is more competition than ever before in China, and this competition and pressure drive people including dental school applicants or dentists to increasingly focus on their own professional development and personal prospects for success. As a consequence, students and professionals in China are more ambitious and competitive than in previous decades. These results seem to suggest that, in the dental curriculum, Chinese dental educators should help their students achieve higher levels of competition. Such a strategy could facilitate the undergraduate academic success of dental students. However, such a hypothesis needs to be confirmed by subsequent and more in-depth study.

The SJ types are described as stable, traditional, and reliable. The distribution of SJ types was similar in China and England, which might reflect the applicants’ motivation. When they applied for dental school, they wanted to be judged as careful, thorough, and responsible individuals. There is a high frequency of SJ type in businesspeople, police officers, doctors, and teachers. All of these occupations require being constructive and making plans beforehand. SP types are flexible and adaptive to surroundings. They do not like routine tasks and are adventuresome; they like to participate in new experiences. In our research, more SP types were found in Chinese applicants than in the English applicants. Such results might reflect that Chinese applicants are more flexible and more willing to deal with different situations and different types of people. However, for the English applicants, they might be less flexible, but more rigorous in obeying rules.

In Chinese dental school applicants, ISTJ, ESTJ, and ISFP were the most common personality types, accounting for 37.2 percent of all subjects in this study, while the dominant types ESFJ, ESTJ, ENFJ, and ENTP accounted for more than 79 percent in the English subjects. Erskine et al., using the MBTI, found that four personality types (ESFJ, ESTJ, ENFJ, and ISTJ) accounted for 55 percent of their sample of 120 first-year dental students. These data indicate that there is a similar distribution of personality types among U.S. and Chinese dental students. ESTJs are realistic and sociable; they desire tangible hands-on learning, enjoy performing procedures with equipment, and are not interested in anything they think is not useful for themselves. ESFJs are enthusiastic and enjoy conversation. They value a cooperative and harmonious environment whether at home, at work, or in school and are interested in abstract thoughts. ENTJs are frank and kind and are good at reasoning tasks. ENFJs are responsible and react quickly to situations. They try to respect others, are capable of putting forward suggestions, and prefer to develop plans in a group. ISTJs are serious and quiet. They fulfill their goals by contemplation and careful logistical planning. They would try to do everything perfectly and only focus on facts. ISTPs are calm and often quiet, and they tend to reflect internally rather than talk out loud. They are also primarily interested in objective facts versus abstract theories. Usually they don’t express their own opinions or ideas unless it’s necessary.

Conclusion

A dental applicant’s personality may reflect his or her cultural background and motives. Our study suggested that there are both similarities and differences of personality types between Chinese and English applicants to dental school. Knowing the personality types of Chinese dental students will provide useful information for individuals who are interested in cross-cultural research on dental education. In a broader sense, as dental education becomes an increasingly global activity with more movement of students among nations, awareness of the similarities and differences among dental students from different areas of the world and from different cultural backgrounds will become more important for dental school faculty.

Acknowledgments

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