

# Psychological Type and Work Values among Japanese College Students<sup>1)</sup>

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This study examined how the MBTI personality types of a homogeneous sample of female Japanese college students relate to the fifteen work values of Super's Work Value Inventory (1970). Analysis of variance showed significant differences by preferences, function pairs, dominants, and whole type on some of the work values. These results were generally consistent with theoretical predictions and past research conducted in the U.S. As type theory suggests, taking type dynamics into account by examining dominant function added important information on the relationship between work values and type information that could not have been obtained by examining the four dichotomies alone.

In the United States, the Myers-Briggs Type Indicator (MBTI) has been widely used in a variety of career counseling settings, e.g., private practice, high schools, community colleges, universities and organizations. The MBTI is one of the three most widely used vocational assessment instruments in college counseling centers (Graff, Larrimore, Whitehead, and Hopson, 1991) along with the Strong Interest Inventory and the Self-Directed Search.

Work value is also one of the most important variables in career counseling. Values are widely considered as central to the selection of life roles (Brown & Crace, 1996). Gordon (1975) suggested that values tend to remain fairly stable over an

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individual's life span and that value assessment in career counseling is of great significance. In the United States, several work value assessment tools have been developed and are widely used to identify people's work values. The Work Values Inventory (WVI) and Minnesota Importance Questionnaire (MIQ) are among the best known value assessment tools.

The WVI was developed by Super (1970) and was designed to assess the range of values that influence the motivation to work. It measures 15 work-relevant value dimensions, i.e., Intellectual Stimulation (values independent thinking), Altruism (values service to others), Economic Returns (values ample financial rewards), Variety (values doing a variety of tasks), Independence (values independent actions), Prestige (values status and power), Esthetics (values beauty and artistic endeavors), Associates (values working with likable and desirable people), Security (values running little risk of losing a job), Way of Life (values a desirable lifestyle), Surroundings (values a pleasant environment), Supervisory Relations (values work under a supervisor who is fair and easy to get along with), Achievement (values a feeling of accomplishment), Management (values planning and organizing tasks for others to do), and Creativity (values inventiveness) (Zunker, 1994, p. 105).

In Japan, career counseling has not been used as widely as in the United States. This is because life-time employment was (until recently) so prevalent in Japan that students tended to focus on which company they wanted to work for rather than what kind of work they wanted to pursue. In other words, they were more interested in looking at which collective to join instead of exploring how to actualize their potential as individuals. This accounts for the scarcity of career counseling.

Nowadays, however, Japanese society is becoming more and more individualistic, and life-time employment is becoming a myth. Japanese students today are more interested in objectively identifying their values, personality, and interests so that they can make a more informed decision about choosing their career paths.

This study will examine the relationship between work values and MBTI personality type among female Japanese college students. As there is little literature on Japanese college women's career development, the nature of this study will be exploratory.

First, the study examines the relationship between work values and the four di-

chotomies (E-I, S-N, T-F, J-P). There are quite a few American studies relating to a dimension of the MBTI and work values. Grant (1965, cited in Hammer, 1996) asked 1413 college freshmen to choose the most important feature of an ideal job from a list of five options, i.e., a stable and secure future, use of one's special abilities, creativity and originality, earning a lot of money, and service to others. Sensing types wanted stability and security in their job, whereas Intuitive types were more interested in originality and use of one's special abilities.

Second, the study examines the relationship between work values and the four function pairs (ST, SF, NT, NF). The combination of preference and judgment yields four groups, and these grouping of the types are considered most important when career choices are concerned (Myers, McCaulley, Quenk & Hammer, 1998, p. 40). Using the Minnesota Importance Questionnaire (MIQ), Smith (1989, cited in Hammer, 1996) found significant relationships between MIQ needs and MBTI preferences. Intuition and Feeling were related to needs for variety, social status, co-workers, social service and moral values. Intuition and Thinking were related to needs for creativity and responsibility.

Third, the study examines the relationship between work values and the eight dominant functions. The dominant function is the most-preferred mental process the one that is relied on most and considered as the core or guiding focus of one's personality (Myers & Kirby, 1994). Identifying a type's dominant function is said to illuminate core motivations.

Finally, the study examines the relationship between work values and whole type. Due to the limited number of the subjects, the results of this part of analysis may be inadequate in some respects. However, it is hoped that the analysis will provide some clues as to the possible relationship between work values and whole type among female Japanese college students.

## Method

### *Participants*

The sample consisted of 320 Japanese college women enrolled in a psychology class at a college located in the suburban area near Tokyo Metropolis. All of the

students were of Japanese nationality and 18-20 in age. The students were asked to participate in a questionnaire survey conducted in class. The students were told that their participation was voluntary and that anyone who did not wish to participate was free to leave at any time during the session without any unfavorable consequences. The participants were assured that their responses to the questionnaire would remain strictly confidential. Everyone agreed to participate, and none of the students left the class during the session.

### *Instruments*

*Work Values Inventory (WVI)*. Super (1970) developed the Work Values Inventory, which was designed to assess the forms of satisfaction people seek in their work. In the U.S., it is widely used for career counseling with high school and college students and for personnel selection and development. The WVI is a 45-item self-report instrument which measures 15 work-relevant value dimensions, i.e., Intellectual Stimulation, Altruism, Economic Returns, Variety, Independence, Authority, Esthetics, Associates, Security, Way of Life, Surroundings, Supervisory Relations, Achievement, Management, and Creativity. Researchers seem to agree that these fifteen scales do represent discriminable value dimensions (e.g., Gable & Pruzek, 1971). Each of the dimensions is measured using three items. The items are presented on a 5-point Likert scale. Test-retest reliabilities with a two-week interval are reported to range from .74 to .83. Evidence for construct, content and concurrent validities is reported in the manual (Super, 1970). The original WVI was translated into the Japanese language by two bi-lingual Japanese psychologists and checked by a bi-lingual American scholar.

*The Myers-Briggs Type Indicator (MBTI)*. A Japanese translation of the MBTI was administered.<sup>2)</sup> Form G of the MBTI was translated into Japanese by two bi-lingual Japanese psychologists and was checked by a bi-lingual American to ensure the conceptual equivalence of the Japanese version to the original version. Some word-pair items, e.g., “who-what,” were excluded in the process of translation, as retaining conceptual equivalence to the original items proved to be extremely difficult.

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2) When the data for this study was collected, the most recent official Japanese version had not been finalized and released.

Further, based on a preliminary survey with Japanese university students ( $N=233$ ), several other word-pair items that showed low total-item correlations were removed. Thus, the final version used in the present study consisted of 73 items: 18 items for each of the E-I, S-N, T-F preferences, and 19 items for the J-P preference. Test-retest reliabilities for the four scales with a 3-month interval period ranged from .63 to .83 for Japanese female college students (Tsuzuki & Matsui, 1997). The validity of this scale has been supported by several studies (e.g., Tsuzuki & Matsui, 1998).

### *Data Analyses*

The data were analyzed using an analysis of variance (ANOVA) with type as the independent variable and work value as the dependent variable. Because of an inflated Type I error rate resulting from the use of multiple tests, the alpha was established at .005.

First, an ANOVA was conducted with each of E-I, S-N, T-F, and J-P dichotomies as the independent variable and work value as the dependent variable. Second, an ANOVA was conducted with the four function pairs as the independent variable and work value as the dependent variable. When significant differences were found, post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific function pairs. Third, an ANOVA was conducted with the eight dominant functions as the independent variable and work value as the dependent variable. When significant differences were found, post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific dominant functions. Finally, an ANOVA was conducted with the sixteen whole types as the independent variable and work value as the dependent variable. When significant differences were found, post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific types.

## Results and Discussion

The means of the fifteen work values were: 3.70 ( $SD=.68$ ) for “intellectual stimulation,” 3.97 ( $SD=.73$ ) for “altruism,” 4.04 ( $SD=.66$ ) for “economic returns,”

Table 1  
ANOVA *F* Values and Probabilities for Effects of a MBTI Preference on Fifteen Work Values

Work values	E-I		S-N		T-F		J-P	
	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>
Intellectual <sup>a</sup>	0.09	0.7667	10.48	0.0013	12.39	0.0005	2.18	0.1405
Altruism	3.18	0.0756	0.76	0.3832	12.81	0.0004	0.03	0.8629
Economic <sup>b</sup>	1.59	0.2086	0.04	0.8498	1.03	0.3103	0.00	0.9632
Variety	10.48	0.0013	14.14	0.0002	4.93	0.0271	9.90	0.0018
Independence	20.74	0.0987	8.16	0.0046	0.91	0.3411	4.72	0.0306
Authority	7.67	0.0060	1.60	0.2072	3.13	0.0777	1.84	0.1759
Esthetics	3.90	0.0491	18.50	<0.0001	1.73	0.1895	3.50	0.0625
Associates	0.03	0.8684	0.44	0.5099	8.65	0.0035	0.02	0.8917
Security	1.10	0.2941	7.01	0.0085	4.13	0.0430	2.05	0.1530
Way of Life	0.21	0.6465	8.31	0.0042	0.04	0.8477	1.25	0.2644
Supervisory <sup>c</sup>	1.13	0.2884	0.33	0.5646	4.24	0.0404	1.80	0.1811
Surroundings	0.73	0.3927	0.14	0.7080	0.71	0.3986	1.16	0.2828
Achievement	0.01	0.9157	4.34	0.0381	0.65	0.4225	0.55	0.4579
Management	20.45	<0.0001	0.01	0.9130	0.12	0.7338	1.15	0.2850
Creativity	3.64	0.0572	40.94	<0.0001	0.07	0.7925	11.92	0.0006

Note. Degrees of freedom for all the ANOVAs were (1,318).

<sup>a</sup> Intellectual = Intellectual Stimulation. <sup>b</sup> Economic = Economic Returns

<sup>c</sup> Supervisory = Supervisory Relations

3.97 (*SD*=.69) for “variety,” 4.00 (*SD*=.63) for “independence,” 3.61 (*SD*=.84) for “authority,” 3.48 (*SD*=.78) for “esthetics,” 4.53 (*SD*=.58) for “associates,” 4.10 (*SD*=.73) for “security,” 4.66 (*SD*=.44) for “way of life,” 4.43 (*SD*=.56) for “supervisory relations,” 3.97 (*SD*=.67) for “surroundings,” 4.44 (*SD*=.54) for “achievement,” 3.01 (*SD*=.81) for “management,” and 3.74 (*SD*=.93) for “creativity.”

Thus, the work values that received high scores were: “way of life” (*M*=4.66, *SD*=.44), “associates” (*M*=4.53, *SD*=.58), “achievement” (*M*=4.44, *SD*=.54) and “supervisory relations” (*M*=4.43, *SD*=.56). It is suggested that the present study’s subjects are highly interested in interpersonal aspects of their work. They value working with likable co-workers and under a supervisor who is fair and easy to get along with. The subjects also value work that permits one to live the kind of life he or she chooses and to be the kind of person he or she wishes to be (Super, 1970, p. 10). They also value getting a feeling of accomplishment through work. The management value received by far the lowest score (*M*=3.01, *SD*=.81). It is suggested that these subjects are on the whole not very interested in planning and organizing tasks for other people.

#### *Four Dichotomies and Work Values*

First to be examined was the relationship between the four dichotomies of the MBTI preferences and work values. Table 1 shows ANOVA  $F$  values and probabilities for each of the work values. As discussed in the preceding section, the alpha level was set at .005.

On the E-I dichotomy, there was a statistically significant difference between extraverts and introverts on “variety,”  $F(1,318)=10.48$ ,  $p=.00013$ , and on “management,”  $F(1,318)=20.45$ ,  $p<.0001$ . Those who prefer extraversion valued “variety” and “management” significantly more highly than those who prefer introversion. This is consistent with extraverts’ wide sampling of interests and focus on the outer world.

On the S-N dichotomy, there was a statistically significant difference between sensors and intuitives on “intellectual stimulation,”  $F(1,318)=10.48$ ,  $p=.00013$ , on “variety,”  $F(1,318)=14.14$ ,  $p=.0002$ , on “independence,”  $F(1,318)=8.16$ ,  $p=.0046$ , on “esthetics,”  $F(1,318)=18.5$ ,  $p<.0001$ , on “way of life,”  $F(1,318)=8.31$ ,  $p=.0042$ , and on “creativity,”  $F(1,318)=40.94$ ,  $p<.0001$ . Those who prefer intuition valued “intellectual stimulation,” “variety,” “independence,” “esthetics,” “way of life,” and “creativity” more highly than those who prefer sensing. Past U.S. studies show that intuition is related to academic interests, openness to the environment, independence, artistic sensitivity, inner-directedness and creative personality (Myers, McCaulley, Quenk, & Hammer, 1998), which is generally in agreement with the present finding.

On the T-F dichotomy, there was a significant difference between thinkers and feelers on “intellectual stimulation,”  $F(1,318)=12.39$ ,  $p=.0005$ , on “altruism,”  $F(1,318)=12.81$ ,  $p=.0004$ , and on “associates,”  $F(1,318)=8.65$ ,  $p=.0035$ . Those who prefer feeling valued “altruism” and “associates” more highly than those who prefer thinking. These values are consistent with feelers’ concerns about being empathetic and their focus on interpersonal relationship. On the other hand, those who prefer thinking valued “intellectual stimulation” more highly than those who prefer feeling. This is also consistent with thinkers’ concern with competency and analytical and theoretical aspects of things.

On the J-P dichotomy, there was a significant difference between judgers and

Table 2

*ANOVA F Values and Probability for Effects of MBTI Function Pairs, Dominant Functions, Whole Types on Fifteen Work Values*

Work values	Function pairs <sup>a</sup>		Dominant functions <sup>b</sup>		Whole types <sup>c</sup>	
	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>
Intellectual <sup>d</sup>	8.59	<0.0001	3.04	0.0042	2.94	0.0002
Altruism	4.48	0.0043	3.01	0.0045	1.78	0.0369
Economic <sup>e</sup>	0.36	0.7798	0.55	0.7988	1.08	0.3790
Variety	6.35	0.0003	3.22	0.0026	3.10	0.0001
Independence	3.67	0.0126	1.71	0.1050	1.99	0.0159
Authority	1.62	0.1837	2.19	0.0353	1.45	0.1233
Esthetics	7.07	0.0001	2.27	0.0287	2.23	0.0058
Associates	3.04	0.0292	0.99	0.4364	1.05	0.3995
Security	4.45	0.0045	1.90	0.0686	1.48	0.1094
Way of life	2.76	0.0423	2.21	0.3330	1.40	0.1456
Supervisory <sup>f</sup>	1.55	0.2028	0.71	0.6646	1.06	0.3899
Surroundings	0.46	0.7114	0.79	0.6002	1.02	0.4312
Achievement	1.84	0.1405	1.00	0.4326	0.82	0.6586
Management	0.13	0.9400	3.47	0.0013	2.05	0.0124
Creativity	13.78	<0.0001	4.63	<0.0001	4.26	<0.0001

*Note.* <sup>a</sup> Degrees of freedom were  $F(3, 316)$ . <sup>b</sup> Degrees of freedom were  $F(3, 316)$ .

<sup>c</sup> Degrees of freedom were  $F(15, 304)$ . <sup>d</sup> Intellectual = Intellectual Stimulation

<sup>e</sup> Economic = Economic Returns. <sup>f</sup> Supervisory = Supervisory Relations

perceivers on “variety,”  $F(1,318)=9.99$ ,  $p=.0018$ , and on “creativity,”  $F(1,318)=11.92$ ,  $p=.0006$ . Those who prefer perceiving valued “variety” and “creativity” more highly than those who prefer judging. This is consistent with perceivers’ zest for experience and spontaneity.

#### *Function Pairs and Work Values*

Second to be examined was the relationship between function pairs and work values (see Table 2). The four groups, i.e., ST, SF, NT, NF were compared on each of the 15 values using a one-way ANOVA. When the omnibus  $F$  test was significant (at the alpha level of .005), post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific function pairs.

Significant overall differences among the four function pairs were found for “intellectual stimulation,” “altruism,” “variety,” “esthetics,” “security,” and “creativity.” “Intellectual stimulation” was valued significantly lower by SF ( $M=3.47$ ) than

by NT ( $M=3.98$ ), ST ( $M=3.86$ ) and NF ( $M=3.77$ ). “Altruism” was valued significantly higher by NF ( $M=4.10$ ) than by NT ( $M=3.75$ ) and ST ( $M=3.72$ ). “Variety” was valued significantly higher by NF ( $M=4.17$ ) than by SF ( $M=3.87$ ) and ST ( $M=3.72$ ). “Esthetics” was valued significantly higher by NF ( $M=3.73$ ) than by SF ( $M=3.31$ ) and ST ( $M=3.29$ ). “Security” was valued significantly higher by SF ( $M=4.23$ ) than by NT ( $M=3.76$ ). “Creativity” was valued significantly higher by NT ( $M=4.15$ ) and NF ( $M=4.03$ ) than by ST ( $M=3.44$ ) and SF ( $M=3.43$ ). The findings are generally in agreement with past American findings.

#### *Dominant Functions and Work Values*

Third to be examined was the relationship between dominant functions and work values (see Table 2). The eight dominant functions were compared on each of the 15 values using a one-way ANOVA. When the omnibus  $F$  test was significant at the alpha level of .005, post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific dominant functions.

Significant overall differences among the eight dominant functions were found for “intellectual stimulation,” “altruism,” “variety,” “management” and “creativity.” “Intellectual stimulation” was valued significantly higher by dominant introverted thinkers (Ti) ( $M=4.16$ ) than by dominant extraverted sensors (Se) ( $M=3.62$ ), dominant introverted feelers (Fi) ( $M=3.60$ ), dominant introverted sensors (Si) ( $M=3.59$ ), and dominant introverted intuitives (Ni) ( $M=3.51$ ). “Altruism” was valued significantly lower by dominant introverted thinkers (Ti) ( $M=3.45$ ) than by dominant extraverted feelers (Fe) ( $M=4.17$ ), dominant extraverted intuitives (Ne) ( $M=4.07$ ), dominant introverted feelers (Fi) ( $M=4.03$ ), and dominant extraverted sensors (Se) ( $M=4.01$ ). “Variety” was valued significantly higher by dominant extraverted intuitives (Ne) ( $M=4.17$ ) and dominant extraverted sensors (Se) ( $M=4.08$ ) than by dominant introverted sensors (Si) ( $M=3.56$ ). “Management” was valued significantly lower by dominant introverted feelers (Fi) ( $M=2.73$ ) than by dominant extraverted feelers (Fe) ( $M=3.33$ ), dominant extraverted sensors (Se) ( $M=3.22$ ) and dominant extraverted intuitives (Ne) ( $M=3.18$ ). “Creativity” was valued significantly higher by dominant extraverted intuitives (Ne) ( $M=4.19$ ) than by dominant introverted feelers

(Fi) ( $M = 3.69$ ), dominant extraverted sensors (Se) ( $M=3.68$ ), dominant extraverted feelers (Fe) ( $M=3.54$ ), and dominant introverted sensors (Si) ( $M=3.19$ ).

Those whose dominant function is introverted thinking (Ti) valued “intellectual stimulation” highest among all groups but valued “altruism” lowest. In this respect, their work values are distinct from the rest of the subjects. Their main motivation is to achieve accuracy and order in their internal thoughts by developing a logical system for understanding the world, and this motivation seems to have a strong impact on what kind of values they seek in their work life. Further, dominant introverted thinkers’ inferior function is extraverted feeling (which approaches life in terms of relationship and harmony). This may explain why they tend to find “altruism” less relevant or significant in their work life than the rest of the participants do.

Those whose dominant function is either extraverted intuition (Ne) or extraverted sensing (Se) valued “variety” highest among all. This may be consistent with theoretical assumptions that extraverted intuitives (Ne) and extraverted sensors (Se) direct their energy outwardly, either to scan for new ideas, main themes, and future possibilities (in the case of extraverted intuitives) or to acquire information by focusing on a detailed accumulation of sensory data in the present (in the case of extraverted sensors). Their main motivation is to perceive things in the outer world, and variety in their work life may therefore be perceived as a welcome stimulation.

Those whose dominant function is introverted feeling (Fi) valued “management” lowest among all groups. Extraverted thinking (which seeks to impose order on the external environment) being their inferior function, it is understandable that dominant introverted feelers might find management to be less relevant and significant than the rest of the subjects do.

Those whose dominant function is extraverted intuition (Ne) valued “creativity” highest among all groups. This is consistent with theoretical assumption that extraverted intuitives seek to change and reshape their environment and find creative ways to realize the possibilities they envision (Myers & Kirby, 1994).

#### *Whole Types and Work Values*

Last to be examined was the relationship between whole type and work values (see Table 2). The 16 types were compared on each of the 15 values using a one-

way ANOVA. When the omnibus  $F$  test was significant at the alpha level of .005, post-hoc multiple comparisons were conducted using the Tukey HSD method to identify significant differences among specific types.

Significant overall differences among the sixteen types were found for “intellectual stimulation,” “variety,” and “creativity.” “Intellectual stimulation” was valued highest among all 16 types by INTP ( $M=4.33$ ), who valued it statistically significantly higher than ESFP ( $M=3.52$ ), ISFJ ( $M=3.44$ ), and ISFP ( $M=3.36$ ). “Variety” was valued highest by ENFP ( $M=4.24$ ), who valued it significantly higher than ISFP ( $M=3.70$ ), ISFJ ( $M=3.59$ ) and ISTJ ( $M=3.50$ ). “Creativity” was valued highest by ENTP ( $M=4.33$ ). It was valued significantly higher by ENTP, INTP ( $M=4.31$ ), ENFP ( $M=4.15$ ), and INFP ( $M=4.10$ ) than by ISFP ( $M=3.34$ ) and ISFJ ( $M=3.11$ ).

As stated previously, some type cells contained very few people, and the number of the subjects in this study is not sufficient for adequate whole type analysis. However, the findings seem to be in general agreement with theoretical predictions and past US findings. For example, Mitchell (1981, cited in Myers, McCaulley, Quenk, & Hammer, 1998, p. 218), in his study of 475 bank employees, reported the relationship between value orientations and psychological type. Mitchell’s factor “Variety and Challenge” was scored highest by ENTP and lowest by ISFJ and ISFP. This factor latitude to work creatively on intellectually stimulating problems apparently subsumes the WVI’s “intellectual stimulation,” “variety,” and “creativity” values.

In sum, the results of the present study generally seem to support the notion that the relationship between type and work values found in the U.S. applies in Japanese settings. Most interesting was the relationship between work values and the eight dominant functions. For example, on the SN dichotomy, intuitives rated “variety” more highly than sensors did. However, when dominant functions were taken into account, dominant extraverted sensors (Se) rated “variety” the second highest after dominant extraverted intuitives (Ne). Statistically, “variety” was valued significantly higher by dominant extraverted intuitives (Ne) ( $M=4.17$ ) and dominant extraverted sensors (Se) ( $M=4.08$ ) than by dominant introverted sensors (Si) ( $M=3.56$ ). Thus, “variety” seems to be much more important among dominant extraverted sensors (Se) than among dominant introverted sensors (Si). Although the kind of “vari-

ety” sought in their work life may vary between dominant extraverted sensors (Se) and dominant extraverted intuitives (Ne), both seem to welcome work that provides opportunity to do different types of jobs. Thus, examination of the eight dominant functions added important information which could not have been obtained by examining the four dichotomies alone.

There are a few limitations to this study. As the subjects are limited to female college students, generalization to the whole Japanese population at large would be inappropriate. When asked for a preferred lifestyle choice after getting married, 100 students (31.3%) preferred to be primarily a homemaker, 147 students (45.9%) preferred to do homemaking as their main work and work only part-time, and only 73 students (22.8%) preferred to continue working full-time after marriage. Thus, the majority of the subjects in this study were not highly career-oriented. Replicating this study with Japanese women with a higher career-orientation, as well as with Japanese men, may yield different results.

It should also be noted that the MBTI administered in this study was not the most recent official Japanese version, which had not been released when the data for this study was collected. Although the version used in this study was vetted for reliability and validity, replicating this study using the current official Japanese version of the MBTI would be desirable to confirm its findings.

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