

Some analysis of evaluation score of job interview from psychological point of view

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In this study, we evaluated the relationship between intuitive scoring for job applications and psychological characteristics of applicants. More precisely, we used intuitive scoring on interview selection and the Vocational Indecision Scale to ascertain the psychological state of 21 university students in terms of job preparation. We also measured the students' Big Five personality traits using the Japanese version of the Ten-Item Personality Inventory. Additionally, we analyzed the relationship between the intuitive score, psychological state of job preparation, and the Big Five personality traits. Our results show a relationship between intuitive evaluation and psychological state of job preparation, indicating that applicants who are eligible to be hired are also in a suitable psychological state for job application. Furthermore, the personality trait of conscientiousness affects the evaluation of human resources staff in a company.

Key Words : *Job interview, Human resource, Intuitive selection, Big Five personality traits.*

1. INTRODUCTION

In this study, we evaluated the relationship between intuitive scoring for job applications and psychological characteristics of applicants. More precisely, we used intuitive scoring for interview selection (Kahneman, 2011; Gigerenzer & Gaissmaier, 2011) and the Vocational Indecision Scale (VIS, Shimoyama, 1986) to measure the psychological state of 21 university students for job preparation. We also measured the Big Five personality traits of the students using the Japanese version of the Ten-Item Personality Inventory (Gosling et al., 2003; Oshio et al., 2012). Additionally, we analyze the relationship between the intuitive score, psychological state for job preparation, and the Big Five personality traits (Tupes & Christal, 1961; John & Srivastava, 1999).

Intuitive scoring is a type of evaluation method used during interview selection to assess applicants' abilities. Although intuitive scoring is often used in company entrance examinations, its validity has seldom been evaluated. Similarly, the relationship between intuitive scoring and characteristics like personality traits have not been assessed in depth. In this study, we evaluated the validity of intuitive scores and examined the relationship between intuitive scores and personality traits.

As mentioned before, we examine the relationship

between intuitive score and the Ten-Item Personality Inventory based on the Big Five personality theory (Tupes & Christal, 1961; John & Srivastava, 1999). The Big Five personality theory (BFPT) is a model based on common language descriptors of personality. In this theory, the human personality is divided into five traits: Openness to Experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). These traits are stable across cultures (McCrae and Costa, 1997). Relationships between BFPT results and personality disorders (Clark, 2007), anxiety disorders (Kessler et al. 2005), and some social activities have been established. Although the best-known BFPT scale is the Revised NEO Personality Inventory (NEO PI-R, Costa & McCrae, 1985), it is too long to measure in concert with other psychological scales. To solve this problem, Gosling et al. (2003) developed shorter scales for the BFPT, the Ten-Item Personality Inventory (TIPI). TIPI consists of ten questionnaires which is easy to use when we examine the Big Five traits with other scales like the IRS tendency scale. We therefore used the Japanese version of TIPI in the current study.

The remainder of the paper is organized as follows: The experiment design and basic results are presented in Section 2, the analysis results in Section 3, and the conclusion and discussion in Section 4.

2. EXPERIMENT DESIGN AND BASIC RESULTS

(1) Participants

A total of 21 business major undergraduates at a private university in Japan participated in this study. The participants' age ranged from 21-22 years, and all of them have started job hunting. They could understand and use Japanese in this study. They did not receive any compensation for participating in this research.

(2) Experiment design

a) Questionnaires

At the beginning of the experiment, we sent out two questionnaires to the participants. In these, we asked about their reason for application and self-introduction to the company of their first choice.

b) The Ten-Item Personality Inventory

We measured the participants' personality traits using . As all the participants were fluent in Japanese, we used the Japanese version of the Ten-Item Personality Inventory (TIPI-J, Oshio et al., 2012). The TIPI-J is administered with a three-point scale, in accordance with the original studies.

c) The Vocational Indecision Scale

We also measured the psychological state of participants for job preparation. We used the Vocational Indecision Scale (VIS, Shimoyama, 1986). The VIS is a psychological scale for job preparation comprising 38 items and administered with a seven-point scale.

d) Intuitive scores

Two human resources staff members of a venture company intuitively scored the two questionnaires providing the reason for application and self-introduction. Scoring is done on the basis of the desirability of the candidate. The intuitive score is administered with a five-point scale.

(3) Data analysis

A combination of quantitative and qualitative approaches was used in the data analysis which was conducted with respect to the objective set for this study. All analyses were carried out using R version 3.3.

(4) Basic results

From the scales denoted in subsection 2 (2), we calculated scale sum scores for each element. The basic statistics for scale sum scores in the TIPI-J are shown in Table 1. As mentioned earlier, the table abbrevia-

tions represent scale sum scores for Openness to Experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). We did not find specific or abnormal values in these statistics. The basic statistics for the intuitive scores and the VIS scale are shown in Table 2.

3. MAIN RESULTS OF ANALYSIS

(1) Analysis 1: Degree of coincidence of the evaluation

In analysis 1, we calculate degree of coincidence of evaluations by two human resources staff. As they scored two questionnaires (reason for application and self-introduction), we calculate correlation coefficients of their evaluation for each questionnaires. By the results that are shown in Table 3, we found that two evaluations by human resource staff had moderate correlation and concluded that their evaluation were almost coincided.

(2) Analysis 2: Relationship between the intuitive scores and the psychological scale for job preparation

In Analysis 2, we evaluated the relationship between intuitive scores and psychological scale for job preparation. First, we calculated the sum of each intuitive scores (reason for job application and self-introduction). Then, we also calculated the sum scores of the VIS scale. Finally, we evaluated correlation coefficients between the sum scores of intuitive scores and VIS sum scores. Table 4 contains the correlation coefficients. We found the VIS and intuitive scores to

Table 1 Basic TIPI-J statistics

	O	C	E	A	N
MEAN	4.167	2.929	3.643	4.929	4.357
SD	1.176	1.443	1.582	1.143	1.442

Table 2 Basic statistics for intuitive scores and the VIS score

	Intuitive scores		VIS score
	Reason for application	Self-introduction	
MEAN			78.42
N	2.738	2.905	9
SD	0.752	0.605	7.646

Table 3 Correlation coefficients of evaluation for two questionnaires

Correlation coefficients	Reason for application	Self-introduction
		0.421*

the reason for job application have middle correlation, that is statistically significant.

We conclude that a certain relationship exists between intuitive evaluation of the reason for job application and psychological state for job preparation.

(3) Analysis 3: Differences on the psychological scale for job preparation between employed and unemployed groups

In Analysis 3, we considered a scenario more closely resembling real job application. First, we calculated the sum scores of each intuitive score (reason for job application and self-introduction). Then, after which we classified the participants into high- and low-score groups, according to their sum scores, which corresponded to employed and unemployed groups, respectively. Finally, we compared the mean of each score group's VIS.

Figure 1 depicts the result of the comparison of the mean scores, grouped by the reason for application score. We found statistical significance between the employed and unemployed groups ($t(19) = 3.35, p < 0.01$). In contrast, in terms of the comparison of the mean scores grouped by self-introduction scores (Figure 2), we did not find statistical significance. These results indicate that the reason for job application score can predict the VIS score. Note that on the VIS score, a higher score means better preparation for job application.

We conclude that students who are well-prepared for job application can express valid reasons for their application, increasing their chances to be hired.

Table 4 Correlation coefficients between the VIS and the intuitive scores

Reason for job application	Self-introduction	
	Reason for job application	Self-introduction
VIS score	0.443*	0.069

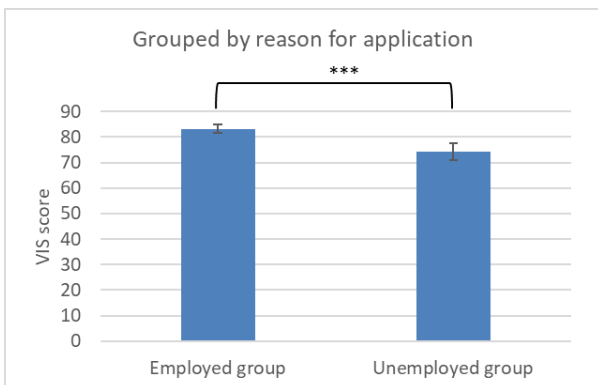


Figure 1 Comparison of mean VIS score and grouped reason for application score

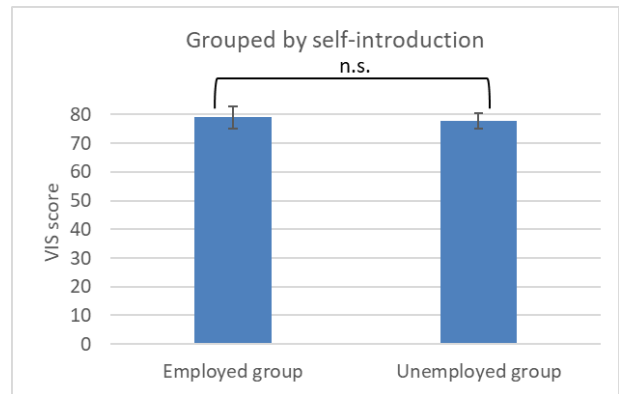


Figure 2 Comparison of mean VIS score and grouped self-introduction score

(4) Analysis 4: The Big Five traits as a factor affecting the intuitive score

In Analysis 4, we investigated whether the Big Five traits affect the intuitive score. We calculated correlation coefficients between the intuitive scores (reason for application and self-introduction) and the TIPI-J score.

Table 5 shows the correlation coefficients between the intuitive and TIPI-J scores. We found that self-introduction and conscientiousness scores have a medium statistically significant correlation ($p = 0.048$). We also found that reason for job application and the conscientiousness score have middle correlation that is marginally significant and that reason for job application score and the extraversion score have middle correlation that is marginally significant.

We conclude that the conscientiousness score is mainly related to the intuitive scores of job application.

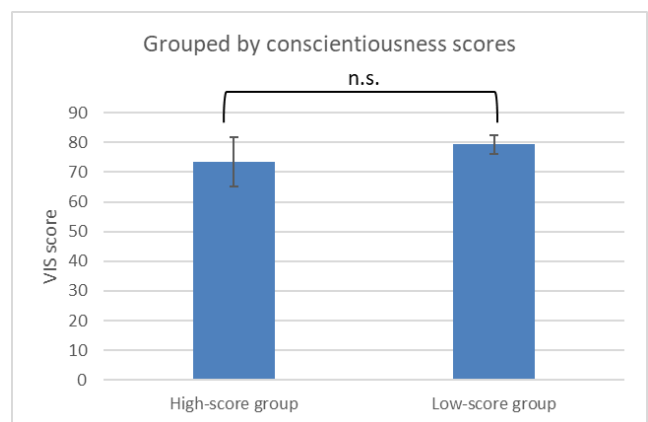


Figure 3 Comparison of mean VIS score grouped by conscientiousness scores

(5) Analysis 5: Do the Big-Five traits predict the psychological scale for job preparation?

In Analysis 5, we investigated whether the Big Five traits predicted VIS score. As we found that the TIPI-J conscientiousness score is related to the intuitive score that predicts the VIS score, we focused on the conscientiousness score in this analysis. We classified participants into high- and low-score groups, based on their conscientiousness scores. Then, we compared the mean VIS score of the two groups. Figure 3 depicts the comparison of mean score grouped by conscientiousness scores. We found no statistical significance between the two groups. We conclude that the Big-Five traits cannot predict the psychological state for job preparation.

3. CONCLUSION AND DISCUSSION

In this study, we evaluated the relationship between intuitive scoring of job applications and psychological characteristics of applicants. From the Analysis 2 and 3 in Section 3, we found that the intuitive evaluation and psychological state for job preparation display a certain relationship and that suitable applicants are in good psychological state for job application, which can be measured by the VIS. These results are useful when for the training of applicants, as we can evaluate participants' chance of being hired by determining their VIS scores. On the other hand, our latest study showed that intuitive scoring for application did not classify future results. From this result and results of this study, we conclude that intuitive scoring for reason for application cannot predict respondents' future achievements, but instead indicate past accumulation.

We examined applicants personality traits in Analysis 4, using the TIPI-J. We found that intuitive scoring mainly relates to conscientiousness, and we conclude that conscientiousness personality trait affects the evaluation of a company's human resources staff. This result is consistent with results of existing research. For example, Komarraju et al. (2019) also showed conscientiousness personality trait predict GPA and examination performance. As the conscientiousness personality trait is a tendency to display self-discipline, applicants with high conscientiousness scores tend to prepare well. Thus, Japanese evaluators, who generally provide good

ratings for preparedness, prize such applicants. This tendency for the conscientiousness personality may be specific to Japan, and future studies need to evaluate the role of conscientiousness in other countries and contexts.

In Analysis 5 we found that the personality traits established using the TIPI-J could not predict the psychological state for job preparation as per the VIS. Mori et al. (2019) similarly found that personality traits could not classify future academic achievement. From the results of Analyses 4 and 5 we conclude that personality traits are not directly related to participants' achievements, although they do affect the intuitive evaluation of other people.

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REFERENCES

- [1] Clark, L.A. (2007). Assessment and diagnosis of personality disorder: Perennial issues and an emerging reconceptualization. *Annual Review of Psychology*, 58: 227–257.
- [2] Costa, P.T., and McCrae, R.R. (1985). *The NEO personality inventory manual*. Odessa, FL: Psychological Assessment Resources.
- [3] Kessler, R., Chiu, W., Demler, O., Merikangas, K., and Walters, E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62: 617–627.
- [4] Gigerenzer, G., and Gaissmaier, W. (2011). Heuristic decision making. *Annual Review of Psychology*, 62: 451–482.
- [5] Gosling, S.D., Rentfrow, P.J., and Swann, W.B., Jr. (2003). A Very Brief Measure of the Big Five Personality Domains. *Journal of Research in Personality*, 37: 504–528.
- [6] John, O.P., and Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L.A. Pervin, and O.P. John (Eds.), *Handbook of Personality: Theory and Research* (pp. 102–138). New York: Guilford Press.
- [7] Kahneman, D. (2011). *Thinking, Fast and Slow*. New York, NY: Farrar, Straus and Giroux.
- [8] Komarraju, M., Karau, S.J., Schmeck, R.R., and Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51(4): 472–477.
- [9] McCrae, R.R., and Costa, P.T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52 (2): 509–516.
- [10] Oshio, A., Abe, S., and Pino, C. (2012). Development, Reliability, and Validity of the Japanese Version of the Ten-Item Personality Inventory (TIPI-J). *The Japanese Journal of Personality*, 21(1): 40–52. (in Japanese)
- [11] Shimoyama, H. (1986). A study on the vocational in-

decision of undergraduates. Japanese Journal of Educational Psychology, 34: 20-30. (in Japanese)

[12] Tupes, E.C., and Christal, R.E. (1961). Recurrent Personality Factors Based on Trait Ratings. Technical Report ASD-

TR-61-97, Lackland Air Force Base, TX: Personnel Laboratory, Air Force Systems Command, 1961.