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Editor

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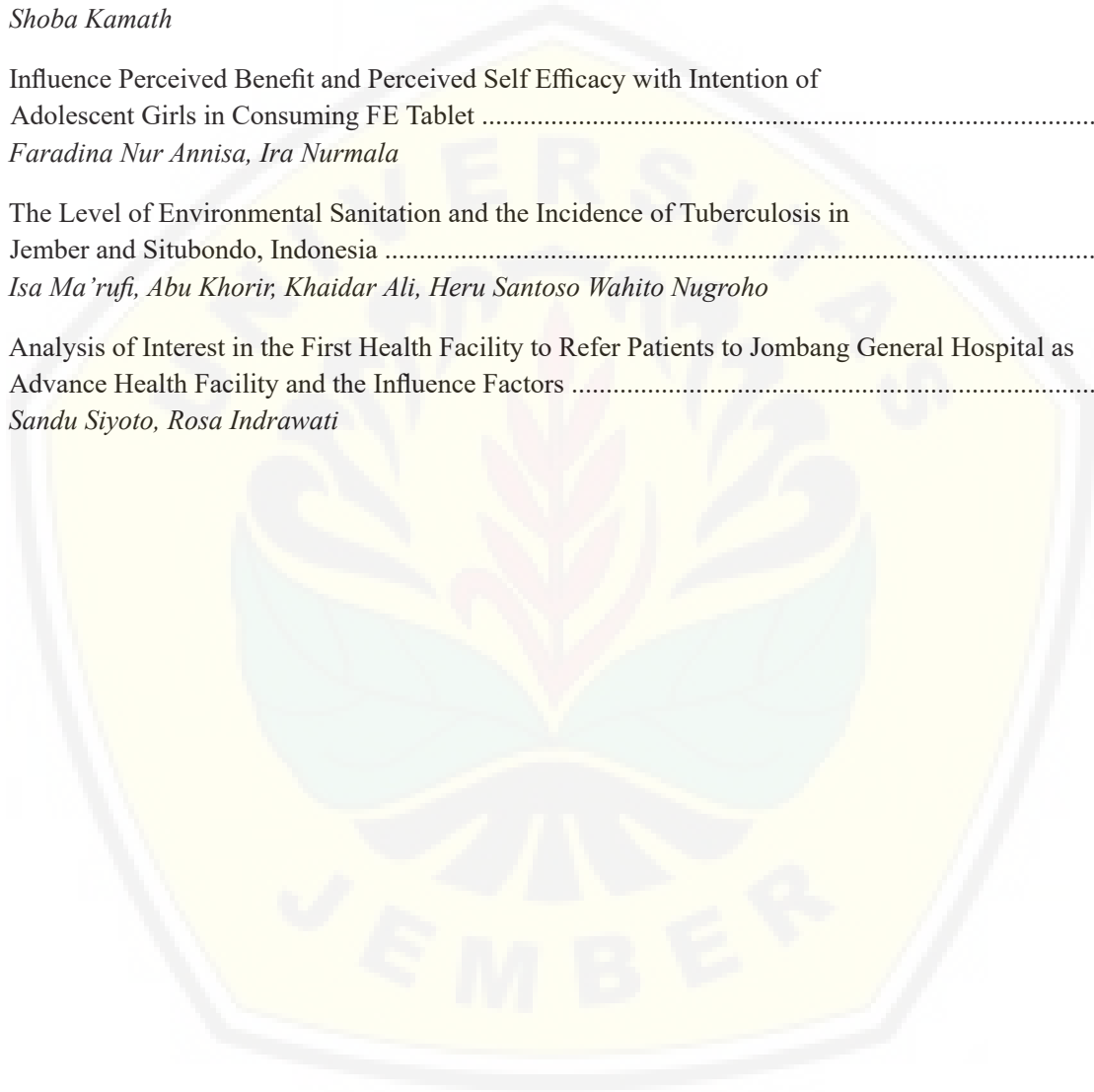
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Worker Personality as a Predictor in Compliance Model on Work Safety Regulations

Hadi Prayitno¹, Heru Santoso Wahito Nugroho²

¹Faculty of Social and Political Sciences, University of Jember, Indonesia; ²Health Polytechnic of Ministry of Health at Surabaya, Indonesia

ABSTRACT

The high incidence of workplace accidents in industry at both the global and national levels is closely associated with the worker behavioral factors, particularly those related to the worker personality factor. This study aims to analyze worker personality factor that affects worker compliance with work safety regulations in the industrial sector. This research employed a quantitative approach using analytical observation with cross sectional study. The data was gained through standardized questionnaires. The population involved all workers of PT. X from which 210 workers of manufacturing division were chosen as research sample by using purposive sampling technique. For descriptive statistical test, SPSS program was used to analyze the data, while for the statistic test, SEM test was chosen by using AMOS program. The results showed that worker conscientiousness traits through organizational commitment and occupational safety culture were the predictors of worker compliance with work safety regulations, that worker agreeableness traits through occupational safety participation were the predictors of worker compliance with safety regulations, and that worker neuroticism traits through occupational safety participation were the predictors of worker compliance with work safety regulations.

Keywords: Workers, Workplace accidents, Personality factors, Compliance, Work safety regulations, Industry

INTRODUCTION

In the last five decades every 15 seconds there has been one worker died and 160 workers were injured due to work-related accident⁽¹⁾. In 2014 the total compensation paid in relation to accident cases reached 118.8 US \$, representing the highest amount to be paid compared to other types of industries^{(2),(3)}. The International Labor Organization reported that the severity of work accidents in Indonesia was quite high⁽⁴⁾. From every 100,000 workers who experience accidents, 20 of whom are classified fatal. Among the employee actions that directly cause workplace injuries, up to 29.8% of which are caused by the use of faulty or defective equipment, non-compliance with safety instructions or regulations applicable to companies in which they

work, and less cautiousness or over confidence when working. The occupational insecurity factor will affect worker compliance on safety⁽⁵⁾. The main causes of occupational accidents are prone to worker behavioral aspects⁽⁶⁾. This statement reinforced the opinion by Cooper which pinpointed that 80% - 95% of all work accidents were caused by unsafe behavior.⁽⁷⁾ One of the most generally accepted personality taxonomies today is the personality traits.⁽⁸⁾ Seibokaite, et. al. demonstrates that personality traits research is crucial in regulating performance and predicting work motivation and the perceived security climate in high-risk firms.⁽⁹⁾ Pervin. et. al. stated that human personality factors consisted of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.⁽¹⁰⁾ The purpose of this study was to analyze worker personality factor that can affect compliance with work safety regulations in construction industry.

Corresponding Author:

Heru Santoso Wahito Nugroho
Health Polytechnic of Ministry of Health at Surabaya,
Indonesia
Pucang Jajar Tengah Street 56 Surabaya, Indonesia
Email: heruswn@gmail.com

MATERIAL AND METHOD

This research employed quantitative approach using analytical observation and the design was cross sectional

study. The research site was PT. X a company in East Java Indonesia. The sample of the study was workers in the production division. Using purposive sampling technique 210 workers were selected as samples. This research used confirmatory factor analysis, descriptive analysis and SEM (Structural Equation Modeling) analysis. Data analysis technique was carried out by administering descriptive analysis test using SPSS

program, while the statistical test employed SEM test by AMOS program.

FINDINGS

The demography of the respondents in this study covers age, education level, length of service and type of training that workers have participated in the last 3 years, as outlined in table 1 below.

Table 1: Demographic Profile of Respondents

Category	Frequency			Total
	20-29	30-39	> 39	
Age	137 (64.8%)	66 (31.5%)	74 (35.2%)	210 (100%)
Education	Junior High/Equal 8 (3.8 %)	High School/Equal 129 (61%)	Unversity 73 (35.2%)	210 (100%)
Years of Service	1-9 86 (40.8 %)	10-19 98 (46.5 %)	20-29 26 (12.7%)	210 (100%)
Job-related Training	1 type 129 (61%)	2 types 69 (32.9 %)	3 types 12 (6.17%)	210 (100%)

Table 1 shows that the majority of respondents as many as 137 people (64.8%) are classified very productive (20-29 years of age). The majority of respondent's education is middle category which is up to 129 people (61%). The middle education category is due to the minimum requirement for workers in the industrial sector. From the respondent's years of service, the majority of respondents have been in this industry for 10-19 years as many as 98 people (46.5%)

indicating that they have sufficient years of service to master the details of the work field. From the type of job-related training, the majority of respondents as many as 129 people (61%) have participated in one type of job training in the industrial sector.

The results of the calculation of direct, indirect and total personal traits of the worker compliance with work safety regulations are outlined in table 2.

Table 2: Direct, Indirect, and Total Personality Traits upon Worker compliance with Work Safety regulations through Organizational Commitment, Safety Participation and Occupational Safety Culture

Independent Variables	→	Dependent Variables	Effect		
			Direct	Indirect	Total
Conscientiousness	→	Organizational Commitment	0.204	0.000	0.204
	→	Safety Participation	0.335	0.000	0.335
	→	Safety Culture	-0.130	0.175	0.044
	→	Compliance with Work Safety Regulations	0.000	0.237	0.237
Agreeableness	→	Organizational Commitment	0.140	0.000	0.140
	→	Safety Participation	0.302	0.000	0.302
	→	Safety Culture	0.156	0.120	0.281
	→	Compliance with Work Safety Regulations	0.000	0.201	0.201
Neuroticism	→	Safety Culture	-0.240	0.450	0.208
	→	Compliance with Work Safety Regulations	0.000	0.230	0.230
Organizational commitment	→	Safety Culture	0.852	0.000	0.852
	→	Compliance with Work Safety Regulations	0.435	0.000	0.435
Safety Participation	→	Compliance with Work Safety Regulations	0.455	0.000	0.455

Table 2 informs the results of direct, indirect, and total effects of the personality trait indicators on worker compliance with work safety regulations through organizational commitment, safety participation and occupational safety culture.

Worker conscientiousness indirectly affects worker compliance with work safety regulations through organizational commitment with the structural coefficient of 0.21 and worker organizational commitment affects worker compliance with work safety regulations with the structural coefficient of 0.44. On the other hand worker conscientiousness indirectly affects the formation of worker compliance with work safety regulations through safety participation with the structural coefficient of 0.34 and safety participation affects worker compliance with work safety regulations with the structural coefficient of 0.46.

Worker agreeableness indirectly affects the formation of worker compliance with work safety regulations through organizational commitment with the structural coefficient of 0.14 and organizational commitment affects the worker compliance with work safety regulations with the structural coefficient of 0.44. Agreeableness indirectly affects the formation of worker compliance level with work safety regulations through safety participation with the structural coefficient of 0.31 and safety participation affects worker compliance with work safety regulations with the structural coefficient of 0.46.

Worker neuroticism indirectly affects the formation of worker compliance with work safety regulations through organizational commitment with the structural coefficient of 0.53 and organizational commitment affects the formation of worker compliance with work safety regulations with the structural coefficient of 0.44.

Two personality indicators considered invalid are openness to experience indicator with $p\lambda$ value of 0.51, while $p\delta = 0.00$ and extraversion indicator with $p\lambda$ value of 0.41 and $p\delta = 0.00$. Both indicators are then not taken into account.

DISCUSSION

The result of the analysis indicates that there is a significant influence of worker conscientiousness towards organizational commitment with the structural coefficient of 0.208. This finding is consistent with the results of Kumar & Bakshi showing that conscientiousness is a

predictor that has a very strong influence on indicators of affective commitment as well as indicators of continuous commitment of workers.⁽¹¹⁾ The individual's commitment to an organization found that the individual's commitment to the organization was influenced primarily by personality. Worker conscientiousness significantly influences the work safety culture with the structural coefficient of -0.132. The descriptive analysis of associations between variables shows the influence of worker conscientiousness indicator on worker safety culture at company. The personality aspect of the worker is a dominant aspect that may affect the worker safety culture.⁽¹²⁾ Worker conscientiousness influences the safety participation in low position that equals to 81.3%. The final result of coefficient test of worker compliance model on work safety regulations showed that worker conscientiousness has a positive and significant effect on work safety participation seen from path coefficient as much as 0.34. Workers are familiar with their area of work in relation to the equipment and machines they use, and then they are the first to recognize the emergence of new dangers and potential problems that will arise.⁽¹³⁾

Worker agreeableness has a positive and significant effect on worker's organizational commitment seen from the path coefficient of 0.14. Robbins states factors that affect the worker's organizational commitment such as personal factors in which one of them is the personality.⁽¹⁴⁾ Worker agreeableness has a positive and significant effect on work safety culture seen from the path coefficient of 0.15. Worker agreeableness has a positive and significant effect on safety participation seen from the path coefficient of 0.30 and probability significance (p) of <0.001 . Geller stated that there were 5 matters that could support the participation of work safety, namely: a) The contribution of workers to accident prevention, b) The involvement of workers in the safety promotion, c) The idea, knowledge and experience of workers in finding the solution to the emergence of health problems and work safety, d) Industrial democratization, and e) Cooperation climate between employers and workers.⁽³⁾ Individuals with low agreeableness are usually less able to work with others, less helpful, and more egoistical resulting the tendency to have a higher risk of workplace accidents at workplace.⁽⁹⁾

Worker neuroticism affects the safety culture with the structural coefficient of -0.24 and the p value of 0.002. Neuroticism is defined as an individual who has personality characteristics associated with negative

emotions such as worry and insecurity.⁽¹⁵⁾ This suggests that neuroticism, which has been connoted negatively as an individual character, does not always mean negative in reality, precisely in the context of certain types of work related to the construction sector that has a high accident risk as well as high level of complexity of problem. This condition requires a worker to have dominant neuroticism in order to be able to add compliance with the regulations in his work environment, one of which is compliance with work safety regulations strictly set by the company. The goal is no other than for the creation of workplace safety which is ultimately expected to increase work productivity.

The intermediate variables that bridge variables between the three factors of the worker personality are conscientiousness, agreeableness and neuroticism for the formation of the worker compliance with work safety regulations in the construction industry including organizational commitment variables, safety culture variables and safety participation variable which vary from one variable to another.

The influence of worker organizational commitment on work safety culture with the structural coefficients of 0.85 and the probability significance (p) of <0.001 indicates the strong influence of the variable. Worker organizational commitment related to safety culture has the same goal of creating character, values, and attitudes that shape the behavior of organizations and individuals to achieve professionalism with a high level of effectiveness. Worker organizational commitment partially has an effect on worker safety culture. The company that provides good lighting during work time has biggest mean of health work variable. On the other hand, the organizational commitment of worker simultaneously has a significant effect on the worker safety culture.⁽¹⁶⁾ Organizational commitment has a positive and significant impact on compliance with work safety regulations. This can be seen from the path coefficient of 0.44 and the probability significance (p) of <0.001. Masial and Pienar found that the worker organizational commitment had a significant effect on worker safety compliance.⁽⁵⁾

CONCLUSION

The study found three factors of worker personality as predictors in shaping worker compliance with work safety regulations through the following five paths:

1. Worker conscientiousness is the predictor of compliance with work safety regulations through worker organizational commitment variable.
2. Worker conscientiousness is the predictor of compliance with work safety regulations through worker safety participation variable.
3. Worker agreeableness is the predictor of compliance with work safety regulations through worker organizational commitment variable.
4. Worker agreeableness is the predictor of compliance with work safety regulations through worker safety participation variable.
5. Worker neuroticism is the predictor of compliance with work safety regulations through worker organizational commitment variable.

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